Summary of Water Level Changes

Depth to water (DTW) measurements were taken at 91 wells in the Big Chino sub-basin by personnel of the Arizona Department of Water Resources (ADWR) in February through May of 1999 and March through May of 2004. DTW below land surface ranged from less than one foot to more than 700 feet below land surface for both years. Comparison of the two measurement periods show DTW increased (water level decline) in 75 of the wells, remained unchanged (< 0.5 feet) in 6 wells, and decreased (water level rise) in 11 wells. The water level changes ranged from a decline of approximately 30 feet in the southeastern portion of the sub-basin in the Mint Wash area to a rise of approximately 13 feet at a well along the mountain front in the Upper Big Chino Wash area. The average water level change for all wells was a decline of about 5 feet. DTW and water level change data for all measured wells and hydrographs for twelve selected index wells in the Big Chino sub-basin are shown on sheet 2.

For the 11 wells that showed a water level rise and 6 wells that remained unchanged, several were located in higher elevation mountainous regions, streambeds in upper parts of the watershed, or along mountain fronts. These areas include the Coconino Plateau area north of Interstate 40, the Turkey Creek area, near the Big Black Mesa mountain front in the Upper and Middle Big Chino areas, and within Hitt Wash in the Williamson Valley area. These wells are located in aquifer recharge areas (Blasch et al 2005). and are typically not located in the central portion of the principal aquifer within the alluvial portion of the sub-basin (Schwab, 1995). The Coconino Plateau area northeast of Big Black Mesa within the sub-basin has limited water level data available, but the few wells shown have little to no change in water levels (dashed contours are approximate in this area). The aquifer in this area differs from the principal aquifer within the alluvial portion of the sub-basin in that most wells are completed within the regional Paleozoic aquifer of the Coconino Plateau area as described by Schwab (1995), Bills et al (2005), and Blasch et al (2005).

Of the 75 wells that showed a water level decline, 19 wells had water level declines of more than 10 feet and over half of these 19 wells are located in the Upper Big Chino area. Water levels declined significantly between 1999 and 2004 in this area as shown on the water level change map (see Hydrographs A and B, Sheet 2). Approximately half of the wells in the central portion of the Upper Big Chino area have water level changes greater than 10 feet and the remaining wells have water level changes between 1 and 10 feet between 1999 and 2004. Many of these wells show an overall declining trend as seen in hydrographs A and B and most of these wells are reported as being drilled into the upper alluvial aquifer and/or lower volcanic units (basalt). Well pumpage from 1999 until 2004 was reported at approximately 46,000 acre-feet (average 9,200 acre-feet/year) within the Big Chino sub-basin (Yavapai County WAC, 2004).

Additional water levels taken after 2004 within wells in the Upper Big Chino area show fluctuations between water levels similar to 1999 and 2004 (see hydrographs A and B) which indicates recent highly variable changes in water levels. Fluctuations in water levels may be due to climatic changes (drought) or seasonal variations in the groundwater pumping of agricultural wells in the region. As noted previously by Schwab (1995), this area consists of a narrow strip of farmland in which water levels are influenced by irrigation practices and this area has continued to be irrigated (Tadayon, 2005). Wells along the edge of the principal aquifer within the alluvial portion of the sub-basin in the Upper Big Chino area show little to no decline as shown in hydrographs C, D, and E; and some of these wells are reported as being drilled into lower Paleozoic regional hydrologic units (hydrograph D).

In addition to the Upper Big Chino area, significant declines in water levels occurred in the Mint Wash area and southeastern portion of the principal aquifer within the alluvial portion of the sub-basin in the Williamson Valley area. Most of the remaining 19 wells with a water level decline greater than 10 feet are located in these areas. Hydrographs J, K, and L all show declining trends in water levels between 1999 and 2004, with declining trends extending to more recent years. Hydrograph K shows only a 1 foot decline in water levels between 1999 and 2004 but the overall trend of the hydrograph shows a decline of 10 feet or more and is similar to the other wells in that region. Therefore, all 5 wells located in this area have trending water levels with a 10 feet decline or more since 1999. Several of the wells in these areas are drilled into alluvium as well as Tertiary volcanic units (basalt) and granite at greater depths.

The majority of the 56 wells that had water level declines between 1 and 10 feet between 1999 and 2004 were located in the Lower and Middle Big Chino areas and the central portion of the Williamson Valley area. The remaining wells with water level decline between 1 and 10 feet are located in the edges of the Upper Big Chino area and isolated alluvial deposits in higher elevations outside the principal aquifer within the alluvial portion of the sub-basin (Walnut Creek and Turkey Creek areas). In the Middle Big Chino area, water levels show slightly lower declines in the eastern portion (hydrograph F) within the Playa deposits while slightly higher declines occur in the central and western portion of the principal aquifer within the alluvial portion of the sub-basin (hydrograph G) where water levels are generally lower (see Water Level Contour Maps). In the Lower Big Chino area, most of the wells show declining water levels from 1999 to 2004 and continued water level declines through 2008 (hydrographs H and I). A high concentration of wells in the central portion of the Williamson Valley area also show water level declines between 1 and 10 feet indicating a gradual decline in water levels in this region as well. Most of the wells located in the Lower and Middle Big Chino areas and the Williamson Valley area are drilled into the principal aquifer within the alluvial portion of the sub-basin.

The hydrographs for selected wells in the Big Chino sub-basin show limited historical water level information prior to 1999 but indicate overall declines in the principal aquifer within the alluvial portion of the sub-basin since 1999. Several of the hydrographs in the Upper Big Chino area indicate a significant decline between 1999 and 2004 followed by a fluctuation in water levels through 2008 while hydrographs in the Lower Big Chino area and Williamson Valley area show a slow but continuous decline in water levels during the time period from 1999 to 2004 and through 2008. Drought impacts from 1999 through present day are believed to be reflected in the majority of hydrographs within the Big Chino sub-basin. This can be shown on Hydrographs H and J where groundwater levels reflect the changes in stream discharge for nearby USGS stream gages along the Verde River (Paulden) and Williamson Valley Wash respectively. Just as large precipitation events, such as the early 2005 floods (water level rise) are reflected in these recent hydrographs, so are the compounded effects of long-term drought on water-level trends (water level decline). The Hydrographs for wells in the Big Chino sub-basin indicate two types of water level change. Hydrographs that have steep water level declines and rises indicate areas dominated by variable recharge while hydrographs with more consistent water level trends indicate areas where withdrawals overwhelm the effect of variable recharge.

References:

Bills, D.J., Flynn, M.E., and Monroe, S.A., 2005, Hydrogeology of the Coconino Plateau and Adjacent Areas, Coconino and Yavapai Counties, Arizona; U.S. Geological Survey Water Resources Investigations Report 2005 - 5222, 101 p.

Blasch, K. W., Hoffmann, J.P., Graser, L.F., Bryson, J.R., and Flint, A.L., 2006, Hydrogeology of the Upper and Middle Verde River Watersheds, Central Arizona; U.S. Geological Survey, Scientific Investigations Report 2005 – 5198, p. 102.

Schwab, K.J., 1995, Maps showing Groundwater Conditions, Spring 1992, in the Big Chino Sub-Basin of the Verde River Basin Coconino and Yavapai Counties, Arizona-1992; Arizona Department of Water Resources Hydrologic Map Series Report Number 28, November 1995, p. 2.

Tadayon, S., 2005, Water withdrawals for irrigation, municipal, mining, thermoelectric -power, and drainage uses in Arizona outside of active management areas, 1991 -2000; U.S. Geological Survey, Scientific Investigations Report 2004 – 5293, p. 28.

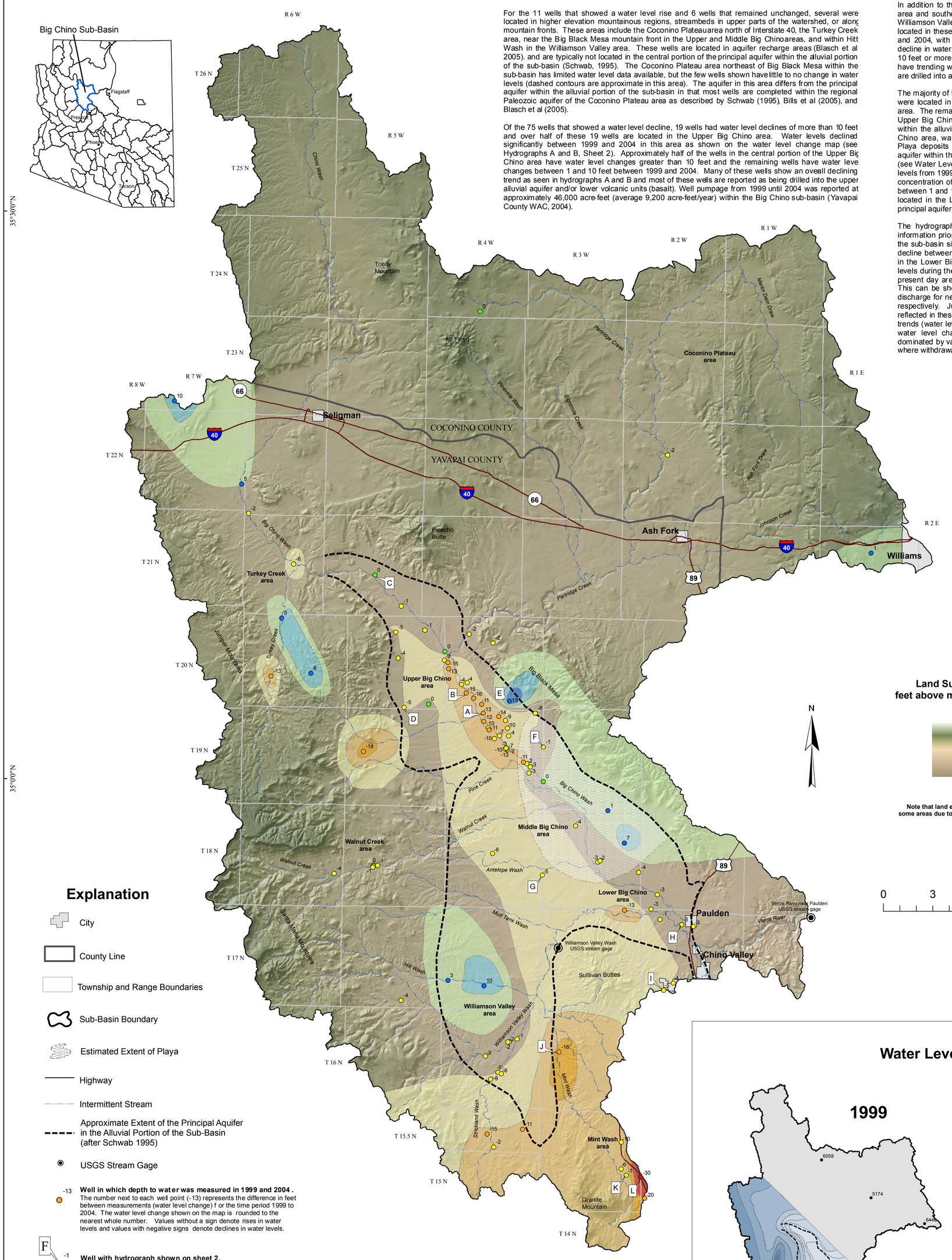
Yavapai County WAC. 2004. Draft Big Chino Sub-Basin, Historical and Current Water Uses and Water Use Projections; Yavapai County Water Advisory Committee, February 2004, p. 38.

Additional Resources:

ADWR, 2006, Arizona Water Atlas, volume 5, section 5.5, Verde River Basin; Arizona Department of Water Resources, p. 60

ADWR, 2000, Verde River Watershed Study; Arizona Department of Water Resources, p. 208 .

ARIZONA GROUNDWATER BASINS AND SUB-BASINS



Land Surface Elevation feet above mean sea level (amsl)

High : 8,858

Low : 4,118

Note that land elevation colors may not be seen in some areas due to the water level change color overlays

0 3 6 12 Miles

Expires 3/31/2012

Explanation

- City
- County Line
- Township and Range Boundaries
- Sub-Basin Boundary
- Estimated Extent of Playa
- Highway
- Intermittent Stream
- Approximate Extent of the Principal Aquifer in the Alluvial Portion of the Sub-Basin (after Schwab 1995)
- USGS Stream Gage
- -13 **Well in which depth to water was measured in 1999 and 2004 .** The number next to each well point (-13) represents the difference in feet between measurements (water level change) f or the time period 1999 to 2004. The water level change shown on the map is rounded to the nearest whole number. Values without a sign denote rises in water levels and values with negative signs denote declines in water levels.
- F -1 **Well with hydrograph shown on sheet 2.** Number (-1) indicates the water level change from 1999 to 2004 and the letter (F) corresponds to the hydrograph shown on sheet 2.

Water Level Change Color Categories (feet)

Wells

Water Level Decline
- -0.5 to -10.4
- -10.5 to -20.4
- -20.5 to -30.4

Water Level Unchanged
- -0.4 to 0.4

Water Level Rise
- 0.5 to 20

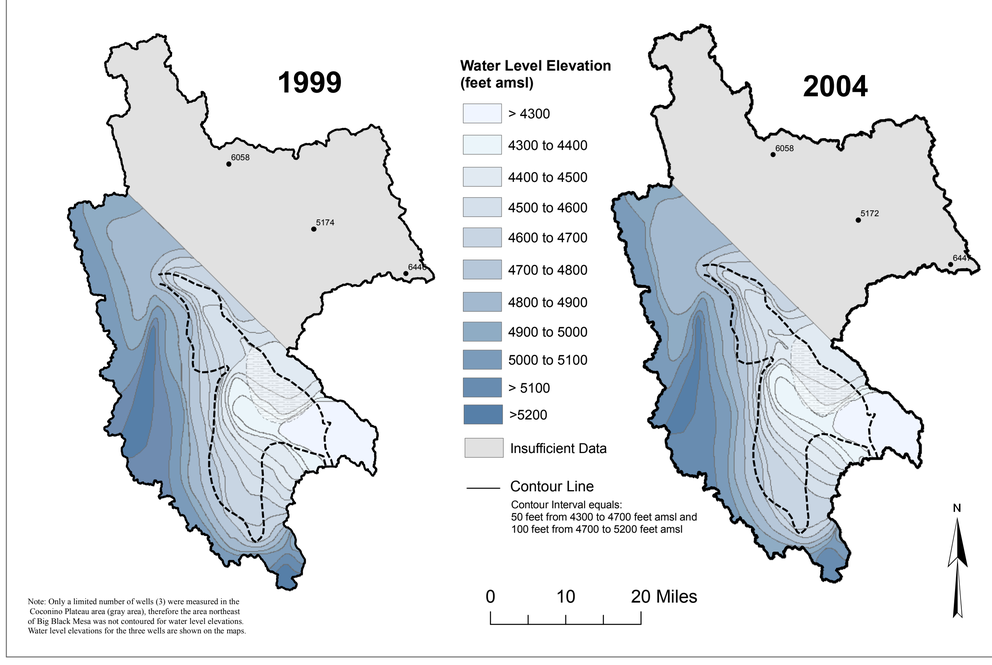
Contours

Water Level Decline
- -5 to -10
- -10 to -15
- -15 to -20
- -20 to -25
- -25 to -30

Water Level Rise
- 0 to 5
- 5 to 10
- 10 to 15

Note that no color overlay indicates a water level change of 0 to -5 feet.

Water Level Elevation Contour Maps



Note: Only a limited number of wells (3) were measured in the Coconino Plateau area (gray area), therefore the area northeast of Big Black Mesa was not contoured for water level elevations. Water level elevations for the three wells are shown on the maps.

NORTH AMERICAN DATUM 1983 HARN

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ARIZONA DEPARTMENT OF WATER RESOURCES

HYDROLOGY DIVISION

WATER LEVEL CHANGES IN BIG CHINO SUB-BASIN, ARIZONA 1999-2004

By
Stephen Flora and Teri Davis

April 2009

For data go to:
arcims.azwater.gov/gwsi/waterresourcedata.aspx

For more information or copies contact:
ADWR Information Services
3550 North Central Avenue
Phoenix, AZ 85012
(602) 771-8627
www.azwater.gov

ADWR Index Well Groundwater Monitoring Site Hydrographs

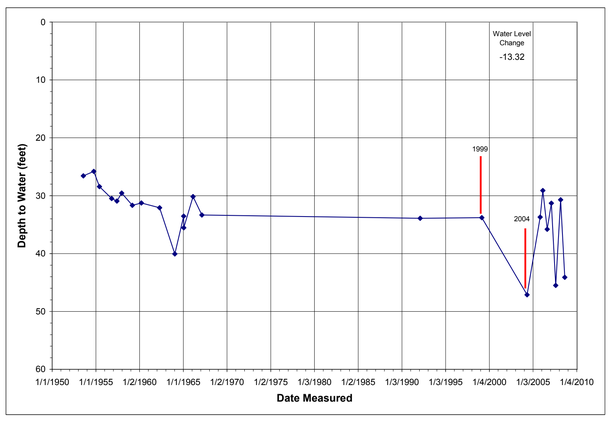
REGISTERED GEOLOGIST — CERTIFICATE NO. 34535 — TERI D. DAVIS — Date Signed 1/14/09 — ARIZONA, U.S.A.

Expires 3/31/2012

Upper Big Chino area

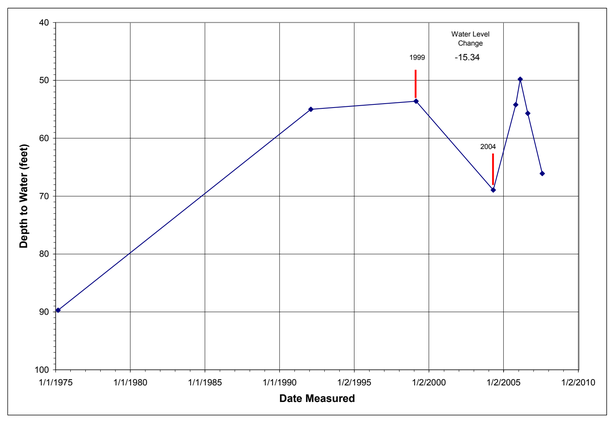
A

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-19-04 04BDB	350356112413901		35° 3' 56.7"	112° 41' 39.4"	4549	Irrigation	Unknown	14	Unknown	8/19/2008	44.1	4504.9



B

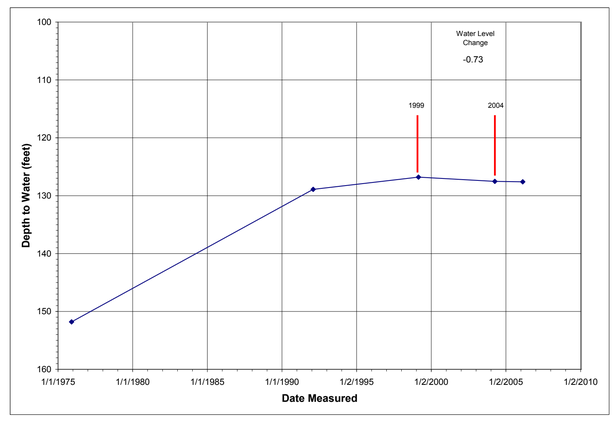
Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-20-04 32BBA	350500112424601	55-626225	35° 4' 59.8"	112° 42' 46.2"	4588	Unused	602	16	7/23/1952	9/7/2007	66.1	4521.9



Middle Big Chino area

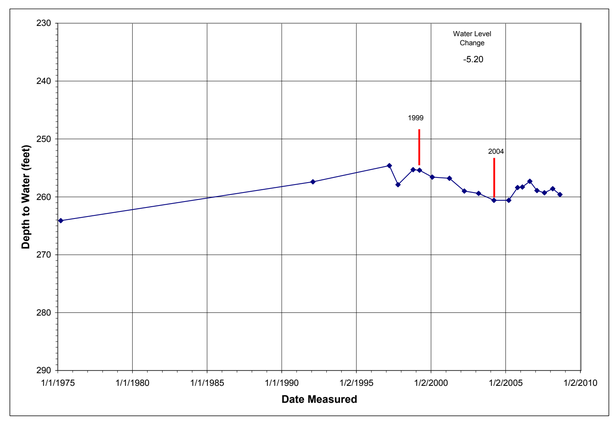
F

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-19-04 13AAD	350213112374501	55-607040	35° 2' 12.9"	112° 37' 45.2"	4608	Stock	200	8	Unknown	2/17/2006	127.6	4480.4



G

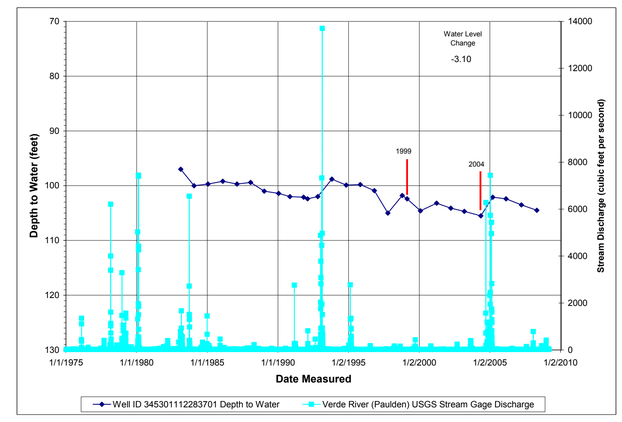
Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-18-04 25AAA1	345525112374501	55-622512	34° 55' 26.3"	112° 37' 40.9"	4573	Stock	400.2	6	Unknown	8/22/2008	259.6	4313.4



Lower Big Chino area

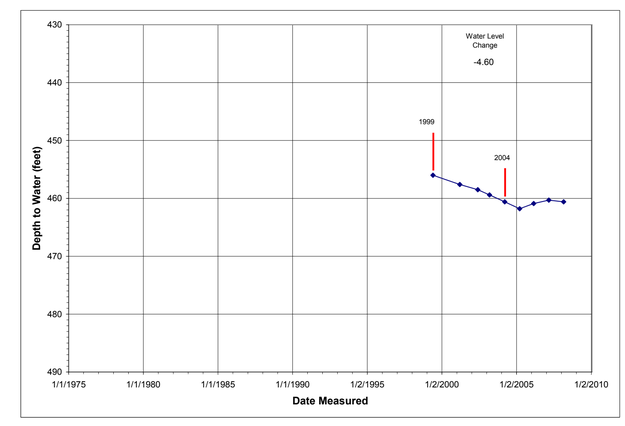
H

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-17-02 04DBC1	345301112283701		34° 52' 56.4"	112° 28' 40.7"	4362	Unused	Unknown	18	Unknown	4/29/2008	104.5	4257.5



I

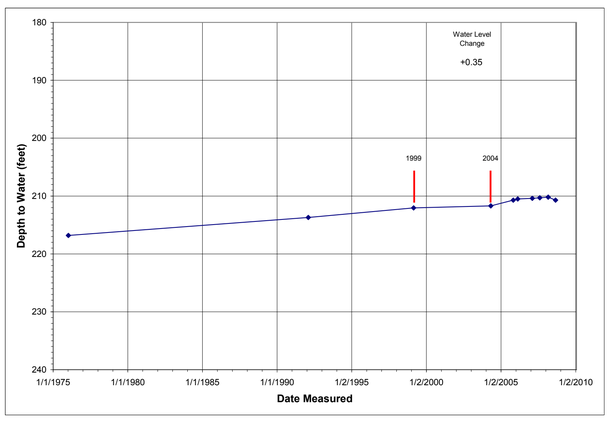
Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-17-02 29CAC	344928112294601	55-518331	34° 49' 27.1"	112° 29' 46.5"	4750	Domestic	530	7	7/27/1987	2/27/2008	460.6	4289.4



Outer portions of the Upper Big Chino area

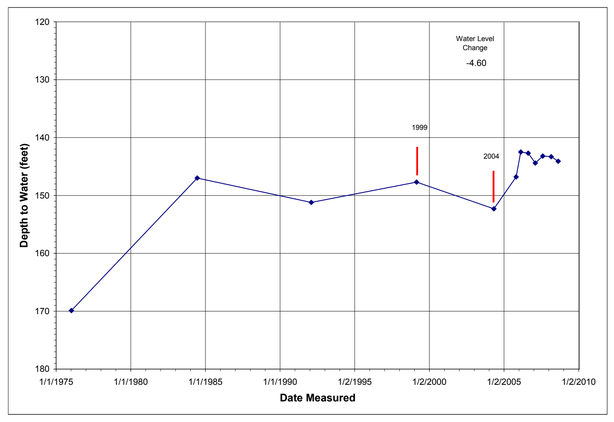
C

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-21-05 22CBB	351130112482401	55-614868	35° 11' 9.0"	112° 48' 47.3"	4797	Stock	311	18	1/1/1958	8/28/2008	210.7	4586.3



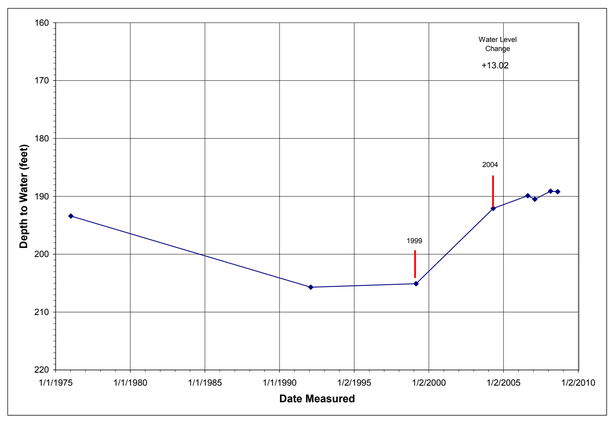
D

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-20-05 34CDD	350410112464401	55-644045	35° 4' 11.0"	112° 46' 44.6"	4930	Stock	250	6	Unknown	8/20/2008	144.1	4785.9



E

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-20-04 34ADC	350436112395901	55-614851	35° 4' 35.8"	112° 39' 59.0"	4694	Stock	300	6	Unknown	8/19/2008	189.2	4504.8



Depth to Water (DTW), Water Level Elevation (WLE), and Water Level Change (in feet) for wells located in the Big Chino Sub-Basin measured in 1999 and 2004.

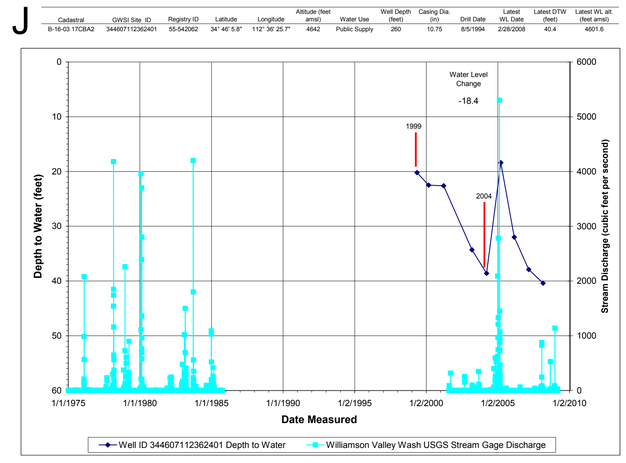
CADASTRAL	WELL ID	Date 1999	DTW 1999	WLE 1999	Date 2004	DTW 2004	WLE 2004	WATER LEVEL CHANGE
A-21-01 10CBB	351243112165101	4/21/1999	93.6	6446	4/8/2004	92.9	6447.1	0.7
B-15-02 31BBD	343827112304801	5/20/1999	166.3	5113.7	3/18/2004	186.2	5093.8	-19.9
B-15-03 11DDB	344122112322201	5/24/1999	64.5	4995.5	3/17/2004	74	4986	-9.5
B-15-03 23ADC	343957112322001	5/11/1999	54.7	5030.3	3/15/2004	60.7	5024.3	-6
B-15-03 24CCB	343938112320101	5/7/1999	84	5036	3/15/2004	84.7	5035.3	-0.7
B-15-03 24DDD	343932112310401	5/4/1999	140.44	5049.56	3/15/2004	170.7	5019.3	-30.26
B-15H04 26DAA	344158112384201	2/25/1999	134.3	4662	4/7/2004	145.6	4650.4	-11.3
B-15H04 28DDC	344141112405701	2/25/1999	67.6	4797	4/7/2004	82.3	4782.7	-14.7
B-15H04 34CBD	344101112403101	2/25/1999	14.08	4888	4/7/2004	15.8	4886.2	-1.72
B-16-03 17CBA2	344607112362401	5/10/1999	20.2	4621.8	3/18/2004	38.6	4603.4	-18.4
B-16-04 14ABB	344645112390801	5/5/1999	0.5	4605	4/7/2004	1.43	4603.57	-0.93
B-16-04 14BBB1	344636112394401	5/5/1999	3.6	4609.4	4/6/2004	5.4	4607.6	-1.8
B-16-04 14BBB2	344636112394301	5/5/1999	4.9	4608	4/6/2004	7.1	4605.9	-2.2
B-16-04 16DCD	344549112410901	5/5/1999	12.54	4630	4/7/2004	15.5	4627.5	-2.96
B-16-04 22CDD1	344457112400901	2/25/1999	14.67	4635	4/6/2004	19.2	4630.8	-4.53
B-16-04 22DCD	344453112400701	2/25/1999	17.2	4637	4/6/2004	25.3	4628.7	-8.1
B-16-04 27BCB	344435112404301	2/25/1999	30.61	4651	4/6/2004	39.7	4642.3	-9.09
B-17-02 05CBA	345312112300801	2/22/1999	140.7	4257.3	4/29/2004	142.1	4255.9	-1.4
B-17-02 29ADC	344950112291101	5/28/1999	230.4	4374.6	3/17/2004	234	4371	-3.6
B-17-02 29CAC	344928112294601	5/27/1999	456	4294	3/17/2004	460.6	4289.4	-4.6
B-17-02S03CCD	345302112275601	2/23/1999	159.7	4270.3	4/27/2004	162.7	4267.3	-3
B-17-02S04DBC1	345301112283701	2/24/1999	102.4	4259.6	5/11/2004	105.5	4256.5	-3.1
B-17-03 01BBB	345337112321901	2/23/1999	122.22	4272.78	4/29/2004	135.7	4259.3	-13.48
B-17-04 28DBC	344931112411801	5/6/1999	48	4614	4/5/2004	38.5	4623.5	9.5
B-17-04 30BDD	344947112433901	5/6/1999	13.1	4715	4/26/2004	10.4	4717.6	2.7
B-17-05 34DBA	344841112463701	3/2/1999	14.3	4861	4/26/2004	18.6	4856.4	-4.3
B-18-02 31DCC	345351112303901	2/22/1999	121.8	4262.2	4/29/2004	125.1	4258.9	-3.3
B-18-02 32BBB	345434112301601	2/22/1999	125	4258	4/28/2004	128.1	4254.9	-3.1
B-18-03 03AAA	345856112333201	2/23/1999	165.2	4464.8	4/29/2004	164.5	4465.5	0.7
B-18-03 04CCC	345807112353301	2/23/1999	20.5	4436.5	4/30/2004	24.3	4432.7	-3.8
B-18-03 11DDD	345710112322901	2/23/1999	84.7	4435	4/29/2004	77.7	4442.3	7
B-18-03 22ABB1	345615112340301	2/23/1999	14.15	4403.85	5/3/2004	15.9	4402.1	-1.75
B-18-03 22BAC	345609112340901	2/23/1999	12.9	4405.1	5/10/2004	16	4402	-3.1
B-18-03 24DDA	345542112312801	2/23/1999	165.4	4269.6	4/29/2004	169.5	4265.5	-4.1
B-18-04 16DDA	345629112405201	3/26/1999	383.9	4336.1	4/12/2004	389.9	4330.1	-6
B-18-04 25AAA1	345525112374501	3/26/1999	255.4	4317.6	3/19/2004	260.6	4312.4	-5.2
B-18-05 20DAC	345548112483101	3/26/1999	22.5	5053	4/6/2004	22.4	5052.6	0.1
B-18-05 20DBD1	345540112483701	3/26/1999	23.2	5066.8	4/6/2004	24.5	5065.5	-1.3
B-18-05 21CBC	345546112481301	3/26/1999	20.9	5039	4/6/2004	21.4	5038.6	-0.5
B-18-06W25BAA	345519112510201	3/2/1999	34.7	5185	4/28/2004	39	5181	-4.3
B-19-03 30BCB2	350026112374301	2/25/1999	26.52	4465	4/28/2004	27	4465	-0.48
B-19-04 01BAD3	350359112381501	2/24/1999	270.9	4504	4/6/2004	278.7	4496.3	-7.8
B-19-04 03BCD	350341112403901	2/23/1999	52.1	4508	4/27/2004	66.15	4493.85	-14.05
B-19-04 03DBD	350336112401401	2/23/1999	70.5	4502.5	4/26/2004	79.23	4493.77	-8.73
B-19-04 04BDB	350356112413901	2/23/1999	33.8	4515	4/27/2004	47.12	4501.88	-13.32
B-19-04 04CAC	350332112413701	2/23/1999	27.5	4520	4/27/2004	39.96	4507.04	-12.46
B-19-04 09ABC	350304112411601	2/23/1999	25.41	4504	4/27/2004	35.74	4493.26	-10.33
B-19-04 09ABD3	350305112411601	2/24/1999	25	4504	4/27/2004	36.23	4492.77	-11.23
B-19-04 10AAC	350311112400501	2/24/1999	60.7	4502	4/6/2004	70.93	4492.07	-10.23
B-19-04 10CAB	350245112403401	2/24/1999	21.8	4499	4/7/2004	28.8	4492.2	-7
B-19-04 10CCB1	350237112405601	2/24/1999	22.31	4509	4/27/2004	32.42	4498.58	-10.11
B-19-04 10DAA	350247112400001	2/24/1999	50.5	4506	4/5/2004	54.13	4501.87	-3.63
B-19-04 13AAD	350213112374501	2/24/1999	126.8	4481.2	4/6/2004	127.53	4480.47	-0.73
B-19-04 15ACA	350207112400701	2/24/1999	21.52	4490	4/28/2004	28.7	4483.3	-7.18
B-19-04 15ACD1	350203112400901	2/24/1999	20.09	4492	4/28/2004	29.87	4482.13	-9.78
B-19-04 15ACD2	350206112401201	2/24/1999	20.12	4492	4/28/2004	22.61	4489.39	-2.49
B-19-04 15ADC1	350202112400501	2/24/1999	13.6	4498	4/28/2004	26.54	4485.46	-12.94
B-19-04 15ADC2	350201112400501	2/24/1999	19.9	4492	4/28/2004	22.5	4489.5	-2.6
B-19-04 23AAC3	350124112390101	2/24/1999	19.1	4483	4/28/2004	29.84	4472.16	-10.74
B-19-04 23AAD	350119112384801	2/24/1999	21.8	4476	4/28/2004	23.3	4474.7	-1.5
B-19-04 24ACD	350109112383401	2/24/1999	24.3	4476	4/28/2004	27.12	4472.88	-2.82
B-19-04 24CCB	350050112383901	2/24/1999	23.12	4474	4/28/2004	26.45	4470.55	-3.33
B-19-05 17CBC	350148112491901	2/22/1999	379.9	4922.1	4/28/2004	397.8	4904.2	-17.9
B-20-04 08BDD	350806112423801	2/22/1999	223.4	4541.6	4/26/2004	225.13	4539.87	-1.73
B-20-04 09DDC	350740112410701	2/22/1999	254.8	4640.2	4/26/2004	256.97	4638.03	-2.17
B-20-04 19BBC	350637112435901	2/23/1999	68.3	4522	4/27/2004	82.83	4507.17	-14.53
B-20-04 19CBA	350616112435601	2/23/1999	73.1	4524	4/27/2004	86.23	4510.77	-13.13
B-20-04 29BDC	350533112424201	2/23/1999	51.3	4520.7	4/7/2004	55.68	4516.32	-4.38
B-20-04 30ADD	350527112430301	2/23/1999	41.01	4528.99	4/7/2004	45.24	4524.76	-4.23
B-20-04 32ACA	350443112421701	2/23/1999	46	4513	4/27/2004	62.45	4496.55	-16.45
B-20-04 32BBA	350500112424601	2/23/1999	53.6	4534	4/27/2004	68.94	4519.06	-15.34
B-20-04 33CBD1	350426112414601	2/23/1999	37.4	4511.6	4/27/2004	48.5	4500.5	-11.1
B-20-04 34ADC	350436112395901	2/23/1999	205.1	4489	4/27/2004	192.08	4501.92	13.02
B-20-05 09ADD	350805112471801	2/23/1999	111.1	4784	4/28/2004	115.6	4779.4	-4.5
B-20-05 11ACA	350814112452701	2/23/1999	135.75	4542	4/28/2004	136.4	4541.6	-0.65
B-20-05 13DAA	350709112441101	2/23/1999	77.6	4528.4	4/27/2004	77.11	4528.89	0.49
B-20-05 15CCC	350647112471101	2/23/1999	185.5	4809	4/28/2004	189.6	4804.4	-4.1
B-20-05 24AAA	350645112441201	2/23/1999	75.1	4526	4/27/2004	83.99	4517.01	-8.89
B-20-05 34CDD	350410112464401	2/23/1999	147.7	4782.3	4/29/2004	152.3	4777.7	-4.6
B-20-05 35DAD	350423112451101	2/23/1999	193.8	4636.2	4/29/2004	193.6	4636.4	0.2
B-20-06 05DAD2	350847112544501	2/25/1999	277.4	4853	4/29/2004	272.5	4857.5	4.9
B-20-06 22DDC	350554112524801	2/25/1999	363.7	5256.3	4/29/2004	355.4	5264.6	8.3
B-20-06 29BAC	350542112552101	2/25/1999	422.3	4992.7	4/29/2004	434.9	4980.1	-12.6
B-21-05 22CBB	351130112482401	2/23/1999	212.05	4585	4/27/2004	211.7	4585.3	0.35
B-21-05 35ACD	350932112470301	2/23/1999	76.13	4636.87	4/27/2004	76.9	4636.1	-0.77
B-21-06 14CCD	351145112540001	2/24/1999	91	4844	4/27/2004	98.6	4836.4	-7.6
B-22-02 16ABA	351746112300801	2/23/1999	21.4	5174	4/5/2004	23.87	5171.13	-2.47
B-22-06 32CDD	351417112565901	2/24/1999	166.3	4861.7	4/27/2004	168.6	4859.4	-2.3
B-22-07W25ADD	351552112572901	2/24/1999	208.2	4867.8	4/7/2004	202.93	4873.07	5.27
B-23-07 32ACD	352008113015601	2/24/1999	701.9	4940	4/7/2004	691.55	4950.45	10.35
B-24-04 34CBC	352517112421701	2/23/1999	10.9	6058	4/8/2004	11.31	6057.69	-0.41

Notes: The map (sheet 1) and data table include all wells in the Big Chino Sub-Basin (listed in ADWR GWSI Database) measured in 1999 and 2004 excluding those listed with remarks (i.e. pumping). Data in the table is arranged in order of cadastral location. Hydrographs for the twelve selected statewide index wells within the Big Chino Sub-Basin are generated from depth to water (DTW) data provided in the ADWR Ground Water Site Inventory (GWSI) Database and can be found on the ADWR website (http://arcims.azwater.gov/gwsi/waterresourcedata.aspx). Water level change from 1999 to 2004 is also shown on each hydrograph. Hydrographs H and J also display stream discharge data from the Verde River near Paulden and Williamson Valley Wash stream gages respectively and can be found at http://az.water.usgs.gov/.

Williamson Valley area and Mint Wash area

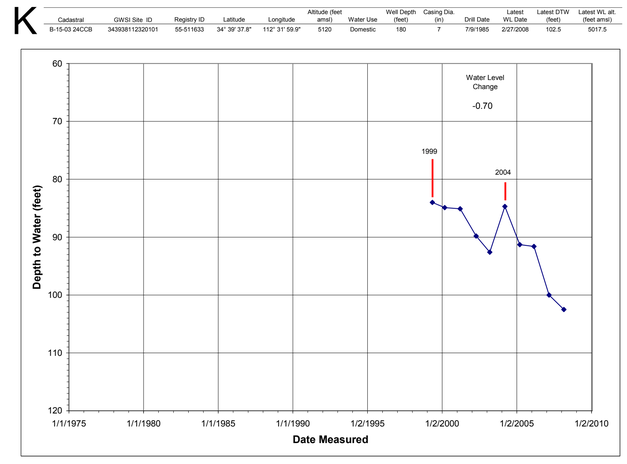
J

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-16-03 17CBA2	344607112362401	55-542062	34° 46' 5.8"	112° 36' 25.7"	4642	Public Supply	260	10.75	8/5/1994	2/28/2008	40.4	4601.6



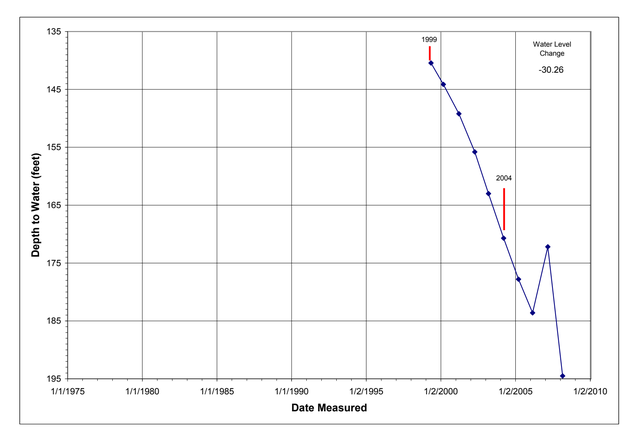
K

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-15-03 24CCB	343938112320101	55-511633	34° 39' 37.8"	112° 31' 59.9"	5120	Domestic	180	7	7/9/1985	2/27/2008	102.5	5017.5



L

Cadastral	GWSI Site ID	Registry ID	Latitude	Longitude	Altitude (feet amsl)	Water Use	Well Depth (feet)	Casing Dia. (in)	Drill Date	Latest WL Date	Latest DTW (feet)	Latest WL alt. (feet amsl)
B-15-03 24DDD	343932112310401	55-602453	34° 39' 31.5"	112° 31' 4.0"	5190	Institution	260	6.62	11/29/1978	2/27/2008	194.5	4995.5



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ARIZONA DEPARTMENT OF WATER RESOURCES

HYDROLOGY DIVISION

WATER LEVEL CHANGES IN BIG CHINO SUB-BASIN, ARIZONA 1999-2004

By
Stephen Flora and Teri Davis

April 2009

For data go to:
arcims.azwater.gov/gwsi/waterresourcedata.aspx

For more information or copies contact:
ADWR Information Services
3550 North Central Avenue
Phoenix, AZ 85012
(602) 771-8627
www.azwater.gov