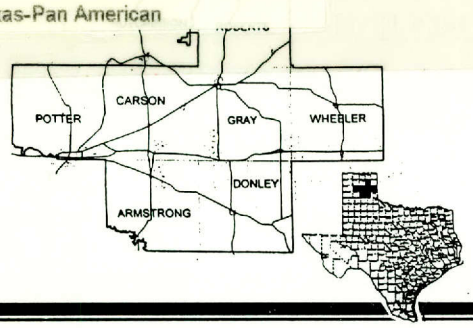


Panhandle Water News

July 2003

FIRST ANNUAL GROUNDWATER SCHOLARSHIP WINNERS ANNOUNCED

Bart Wyatt, PGCD Education Dir., congratulates 2nd place winner, Amanda Lee.

Bart Wyatt and PGCD directors Jim Thompson, Billy Crawford, and John McKissack, presented the 1st place award to Marla Mathews.

Luke Burton receives the 3rd place award from Bart Wyatt.

White Deer - The Panhandle Groundwater Conservation District has announced the winners of the first annual PGCD scholarship program. Receiving first place, a $4,000 scholarship, was Ms. Marla Mathews of Tascosa High School, Amarillo. Second place, a $3,000 scholarship was awarded to Ms. Amanda Lee, Pampa High School. Receiving third place, a $2,000 scholarship, was Mr. Luke Burton, Pampa High School.

Since this was the first year for the scholarship program, the District was pleased to receive fourteen essays. To be eligible, the applicants were required to be high school seniors, graduating from counties within the District service area. Other requirements included writing a water-related essay, on a topic chosen by the District, and enrolling as a full-time student and attending college the fall semester immediately following selection.

Each scholarship applicant was very worthy, each essay was well written, and selection of the best three was extremely tough. We are certain that each scholarship applicant will become an asset to the university or college they choose.

Ms. Mathews essay, "It is Not for Sale," will be published in the October edition of *Panhandle Water News*.

Congratulations to the winners, and to all those that applied. Good luck and best wishes on all of your future endeavors!

TEXAS GROUNDWATER: YOURS? MINE? OURS?

C. E. Williams, general manager of Panhandle Groundwater Conservation District, participated in the 3rd Annual Statewide Water Conference, on May 28. The half-day conference was held at the George Bush Presidential Conference Center in College Station and was simulcast to Texas A & M Extension Centers in San Angelo, Uvalde, El Paso, Vernon, and Amarillo.

Mr. Williams gave participants an overview of the District's experience in issuing high impact pumping permits to Dallas oilman T. Boone Pickens and other landowners in Roberts County. Due to good water quality in the Ogallala aquifer, an average saturated thickness of 300 feet in the aquifer, sparse population, and land not suited for irrigated farming, there has been considerable interest in Roberts County ground water resources in recent years.

Water exportation issues are not new to Panhandle Groundwater District. The City of Amarillo began pumping water out of the District in the 1950s. Quixx Corporation, a subsidiary of a local electrical utility, purchased water rights in Roberts County in the 1970s. Later, they sold 40,000 acres of water rights, and transferred their High Impact Permits, to Canadian River Municipal Water Authority. (CRMWA)

Until 1995, PGCD had a rule to prevent ground water transportation out of the District. Judge Patrick Pirtle, of the 251st District, overturned that rule, in a summary judgement involving Quixx Corporation and the City of Amarillo. The District does, however, have the power to regulate production of wells within its service area.

In 2001, CRMWA began pumping ground water from Roberts County, blending it with Lake Meredith water and sending it to its 11 member cities, Amarillo, Borger, Brownfield, Lamesa, Levelland, Lubbock, O'Donnell, Pampa, Plainview, Slaton, and Tahoka.

The City of Amarillo purchased ground water rights to about 68,000 acres in Roberts County, and High Impact Permits were granted to them in 2001. However, their permit prevents pumping water for 25 years. The City of Amarillo's and CRMWA's permits allow them to pump an acre-foot of water, per year, for each acre owned.

In September 2001, Pickens and other Roberts County landowners, collectively called the Mesa Group, applied for permits to pump water, under the same conditions. CRMWA protested the permits and, "The Panhandle Groundwater Conservation District was the first district in Texas with a contested case permit," Williams said.

After seven public hearings and two years of legal battling, the District approved High Impact Permits for the Mesa Group, in 2002. The permits expire after five years, if a buyer for the water is not found. Other restrictions state that there will be no more than two wells per section; that there will be no wells closer that one-half mile to each other; final well locations, if moved more that one-quarter mile, must be an amendment to the permit; and that the final users must adopt and abide by water conservation and drought contingency plans. Applicants also agree to drill monitoring wells on each tract, prior to actual pumping, and to provide these data to the District on a quarterly basis; furnish annual water level measurements from each producing well; furnish copies of chemical analyses from the well field; and be bound by the District's rules as they may be amended and the District's continuing right to supervise and regulate aquifer depletion.

"I think it's a fair agreement for people in the District, as well as those outside the District," Williams said.

Recalling his experiences, Williams also offered some suggestions to newly formed ground water conservation districts. "New districts do not have to do everything their first year," he said. "Their boards and management can't anticipate all that will happen. It is important to spend some time formulating procedural rules first, and then base substantive rules on good scientific fact. Water district rules and management plans must be reasonable and fair to all water users."

He concluded by saying, "Groundwater districts have the opportunity to address future management of ground water; however, if we stump our toe and don't do our job well, then the legislature will come in with some other method of regulation."

HIGH-IMPACT PRODUCTION PERMIT REQUESTS

C. E. Williams, General Manager

In recent months, 133 landowners in Roberts and Gray counties of the Texas Panhandle, have submitted applications to Panhandle Groundwater Conservation District for High-Impact Production Permits (HIPPs). The permits would allow landowners to produce large quantities of groundwater, which they want to transport to municipalities somewhere in the state. The requests are for permits similar to the ones the District issued, on May 15, 2002, to T. Boone Pickens and eight other landowners in Roberts County, collectively known as the Mesa Group. These permits stipulate that the landowners have five years to "provide the District the appropriate documentation of one or more Destination Users," or these permits will expire. These permits will become valid only when Destination Users are identified. Another stipulation is that they must file conservation and drought contingency plans with the District, prior to any production.

The big difference between the recent requests, and the Mesa Group's, is that they have no formal agreement binding them together, as Mesa did. Individually, all the requests are deficient, and will have little or no chance of meeting all the requirements of the District's Rules and the Texas State Law. In addition, these 133 applicants have not provided the District with documentation authorizing any persons or entities to represent them, either individually or as a group. State law, or the District Rules, would allow the District to issue an order consolidating these individuals' applications to produce groundwater, unless these individual landowners, by agreement, consolidated their ownership rights of groundwater into one legal entity themselves.

At a meeting in my office, I explained this fact to one of the 133 applicants, who represented that he had spoken with other applicants. He suggested that the District proceed to process all the applications individually. On further study, the District staff found that, if it followed this suggestion, it would result in the rejection of approximately half of the applications. The District's Board explained this to those present at a Board of Directors meeting on June 25, 2003. Some applicants present at that meeting then requested special guidance as to how to form a legal entity that would allow all 133 applicants to consolidate their applications, in order to make it more likely that all applicants would receive permits, as long as other District Rules are met. The District immediately offered to provide this assistance and send a letter to the applicants, in this regard.

The Board tabled all the HIPPs at the June 25, 2003, Board meeting, and is contemplating how to address them. The Board and staff is committed to working with the landowners to help them understand what is needed to achieve compliance and also meet the District's charge to preserve and conserve the Ogallala aquifer, and to meet the District's 50/50 Rule.

Average change in the water table
Panhandle Groundwater Conservation District

From (Year)	To (Year)	net elevation change, in feet
2002	2003	-0.1
1998	2003	-0.5
1993	2003	-1
1983	2003	-3
1973	2003	-9
1963	2003	-31

Includes measurements from wells in Armstrong, Carson Donley, Gray, Potter, Roberts, & Wheeler counties. Total area in the District is about 4,000,000 acres.

2003 WATER LEVEL AVERAGES

The average changes in depth to water for the counties in the District are shown in the tables, maps and charts. The county averages are for those wells measured in 2003 and provide a generalized trend only. Individual wells and areas will have different rates and amounts of change. The maps have contours indicating the area where the average decline is constant. The estimated decline for a particular spot may be determined by referring to the elevation of the contour line nearest the desired location, or by locating a nearby well as a point of reference. Some wells have the section number indicated in the chart for reference as well. The county tables have the history of the wells measured for the previous 5 and 10 years. The District wide level shows the average changes for each aquifer by county, during the past five years.

PRECIPITATION ENHANCEMENT FACTS

- **Program Impacts**
  Decrease irrigation water demand in the irrigated farm areas
  Benefits all involved from farmers and ranchers to cities
  Downwind areas from seeded clouds have increased rainfall over long term
  Cloud tops decrease in size, thus decreasing risk of damaging winds or tornadoes
  Increase lateral size of cloud area, thus increasing rain coverage
  Overall increase on return investment for increased rainfall is substantial
- **History**
  Colorado River Municipal Water District began in 1971 and has had a 25-35% increase in total rainfall in the target area benefiting farmers, ranchers, and cities. In the Texas double-blind tests (38 candidate clouds over 1,984 km), the seeding effects appear to produce more rain volume in seeded clouds versus non-seeded clouds by 29%. For mean floating targets, rain volumes increased over 2.5 hours after initial seeding by 45%.
- **Seeding Concepts**
  Seed vigorous super-cooled clouds having high water content
  These ice crystals grow much faster than raindrops, thus preventing evaporation
  This fast conversion of cloud water into ice crystals enhances the release of latent heat, which in turn increases cloud buoyancy
  In return, this invigorates updrafts and acts to spur additional cloud growth and/or support growing ice crystals produced by the seeding operation
  These processes result in increased precipitation from the seeded clouds, which merge or interact with other clouds to cause new or additional rainfall
  The net effect being increased rainfall over the target area
- **Other Information**
  The Panhandle Groundwater Conservation District owns all equipment necessary to operate this program and will be able to continue the program through District funds without increasing taxes.
- **Active Influence & Scientific Management Assessment for 2002 Program**
  AISM, under contract with the Texas Department of Agriculture, assessed our program using archived radar imagery to compare initially like seeded and unseeded clouds to calculate the increases of rainfall produced in seeded clouds. **The assessment methodology has been presented to the National Academy of Sciences for their review.** AISM's results are as follows:
  - Cloud Lifetime Increased 23%
  - Cloud Area Increased 8%
  - Precipitation Mass Increased 21%
- **Precipitation Enhancement Program Cost (Ag Use Values Assessment per acre)**

The following shows the per section (640 acres) assessed value per acre of grassland, dry-land cultivated cropland, and irrigated land, along with the average taxable home value.

County Average

Grassland: $25,600 — Dry-land: $72,960
Irrigated: $97,920 — Avg. Home Value: $35,340

PEP Portion, Per Section*

Grassland: $1.19 — Dry-land:$3.43
Irrigated: $4.59 — Avg. Home: $1.65 per home

The PEP portion is the tax amount per **640 acre section or household used to fund the program.*

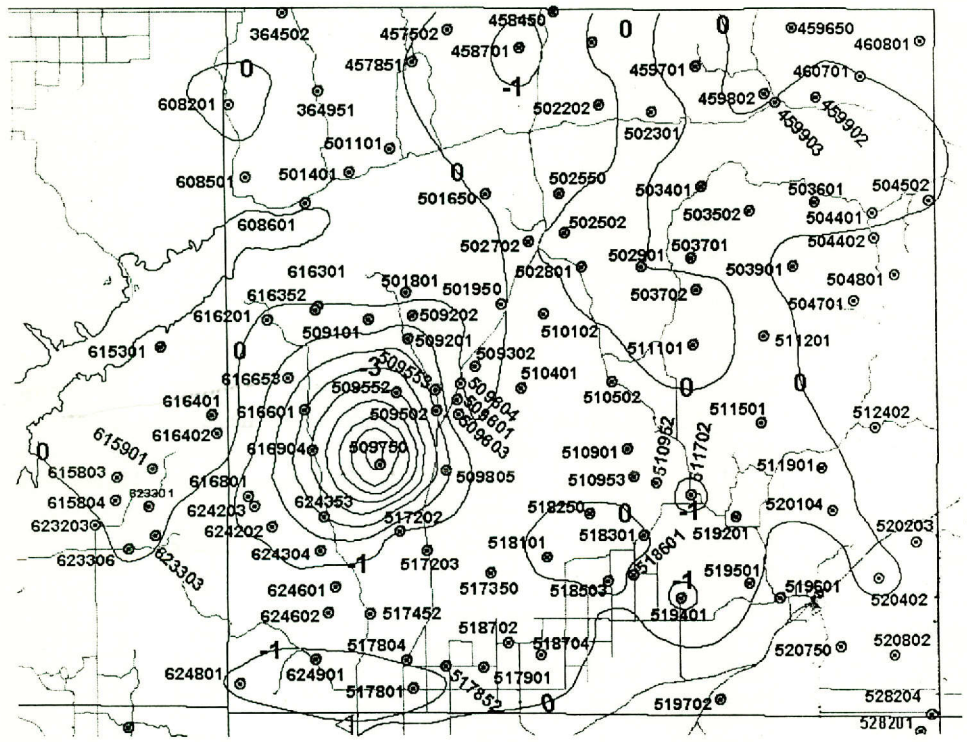
DISTRICT WATER QUALITY PROGRAM IN PROGRESS

PGCD began its annual water quality program, by collecting water samples from around the District, during the week of June 9th. The program will continue until about September 1, when the last sample is collected and tested. Some 275 samples will be tested for nitrates, sulfates, iron, fluoride, ammonia, chloride, alkalinity, hardness, specific conductivity, total dissolved solids, and pH.

Since this is the 2003 season, wells in the program that have odd state well numbers, or any well that exceeded a state secondary drinking water standard in years past, will be sampled. Depending on whether the water well ever exceeded a state standard, the District will test the same well on an every year, or every other year, basis. Knowing the water came from the same well and water source enables the District to compare past results to the newly gathered data.

If you are not on the list for regular Water Quality monitoring, and would like to have your well water tested, please call us at 883-2501, and we will set up an appointment at your convenience. Last, but not least, please remember to conserve water. Future generations are counting on it.

HUTCHINSON and ROBERTS COUNTIES
OGALLALA AQUIFER
contour interval = 1 foot



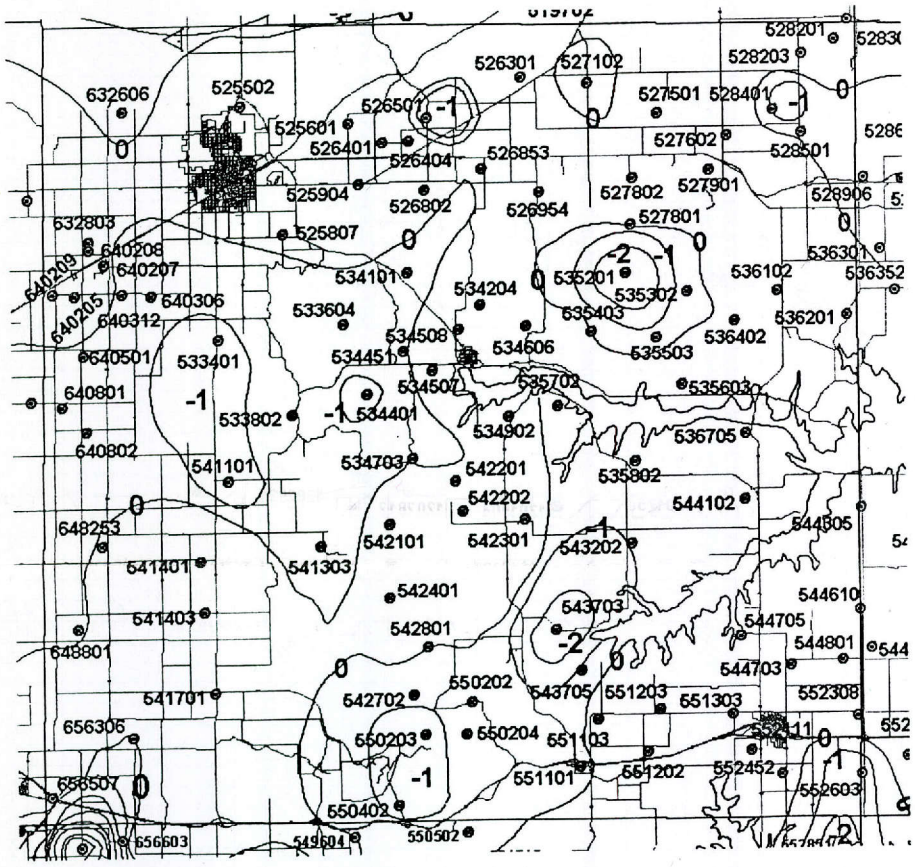
Hutchinson County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet		Water Level Variation
			2002	2003	
Alluvium	608750	34	-4.9	-3.7	1.2
Ogallala	615301	37	-129.1	-115.0	14.1
	615803	39	-78.3	-79.0	-0.7
	615804	42	-111.4	-100.5	10.9
	615901	1	-75.2	-73.8	1.4
	616401	207	-295	-296.5	-1.5
	616402	8	-102.6	-98.1	4.5
	623203	11	-193.2	-189.3	3.9
	623301	3	-118.1	-115.6	2.5
	623303	4		-103.8	
	623306			-168.0	

Roberts County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Alluvium	503202	188			-10.9	-9.0			1.9
	501201	13		-24.9	-21.2	-21.0	-21.0	3.9	0.2
Ogallala	364502	53	-432.0		-410.2	-413.6	18.4		-3.4
	364951	30			-109.6	-109.6			0.0
	457502	154	-387.3		-396.4	-395.1	-7.8		1.3
	457701	19				-22.0			-22.0
	457851				-249	-253.5			-4.5
	458450	159			-356.5	-357.1			-0.6
	458701	133		-89.1	-94.1	-96.6		-7.5	-2.5
	458801	1	-329.9		-391	-391.2	-61.4		-0.2
	459650	36			-273.6	-271.4			2.2
	459701	203	-52.1	-51.6	-52.7	-53.8	-1.7	-2.2	-1.1
	459802	183	-75.7	-79.0	-75.2	-76.1	-0.4	2.9	-0.9
	459902	171			-47.3	-47.5			-0.2
	459903	183			-40.1	-40.2			-0.1
	460701	158			-97.1	-97.0			0.1
	460801	144	-186.2		-194.4	-186.9	-0.7		7.5
	501101	23		-56.3	-53.9	-53.8		2.5	0.1
	501401	33		-55.0	-50.5	-50.6		4.4	-0.1
	501650	8			-80.9	-79.8			1.1
	501801	16		-210.3	-210.7	-209.3		1.0	1.4
	501950					-128.3			-128.3
	502202	9	-67.4	-66.8	-69.2	-68.0	-0.6	-1.2	1.2
	502301	213			-58.8	-58.5			0.3
	502502	60		-107.9	-107.7	-107.6		0.3	0.1
	502550	4			-99.8	-99.8			0.0
	502702	4	-56.7	-55.4		-54.7	2.0	0.7	-54.7
	502801	2	-9.1	-10.5	-9.2	-6.7	2.4	3.8	2.5
	502901				-132.5	-132.7			-0.2
	503401	1		-97.8	-99.3	-99.1		-1.3	0.2
	503502	5			-30.3	-30.0			0.3
	503601	16		-83.9	-84.7	-84.9		-1.0	-0.2
	503701			-85.5	-86	-85.9		-0.4	0.1
	503702					-100.0			-100.0
	503901	8		-65.1	-55.6	-64.8		0.3	-9.2
	504401	115		-97.4	-99	-99.3		-1.9	-0.3
	504402	111		-168.0	-166.5	-167.4		0.6	-0.9
	504502				-115.3	-115.1			0.2
	504701	98		-320.1	-321.4	-317.6		2.5	3.8
	504801	105			-202.6	-194.0			8.6
	509101	3		-53.0	-53.3	-53.8		-0.8	-0.5
	509201	14		-252.8		-261.2		-8.4	-261.2
	509202	30		-238.0	-241.5	-241.2		-3.2	0.3
	509302	35	-182.9	-185.3	-181.9	-181.7	1.2	3.6	0.2
	509404	154				-114.0			
	509405	128				-196.3			
	509407	127				-289.6			
	509502				-278.3	-285.3			-7.0
	509552	46			-78.9	-82.2			-3.3
	509601	49			-230.2	-231.6			-1.4
	509603	77	-185.5		-186.8	-186.3	-0.8		0.5
	509604	51				-180.2			
	509704	125				-284.9			
	509705	126				-310.6			
	509706	132				-118.5			
	509707	132				-136.4			
	509709	131				-393.1			
	509711	127				-318.8			
	509750	126			-404	-392.4			11.6
	509755	130				-297.8			
	509756	126				-235.6			
	509757	126			-405.3	-405.2			0.2
	509758	126			-279.6	-324.3			-44.7
	509805				-304.5	-305.1			-0.6
	509806	105				-284.6			
	509850	105				-229.5			
	510102	9		-128.9	-128.7	-133.0		-4.1	-4.3
	510401	56		-159.3	-160.1	-148.2		11.1	11.9
	510502	68		-241.0	-241.7	-242.1		-1.1	-0.4
	510901	45		-154.1	-154.2	-155.7		-1.6	-1.5
	510952	13			-344.6	-344.6			0.0
	510953	17		-178.0	-184.3	-184.5		-6.5	-0.2
	511101	72		-287.9	-285.1	-285.3		2.6	-0.2
	511201	88		-291.1	-292.6	-292.5		-1.4	0.1
	511501	52		-305.2	-334.1	-306.4		-1.2	27.7
	511702	12		-396.8	-402.5	-402.9		-6.1	-0.4
	511901	25		-270.7	-270.5	-272.3		-1.6	-1.8
	512402	57			-316.7	-313.6			3.1
	517101	150				-232.6			-232.6
	517202	108		-166.3	-166.7	-167.2		-0.9	-0.5
	517203	97			-320.7	-321.1			-0.4
	517350	69			-339.9	-340.0			-0.1
	517452	137			-355.5	-355.4			0.1
	517801	114		-382.5	-388.5	-388.4		-5.9	0.1
	517804	113	-413.7	-394.5	-400.8	-398.2	15.5	-3.7	2.6
	517852	92			-405.5	-406.0			-0.5
	517901	65		-390.3	-393.5	-391.4		-1.1	2.1
	518101	30		-323.4	-324.9	-322.4		1.0	2.5
	518250	4			-333.6	-333.5			0.1
	518301	195	-363.8	-359.0	-357.7	-358.1	5.6	0.9	-0.4
	518503	7		-376.0	-376	-376.0		0.0	0.0
	518601	193	-363.9	-372.1	-363.5	-364.3	-0.4	7.8	-0.8
	518702	60	-389.4	-386.9	-388	-388.8	0.6	-1.9	-0.8
	518704	35		-381.1	-381.3	-385.6		-4.5	-4.3
	519201	130		-362.0	-362.5	-361.9		0.1	0.6
	519401	158		-321.3	-328.4	-327.1		-5.8	1.3
	519501	102		-115.1	-117.4	-116.4		-1.3	1.0
	519601	94	-117.2	-118.0	-116.6	-113.5	3.7	4.5	3.1
	519702	139		-263.1	-261.9	-258.9		4.2	3.0
	520104	66		-140.5	-141.2	-141.0		-0.5	0.2
	520203	10		-112.4	-111.7	-110.6		1.8	1.1
	520402	33		-285.1	-286.7	-286.6		-1.5	0.1
	520750	43			-292.1	-291.9			0.2
	520802	18			-244	-243.3			0.7
	528204	2	-351.0		-351.2	-348.9	2.1		2.3
	608201	184	-168.3		-174.6	-173.8	-5.5		0.8
	608501	3	-60.4	-63.0	-61.7	-62.6	-2.2	0.4	-0.9
	608601	36		-8.9	-10.5	-6.2	-6.2	2.7	4.3
	616201	2				-144.5			
	616301	7		-176.6	-177	-176.1		0.5	0.9
	616352	7				-179.5			
	616501	206				-216.5			
	616601				-217.67	-218.7			-1.0
	616653				-230.9	-228.3			2.6
	616654	156				-222.0			
	616801	203		-213.1	-219.9	-219.5		-6.4	0.4
	616901	156		-224.8	-227.8	-260.6		-35.8	-32.8
	616904	156		-224.3	-224.9	-256.3		-32.0	-31.4
	616953	158			-228.2	-246.6			-18.4
	616954	157				-316.2			
	624202	185		-299.3	-304.8	-305.0		-5.7	-0.2
	624203	202			-240.8	-240.8			0.0
	624304	159			-280.6	-282.1			-1.5
	624305	159				-319.2			
	624306	150				-306.6			
	624307	159				-229.2			
	624353				-333.03	-315.7			17.4
	624355	160				-262.8			
	624356	149				-309.8			
	624357	159			-317.2	-316.5			0.7
	624358	159				-295.8	-298.0		-2.2
	624601	147			-211.8	-201.4			10.4
	624602	163			-332.3	-323.4			8.9
	624801	195			-111	-115.0			-4.0
	624901	165		-349.2	-356.3	-355.5		-6.3	0.8
	652501					-202.3			

GRAY COUNTY
OGALLALA AQUIFER
contour interval = 1 foot



DISTRICT HYDROLOGIST GRADUATES FROM TARLETON STATE UNIVERSITY

On May 10, 2003, PGCD's hydrologist, **Amy D. Crowell**, graduated from Tarleton State University in Stephenville, Texas, with a Bachelor's of Science in Hydrology, and minors in Mathematics and Engineering. She graduated cum laude, with a grade point average was 3.667. While attending college, Amy served as secretary and as vice president of the Hydrology Club, and as secretary of the Engineers Club.

Amy was valedictorian of her graduating class at Memphis, Texas, where she grew up. Her parents are Melvin and Debra Guinn of Memphis, and Terry Huggins of Lake Palo Pinto. Amy now resides in Groom with her husband Sean, who farms in the Groom area.

Amy has been employed at Panhandle Groundwater Conservation District since May 2001. She served as intern hydrologist in the summer of 2001and again in the summer of 2002. She began working full time in December 2003, while finishing her degree. Amy works closely with the District's geologist, Ray Brady. Her duties at the District include GIS mapping, managing data bases and analysis for the Water Quality Program, the Metering Program, the Rain Gauge Network, the Depletion Program, the Water Level Program, and monitoring of the surface water in White Deer Creek. She is also responsible for Ogallala Aquifer analysis, such as movement tendencies, water quality, water availability, and other aquifer characteristics.

"I have an agricultural background, and have always been interested in agriculture and the environment," Amy said. "I feel that water conservation is a very important part of this area's future, and I'm excited to be involved in the agricultural community in this area."

"The District is very fortunate to find a hydrologist with Amy's combination of experience, education, enthusiasm and ability," Mr. Brady said. "Her skills are helping the staff to improve our support to the taxpayers and customers in the area."

Gray County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Ogallala	525502	93	-354.8	-360.2	-349	-349.2	5.6	11.0	-0.2
	525601	45			-369	-368.7			0.3
	525807	80			-368.6	-370.6			-2.0
	525904	42	-373.0	-381.0	-364	-364.3	8.7	16.7	-0.3
	526301	186	-377.1	-381.4	-359.1	-361.0	16.1	20.4	-1.9
	526401	29	-369.0	-374.6	-370.7	-370.5	-1.5	4.1	0.2
	526404	20			-367.5	-367.4			0.1
	526501	4	-361.1	-361.9	-364	-366.6	-5.5	-4.7	-2.6
	526802	18		-357.1	-356.6	-356.7		0.4	-0.1
	526853	217			-363.7	-363.8			-0.1
	526954	146			-370.2	-368.0			2.2
	527102	142		-356.5	-359.8	-360.1		-3.6	-0.3
	527501	111		-352.5	-350.2	-349.5		3.0	0.7
	527602	53	-329.4	-355.9	-331.5	-331.9	-2.5	24.0	-0.4
	527801	57			-135.6	-134.0			1.6
	527802	116	-343.5	-346.2		-337.1	6.4	9.1	
	527901	81	-353.9		-339.6	-339.4	14.5		0.2
	528201	2	-346.4	-347.9	-346.9	-344.8	1.6	3.1	2.1
	528203	22		-344.8	-339.8	-342.6		2.2	-2.8
	528401	24		-328.6	-333.6	-334.2		-5.6	-0.6
	528501	2	-282.4	-282.6	-283.3	-283.3	-0.9	-0.7	0.0
	533401	108	-342.9	-340.1	-346.9	-346.7	-3.8	-6.6	0.2
	533604	60			-79.6	-78.7			0.9
	533802	94	-206.4	-207.5	-208	-208.4	-2.0	-0.9	-0.4
	534101	15	-138.3	-139.5	-140.2	-140.5	-2.2	-1.1	-0.3
	534204	2	-193.1	-198.6	-194.4	-196.1	-3.0	2.5	-1.7
	534401	57	-116.2	-112.1	-117.9	-121.6	-5.4	-9.5	-3.7
	534451	30			-108.8	-109.2			-0.4
	534507	2		-36.9	-33.3	-32.9		4.0	0.4
	534508	1	-59.0	-60.1	-57.9	-59.1	-0.1	1.0	-1.2
	534606	1	-73.9	-72.7	-72.4	-72.4	1.5	0.3	0.0
	534703	25	-74.8	-75.0	-74.7	-75.0	-0.2	0.0	-0.3
	534902	8	-71.8	-74.9	-69.4	-70.5	1.3	4.4	-1.1
	535201	33	-126.8	-118.3	-124.7	-131.1	-4.3	-12.8	-6.4
	535302	18	-15.7	-14.6	-15.1	-15.0	0.7	-0.4	0.1
	535403	11	-126.6	-126.8	-123.4	-124.8	1.8	2.0	-1.4
	535503	8	-76.9	-75.9	-73.8	-76.4	0.5	-0.5	-2.6
	535603	14	-74.8	-77.1	-74.3	-75.8	-1.0	1.3	-1.5
	535702	10	-31.8	-22.4	-23.2	-23.9	7.9	-1.5	-0.7
	535802	52	-120.3	-121.9	-117.9	-123.9	-3.6	-2.0	-6.0
	536102	21	-165.9	-169.7	-165.7	-164.0	1.9	5.7	1.7
	536201	24	-148.8	-150.0	-147.4	-148.0	0.8	2.0	-0.6
	536402	5	-8.9	-8.0	-8.7	-7.9	1.0	0.1	0.8
	536705	65	-5.8	-4.2	-5.7	-4.8	1.0	-0.6	0.9
	541101	127	-366.7	-363.3	-369.9	-370.2	-3.5	-6.9	-0.3
	541303	69	-332.2	-344.8	-342.7	-348.1	-15.9	-3.5	-5.4
	541401	141	-320.3	-334.5	-322.7	-324.6	-4.3	9.9	-1.9
	541403	140	-296.4		-295.6	-298.1	-1.7		-2.5
	541701	135	-261.6	-262.0	-263.8	-261.3	0.3	0.7	2.5
	542101	38	-265.4	-266.2	-262	-262.7	2.7	3.5	-0.7
	542201	25	-132.9	-131.9	-131.3	-134.8	-1.9	-3.0	-3.5
	542202	26	-267.6	-282.5	-261.8	-252.4	15.2	30.1	9.4
	542301	28	-140.4	-142.5	-140.9	-139.4	1.0	3.0	1.5
	542401	41	-197.4	-204.9	-202	-202.3	-4.9	2.6	-0.3
	542702	16	-145.4	-145.4	-144.2	-145.1	0.3	0.3	-0.9
	542801	3	-80.8	-80.8	-81	-82.0	-1.2	-1.2	-1.0
	543202	29	-112.9	-112.3	-112.1	-116.6	-3.7	-4.3	-4.5
	543703	4	-19.0	-15.6	-17.1	-26.6	-7.6	-11.0	-9.5
	543705	2	-107.1	-104.0	-103.1	-107.4	-0.3	-3.5	-4.3
	544102	45	-141.1	-140.6	-138	-143.6	-2.5	-3.0	-5.6
	544610	120	-186.5	-189.0	-182.7	-186.7	-0.2	2.3	-4.0
	544703	92	-129.9	-128.0	-124.9	-131.3	-1.4	-3.3	-6.4
	544705	12	-68.2	-62.4	-62.7	-62.4	5.8	0.0	0.3
	544801	115	-114.7	-113.1	-109.9	-111.4	3.3	1.7	-1.5
	550202	24	-23.8	-23.0	-23.1	-24.8	-1.0	-1.8	-1.7
	550203	4	-55.8	-52.7		-59.8	-4.0	-7.1	
	550204	5	-49.9	-48.5	-48.7	-49.4	0.5	-0.9	-0.7
	550402	18		-143.6	-144	-149.1		-5.5	-5.1
	551101	181	-218.7	-217.3	-214.3	-218.4	0.3	-1.1	-4.1
	551103	29	-138.8	-136.2	-133.9	-133.9	4.9	2.3	0.0
	551202	37	-194.5	-191.8	-189.2	-189.1	5.4	2.7	0.1
	551203	34	-155.0	-161.8	-150.4	-150.4	4.6	11.4	0.0
	551303	32	-111.9	-111.4	-106.7	-105.3	6.6	6.1	1.4
	552111	189	-110.1	-109.8	-104.8	-104.6	5.5	5.2	0.2
	552308	68	-98.8	-104.4	-100.5	-100.4	-1.6	4.0	0.1
	552452	49			-105.7	-108.2			-2.5
	552603	42	-18.9	-12.6	-18.7	-17.9	1.0	-5.3	0.8
	632606	148		-360.5	-362.9	-362.6		-2.1	0.3
	632803	160	-405.6	-394.6	-394.1	-394.1	11.5	0.5	0.0
	640205	179	-385.8	-392.4	-387	-386.8	-1.0	5.6	0.2
	640207					-393.6			
	640208					-391.4			
	640209					-401.6			
	640306	134	-416.9	-398.5	-406.9	-402.2	14.7	-3.7	4.7
	640312					-405.0			
	640501	210	-368.2	-369.6	-370.8	-371.6	-3.4	-2.0	-0.8
	640801	214			-369.7	-371.2	-371.2	-371.2	-1.5
	640802	206	-354.0	-357.0	-359.2	-360.6	-6.6	-3.6	-1.4
	648253	202			-355.8	-357.2			-1.4
	648801	222	-280.8	-283.9	-283.7	-284.8	-4.0	-0.9	-1.1
	656306	19	-277.4	-277.9	-281.7	-278.4	-1.0	-0.5	3.3
	656507	57		-311.2	-296.5	-297.7		13.5	-1.2

DONLEY COUNTY

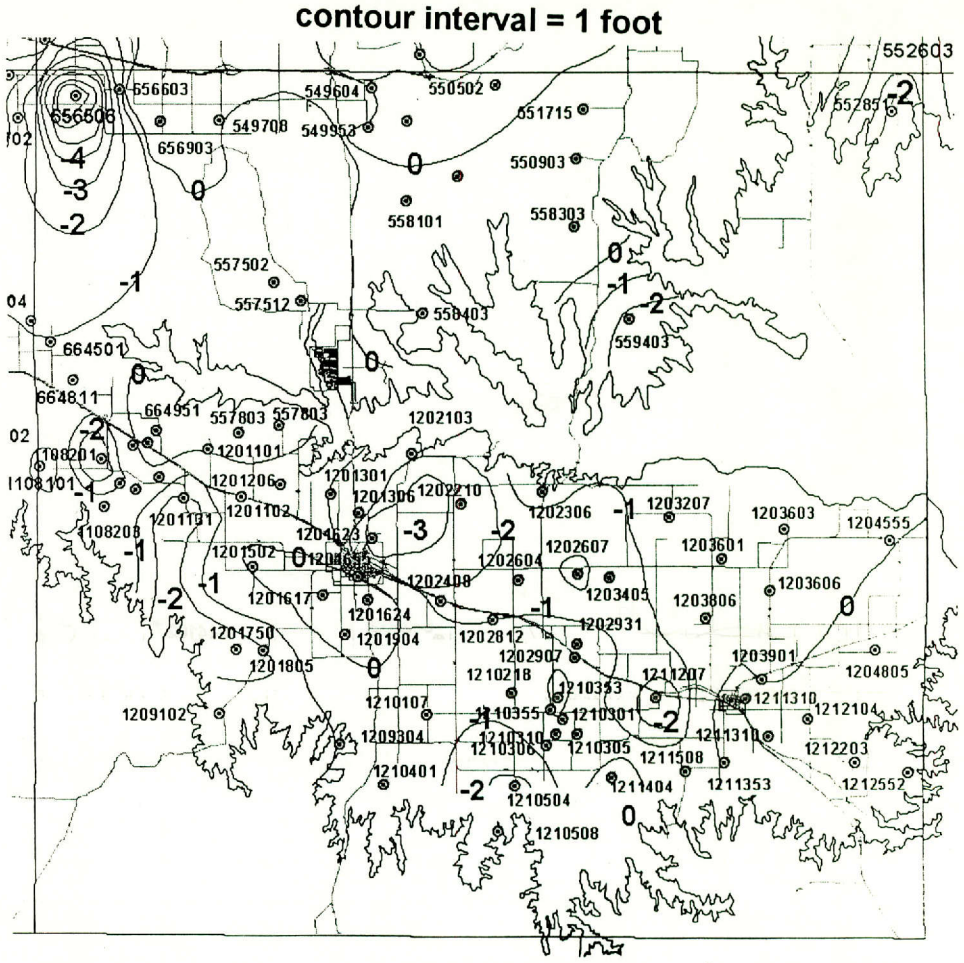
Donley County
based on measurements taken Dec 2002 - Mar 2003

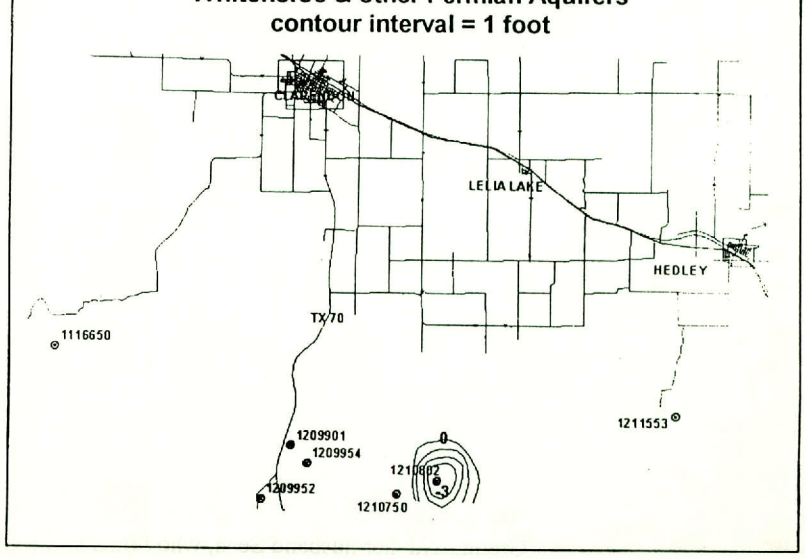
Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Ogallala	549604	21	-238.0	-238.5	-239.8	-237.8	0.2	0.7	2.0
	549708	21			-319.8	-319.6			0.2
	549953	2			-205.8	-209.9			-4.1
	550502	25	-128.3	-126.9	-129	-131.5	-3.2	-4.6	-2.5
	550701	2	-113.5	-115.3	-112.9	-117.2	-3.7	-1.9	-4.3
	550801	4			-101.2	-107.6			-6.4
	550903	30	-123.3	-119.5	-116	-109.6	13.7	9.9	6.4
	551715	9	-118.2	-115.1	-112.7	-112.6	5.6	2.5	0.1
	552851	12			-120.6	-124.1			-3.5
	557502	11	-95.5	-96.0	-95.6	-98.2	-2.7	-2.2	-2.6
	557512	13			-40.4	-47.6			-7.2
	557803	4	-88.2	-92.5	-88	-87.1	1.1	5.4	0.9
	558101	37			-107	-107.0			0.0
	558303	19	-48.4	-42.9	-38.9	-36.2	12.2	6.7	2.7
	558403	22			-154.2	-153.1			1.1
	559403	15	-78.0	-74.2	-83.2	-84.9	-6.9	-10.7	-1.7
	656506	41			-335.5	-346.6			-11.1
	656603	32	-298.1	-305.1	-313.2	-305.2	-7.1	-0.1	8.0
	656903	24	-314.2	-332.2	-321.1	-319.6	-5.4	12.6	1.5
	664501	1	-109.3	-107.8	-115.5	-112.8	-3.5	-5.0	2.7
	664811	2	-90.5	-92.8	-97.7	-97.9	-7.4	-5.1	-0.2
	664951	3			-63	-62.7			0.3
	1108101	10			-105.2	-100.4			4.8
	1108201	1	-112.3	-112.0	-122.5	-125.2	-12.9	-13.2	-2.7
	1108203	38	-33.6	-37.9	-39.7	-39.2	-5.6	-1.4	0.5
	1108308	3	-57.8	-71.2	-67.6	-63.5	-5.7	7.7	4.1
	1108309	17			-71.3	-78.3			-7.0
	1108312	4			-70.1	-70.2			-0.1
	1108357	17			-93.4	-99.5			-6.1
	1108358				-84.3	-80.1			4.2
	1201101	7	-91.1	-95.6	-93.4	-94.7	-3.6	0.9	-1.3
	1201102	13	-30.2	-31.5	-33.6	-33.9	-3.7	-2.4	-0.3
	1201131	15	-44.6	-48.2	-59.7	-60.2	-15.6	-12.0	-0.5
	1201206	21	-60.6	-64.1		-68.7	-8.1	-4.6	
	1201301	2	-37.1	-40.5	-44.4	-47.7	-10.7	-7.2	-3.3
	1201306	25	-37.6	-42.0	-49.5	-44.7	-7.1	-2.7	4.8
	1201502	48	-133.4	-136.4	-131.7	-133.7	-0.3	2.7	-2.0
	1201617	55	-122.8	-122.8	-119	-117.5	5.3	5.3	1.5
	1201623	29	-55.1	-49.7	-55.4	-67.1	-12.0	-17.4	-11.7
	1201624	57	-99.8	-108.1	-104.2	-98.5	1.3	9.6	5.7
	1201655	43			-56.3	-53.3			3.0
	1201750	10			-111.2	-106.9			4.3
	1201805	9	-197.4	-193.1	-203.3	-203.5	-6.1	-10.4	-0.2
	1201904	75	-144.6	-143.5	-143.2	-142.1	2.5	1.4	1.1
	1202103	50	-40.1	-32.5	-42	-41.5	-1.4	-9.0	0.5
	1202210	3	-57.8	-60.5	-62.3	-70.5	-12.7	-10.0	-8.2
	1202306	23	-57.5	-47.3	-50.6	-49.6	7.9	-2.3	1.0
	1202408	59	-15.7	-11.9	-17.3	-17.9	-2.3	-6.0	-0.6
	1202604	109			-55	-56.0			-1.0
	1202607	127	-66.6	-69.0	-78.1	-78.9	-12.3	-9.9	-0.8
	1202812	61	-12.0	-11.0	-16.5	-15.9	-3.9	-5.0	0.6
	1202907	66			-11.2	-10.1			1.1
	1202931	65	-36.2	-37.2	-38.9	-38.1	-2.0	-0.9	0.8
	1203207	123		-79.6	-79.9	-81.3		-1.7	-1.4
	1203405	129			-81	-67.6			13.4
	1203601	122			-103.3	-93.1			10.2
	1203603	113			-86.5	-85.6			0.9
	1203606	120	-94.2	-115.9	-110.3	-114.3	-20.1	1.6	-4.0
	1203806	117	-117.5	-120.1	-121.6	-120.3	-2.8	-0.2	1.3
	1203901	128	-55.3	-57.5	-62.6	-59.7	-4.4	-2.2	2.9
	1204555	67			-2.8	-2.4			0.4
	1204805	38	-30.9	-29.9	-28.2	-26.4	4.5	3.5	1.8
	1209102	17			-98.1	-99.4			-1.3
	1209304	25	-20.8	-19.5	-24.8	-24.4	-3.6	-4.9	0.4
	1210107	168				-147.0			-147.0
	1210218	85	-58.2	-58.6	-66.7	-60.9	-2.7	-2.3	5.8
	1210301	90			-14.7	-11.4			3.3
	1210305	89	-25.6	-27.4	-38.7	-33.8	-8.2	-6.4	4.9
	1210306	94			-33.4	-33.3			0.1
	1210310	90			-30.7	-24.0			6.7
	1210353	87			-19.8	-17.4			2.4
	1210355				-17.3	-18.2			-0.9
	1210401	166	-112.9	-116.5	-112.8	-115.9	-3.0	0.6	-3.1
	1210504	35	-84.9	-87.1	-107.7	-100.6	-15.7	-13.5	7.1
	1210508	143			-29.2	-25.1			4.1
	1211207	27	-86.1	-89.8	-96.7	-101.6	-15.5	-11.8	-4.9
	1211310	95	-73.8	-80.2	-74.4	-73.3	0.5	6.9	1.1
	1211353	87		-104.4	-103.5	-103.5		0.9	0.0
	1211404	133	-190.9		-198.2	-195.3	-4.4		2.9
	1211508	72	-165.2		-169.6	-167.6	-2.4		2.0
	1212104	96			-135.1	-136.1			-1.0
	1212203				-98.2	-97.0			1.2
	1212552	80			-61.3	-60.4			0.9
Whitehorse	552552	12			-95.6	-94.7			0.9
	560501	63	-189.1	-188.8	-184.5	-183.2	5.9	5.6	1.3
	1116550	106			-133.4	-123.1			10.3
	1116551	109			-141.4	-130.7			10.7
	1116650	11			-7.6	-5.6			2.0
	1116801	104			-50.3	-45.2			5.1
	1209901	68	-46.0	-54.1	-54.6	-52.6	-6.6	1.5	2.0
	1209952	10			-29.4	-29.1			0.3
	1209954	172			-168.2	-154.9			13.3
	1210750	1			-72.9	-70.4			2.5
	1210802	30			-93.9	-104.2			-10.3
	1211553	52			-23.6	-22.2			1.4

2002-2003 Water Statistics

Location (County)	Average Depth to Water	Maximum Depth to Water	Minimum Depth to Water	Median Depth to Water	Wells Measurements
Entire District	-195	-582	0	-148	742
Armstrong Cty	-199	-353	-72	-180	65
Carson County	-381	-582	-50	-402	152
Donley County	-94	-247	-2	-85	96
Gray County	-217	-405	-5	-196	93
Hutchinson Cty	-134	-297	-3	-109	10
Potter County	-121	-490	-5	-93	104
Roberts Cty	-215	-414	-12	-225	114
Wheeler Cty	-56	-297	0	-50	108

DONLEY COUNTY
OGALLALA AQUIFER
contour interval = 1 foot





PGCD HOSTS TEACHERS AND STUDENTS ON EARTH DAY

For the second year in row, the Panhandle Groundwater Conservation District has celebrated Earth Day, April 22, in conjunction with Amarillo College. This year, two sessions were held. The morning session consisted of elementary and middle school teachers from Region 16, and included teachers from almost every corner of the panhandle, including Dalhart, Hereford, Childress, and points in between. The afternoon session was for students from Amarillo College. Both groups listened as Ray Brady, the District's geologist, and Bart Wyatt, District Director of Education and Information, gave a presentation on the Districts programs and services, along with a more in depth look at aquifer structures and long term trends and concerns.

The sessions were designed to give both Region 16 teachers and Amarillo College students a better knowledge of the District's functions, so that what was learned could be taken back to the classroom for further discussion. All who participated were given handouts of a classroom activity, along with 20, 30, and 40-year water level patterns on each individual county in the District.

We hope all who attended left with a greater understanding of the Panhandle Groundwater Conservation District's mission and functions. We look forward to future educational opportunities and sincerely hope that everyone enjoyed the day as much as we did.

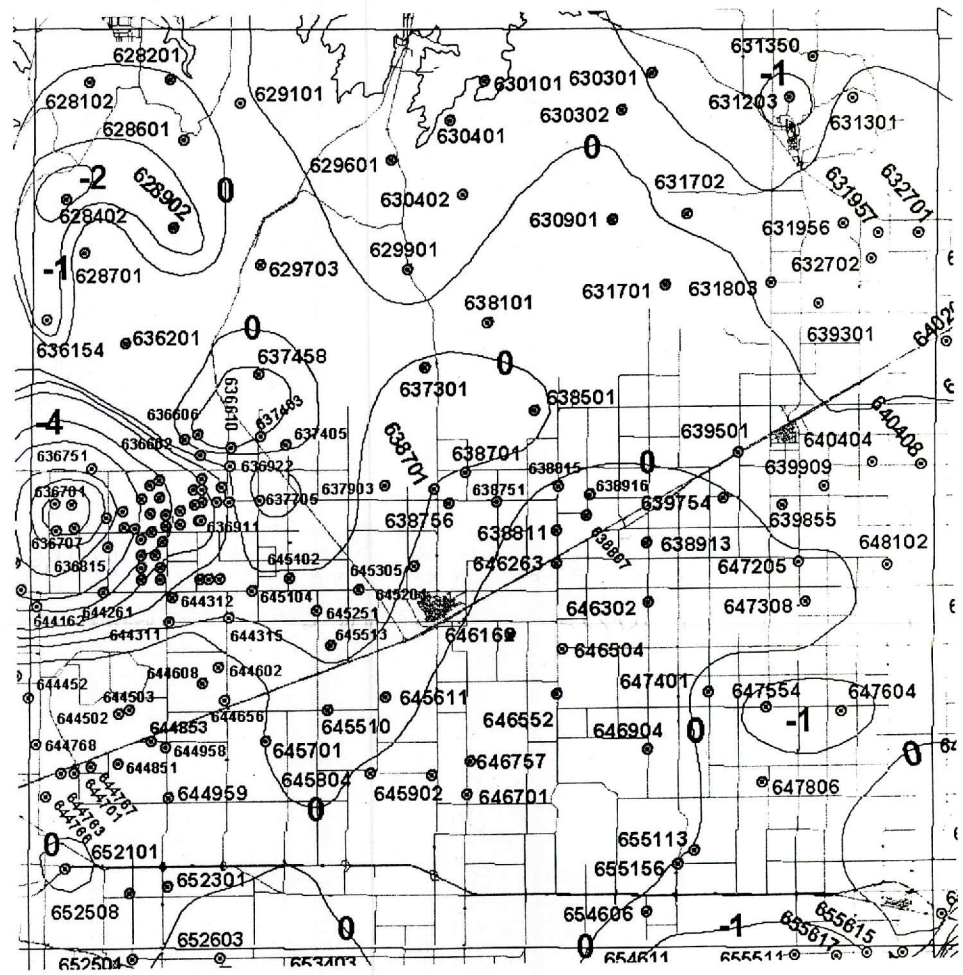
The District would like to extend special thanks to Matt Craig and Dan Porter of Amarillo College, and to Susan Smith, Region 16 ESC, for helping make all the necessary arrangements.

CARSON COUNTY

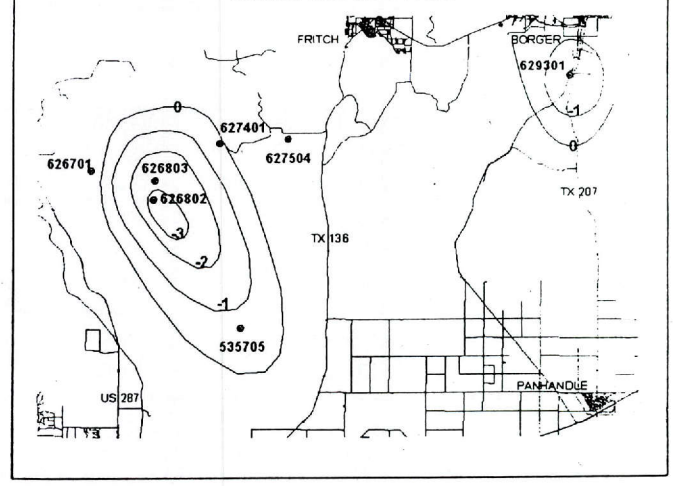
Carson County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Ogallala / Dockum	644906	8			-348.9	-349.1			-0.2
Ogallala	628102	23	-195.4	-204.0	-203.5	-205.2	-9.8	-1.2	-1.7
	628201	4	-95.6			-99.6	-4.0		
	628402	27	-192.0	-188.8	-193.2	-201.0	-9.0	-12.2	-7.8
	628601	13	-62.4	-58.6	-61.2	-61.8	0.6	-3.2	-0.6
	628701	8	-255.6	-267.2	-250.7	-251.7	3.9	15.5	-1.0
	628902	6		-140.0	-140.8	-144.1		-4.1	-3.3
	629101	99	-54.0	-56.2	-53.9	-56.0	-2.0	0.2	-2.1
	629601	83	-48.1	-52.1	-53.2	-49.7	-1.6	2.4	3.5
	629703	35				-286.6			
	629901	40	-79.3	-84.2	-79.8	-81.7	-2.5	2.5	-1.9
	630101					-53.4	-53.4	-53.4	-53.4
	630301	103	-149.8	-150.5	-150.4	-150.6	-0.8	-0.1	-0.2
	630302					-236.3			
	630401	92				-145.5			
	630402					-121.1			
	630901	57				-333.3			
	631203	107	-297.8	-293.7	-298.4	-298.3	-0.5	-4.6	0.1
	631301	109		-123.9	-122.3	-122.6		1.3	-0.3
	631350	5			-256.7	-256.6			0.1
	631701	30	-388.1	-388.5	-389.7	-391.7	-3.6	-3.2	-2.0
	631702	60	-276.9	-280.0	-278	-278.0	-1.1	2.0	0.0
	631803	26			-394.9	-394.9			0.0
	631956	46			-224.7	-224.6			0.1
	631957	45			-328.1	-327.7			0.4
	632701	186	-391.8	-403.5	-392.2	-392.0	-0.2	11.5	0.2
	632702	44	-408.7	-403.7	-401.3	-401.7	7.0	2.0	-0.4
	636154	1			-314.9	-316.1			-1.2
	636201	19	-355.8	-360.5		-354.9	0.9	5.6	-354.9
	636602	15	-460.9	-470.5	-478	-472.2	-11.3	-1.7	5.8
	636606	16			-477.8	-481.1			-3.3
	636608	25			-495.1	-498.0			-2.9
	636610	24			-424	-426.0			-2.0
	636701	50			-468	-468.0			0.0
	636702	50			-450	-492.2			-42.2
	636703	50			-484	-484.0			0.0
	636707	50			-463	-466.0			-3.0
	636751	29			-493.2	-494.3			-1.1
	636801	49	-488.7	-497.1		-512.2	-23.5	-15.1	-512.2
	636807	34			-508	-507.0			1.0
	636808	47			-526	-532.0			-6.0
	636809	47			-525	-525.0			0.0
	636810	48			-540	-547.5			-7.5
	636811	48			-525	-525.0			0.0
	636812	48			-512	-535.7			-23.7
	636815	53	-488.8		-511.8	-512.1	-23.4		-0.3
	636816	54			-536	-538.3			-2.3
	636817	54			-523	-534.8			-11.8
	636818	34			-499	-498.0			1.0
	636819	34			-482	-479.5			2.5
	636820	34			-528	-529.9			-1.9
	636901	44	-462.6	-469.7	-481.1	-486.3	-23.8	-16.6	-5.2
	636905	35			-533	-533.4			-0.4
	636907				-497	-501.3			-4.3
	636909	45			-481	-490.0			-8.9
	636910	36			-478	-473.7			4.3
	636911	45				-525.0			-525.0
	636912	46			-519	-528.5			-9.5
	636913	46			-514	-510.0			4.0
	636914	46			-535	-533.0			2.0
	636915	46			-518	-524.8			-6.8
	636916	46			-544	-564.5			-20.5
	636919	45	-479.8	-490.6	-502.3	-504.2	-24.4	-13.6	-1.9
	636920	36			-498	-500.0			-2.0
	636921	36			-517	-526.1			-9.0
	636922	24			-455	-455.0			0.0
	637301	5	-262.4	-270.1	-271.5	-272.5	-10.1	-2.4	-1.0
	637403	18	-463.9	-468.6	-451.5	-452.4	11.5	16.2	-0.9
	637405	22	-428.2	-436.0	-439.6	-439.1	-10.9	-3.1	0.5
	637458	10			-416.7	-421.7			-5.0
	637705	43	-468.3	-468.3	-456.2	-452.2	16.1	16.1	4.0
	637903	87	-412.9	-421.6	-426.8	-428.6	-15.7	-7.0	-1.8
	637912	64			-401.5	-402.6			-1.1
	638101					-74.1			
	638501	2	-372.9	-377.6	-382.4	-383.2	-10.4	-5.6	-0.8
	638701	34	-405.7	-412.0	-422.1	-415.5	-9.8	-3.5	6.6
	638751	26			-423.5	-425.5			-2.0
	638756	56			-417.1	-417.9			-0.8
	638807	54	-396.2	-408.6	-403.5	-405.1	-8.9	3.5	-1.6
	638811	56	-415.2		-425.4	-425.1	-9.9		0.3
	638815	34			-416.3	-418.3			-2.0
	638913	59			-398.9	-403.3			-4.4
	638916	35			-405	-406.2			-1.2
	639301	21		-420.9	-397.8	-397.8		23.1	0.0
	639501	27		-367.7	-368.4	-368.8		-1.1	-0.4
	639754	50			-380.6	-382.1			-1.5
	639855	48			-393.3	-392.8			0.5
	639909	42			-352	-353.7			-1.7
	640404	23		-365.3	-376.2	-365.6		-0.3	10.6
	640408	238	-355.7	-364.4	-369.9	-375.6	-19.9	-11.2	-5.7
	644162	7			-475.6	-477.3			-1.7
	644203	54			-528	-582.0			-54.0
	644204	68			-474	-476.0			-2.0
	644205	68			-509	-522.9			-13.9
	644206	68			-532	-541.1			-9.0
	644207	68			-515	-535.6			-20.6
	644261	52			-488.7	-490.0			-1.3
	644304	66			-502	-506.4			-4.4
	644305	66			-472	-472.0			0.0
	644306	66			-471	-471.0			0.0
	644311	20	-468.4	-471.5	-483	-486.5	-18.1	-15.0	-3.5
	644312	19	-488.1	-492.5	-500.4	-501.6	-13.5	-9.1	-1.2
	644315	3	-460.2	-440.0	-442.9	-444.9	15.3	-4.9	-2.0
	644502					-298.8			
	644503					-344.3			
	644602	16			-379	-376.9			2.1
	644608	15	-447.7	-455.1	-415.3	-424.0	23.7	31.1	-8.7
	644656	15			-434.8	-433.8			1.0
	644701	59	-253.7		-252	-251.7	2.0	-251.7	0.3
	644763	59			-235.8	-236.0			-0.2
	644766	6			-226.9	-226.8			0.1
	644767	46			-266.6	-264.2			2.4
	644768	3			-272.9	-272.0			0.9
	644851	41			-268.4	-272.7			-4.3
	644853	30			-303.1	-304.1			-1.0
	644958	24			-298	-297.8			0.2
	644959	25			-220.4	-220.8			-0.4
	645102	63	-423.3	-429.5	-432.5	-435.8	-12.5	-6.3	-3.3
	645104				-417.1	-419.5			-2.4
	645201	61	-412.0	-417.0	-421.8	-423.9	-11.9	-6.9	-2.1
	645251	16			-432.4	-433.5			-1.1
	645305				-433.8	-431.7			2.1
	645510	13			-423	-423.0			0.0
	645513	15			-435.3	-435.7			-0.4
	645611	80	-409.6	-413.4	-415.8	-415.9	-6.3	-2.5	-0.1
	645701	27	-396.3	-386.6	-392	-387.6	8.7	-1.0	4.4
	645804	7		-325.1	-324.2	-324.4		0.7	-0.2
	645902	74	-408.7		-391.7	-392.1	16.6		-0.4
	646162	22			-374.9	-376.7			-1.8
	646263	77			-419.2	-419.5			-0.3
	646302	81	-357.3	-377.1	-369	-371.2	-13.9	5.9	-2.2
	646504	100			-381.4	-382.3			-0.9
	646552	121			-354	-354.2			-0.2
	646701	44	-368.0	-394.2	-376.5	-378.5	-10.5	15.7	-2.0
	646757	43				-375.4			-375.4
	646904	140	-378.8		-361.2	-361.8	17.0		-0.6
	647205	69		-377.5	-377	-377.8		-0.3	-0.8
	647308	86	-298.5	-301.9	-298	-298.6	-0.1	3.3	-0.6
	647401	116	-341.0	-347.5	-346.9	-348.7	-7.7	-1.2	-1.8
	647554	128			-318.4	-320.9			-2.5
	647604	131	-302.3	-311.0	-315.3	-316.7	-14.4	-5.7	-1.4
	647806	150			-352.1	-352.4			-0.3
	648102	247			-351.2	-351.6			-0.4
	652101	21	-194.5	-192.2	-190	-189.0	5.5	3.2	1.0
	652301	25	-202.2	-200.6	-200.1	-200.0	2.2	0.6	0.1
	652508	23	-202.2	-209.5	-201.2	-204.6	-2.4	4.9	-3.4
	654606	194	-366.9	-371.3	-369.5	-372.3	-5.4	-1.0	-2.8
	655113	191			-371.2	-370.3			0.9
	655156	191			-371.2	-371.1			0.1
Perched	644216	68			-211.3	-210.8			0.5
Whitehorse	629301	105	-180.0	-173.3	-181.1	-180.1	-0.1	-6.8	1.0

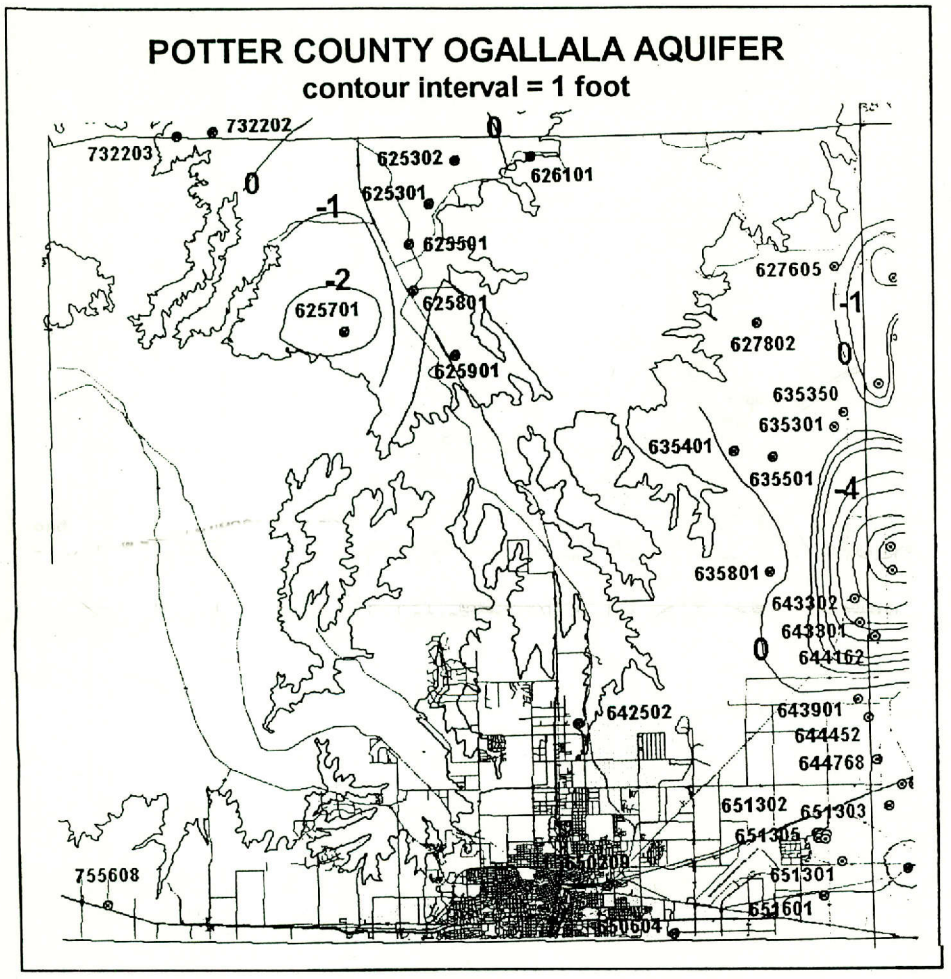
CARSON COUNTY
OGALLALA AQUIFER
contour interval = 1 foot

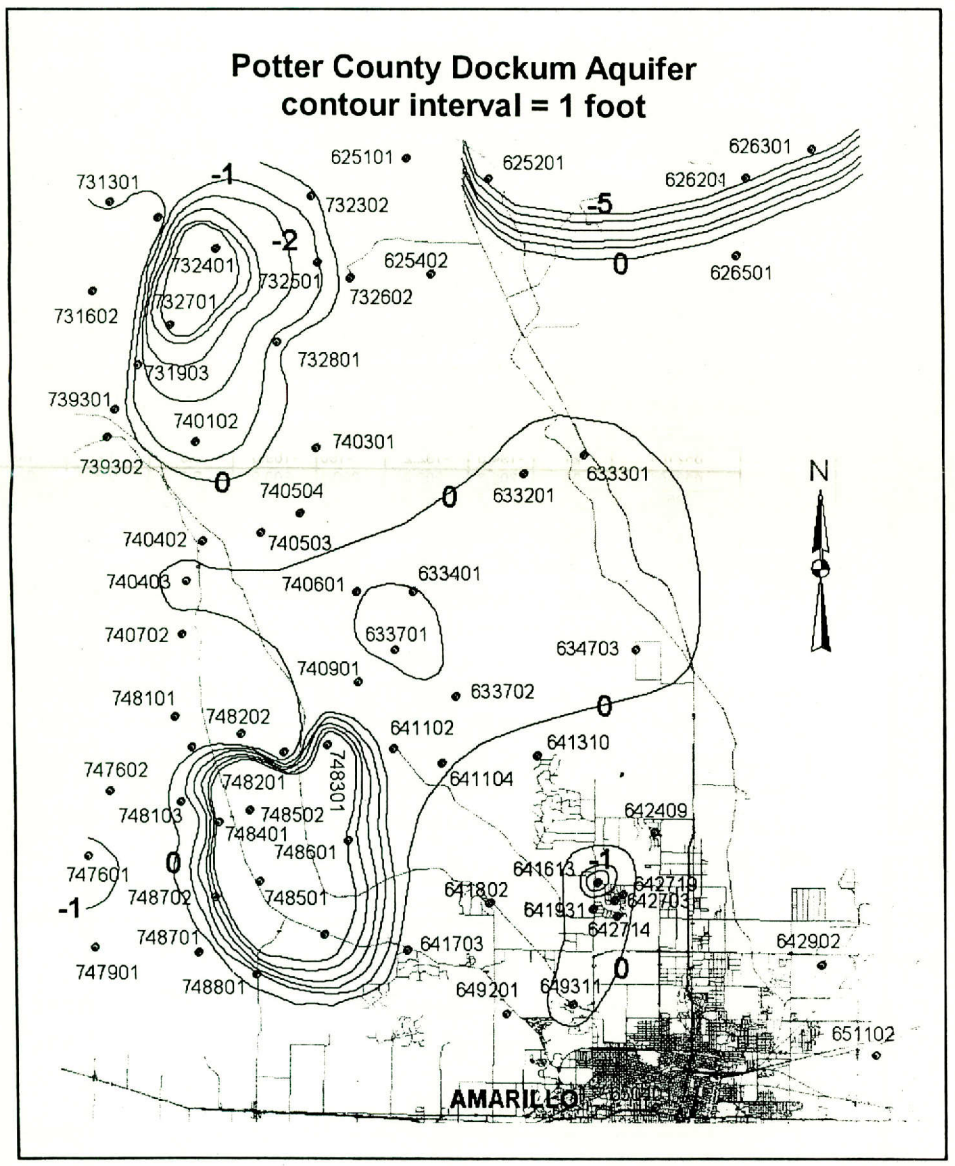


Potter & Carson Counties
Whitehorse & other Permian Aquifers
based on measurements taken December 2002 - January 2003
contour interval = 1 foot



POTTER COUNTY





Potter County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Ogallala / Dockum	633201	80			-84.5	-88.2			-3.7
	633301	77			-62.8	-63.8			-1.0
	634703	207			-87.2	-87.5			-0.3
	643602	22			-321	-320.4			0.6
	731602	50			-191.7	-180.1			11.6
	732302	26			-52.2	-52.1			0.1
	732501	28			-60	-61.2			-1.2
	732602	20			-41.6	-40.8			0.8
	748601	120			-142.5	-146.5			-4.0
	748701	192			-82.8	-81.7			1.1
	748801	158			-40.1	-40.4			-0.3
Ogallala	625301	71				-148.0			
	625302	63			-90	-91.0			-1.0
	625501	10	-76.0	-77.9	-78.9	-79.4	-3.4	-1.6	-0.5
	625701	56			-153.2	-156.1			-2.9
	625801	81	-91.0	-96.8	-86.6	-86.9	4.1	9.9	-0.3
	625901	12			-166.5	-165.5			1.0
	626101	90			-30.4	-30.4			0.0
	627605	37			-120.4	-114.4			6.0
	627802	18			-212.2	-211.2			1.0
	635301	27	-293.8	-293.1	-297.2	-297.5	-3.7	-4.4	-0.3
	635350	27			-47.8	-56.2			-8.4
	635401	22			-281.5	-282.1			-0.6
	635501	22	-307.6	-309.0	-309.9	-310.1	-2.5	-1.1	-0.2
	635801	18	-139.6		-136.6	-135.2	4.4		1.4
	642502	162			-84.3	-78.4			5.9
	643301	48	-468.6	-471.1	-491.3	-489.6	-21.0	-18.5	1.7
	643302	48	-490.9	-466.0	-467.4	-467.0	23.9	-1.0	0.4
	643901	4			-210.7	-210.1			0.6
	644452	1				-301.7			
	650209	137			-216.4	-216.0			0.4
	650604	90			-202.3	-201.7			0.6
	651301	17			-210.9	-225.0			-14.1
	651302	27			-173.7	-173.6			0.1
	651303	27			-183.4	-183.2			0.2
	651304	27			-179.2	-180.0			-0.8
	651305	27			-165.9	-165.9			0.0
	651306	27			-188.2	-188.1			0.1
	651307	27			-183.1	-183.5			-0.4
	651601	30			-196.8	-196.1			0.7
	755608	9				-253.3			
Ogallala / Whitehorse	627504	30			-34	-28.8			5.2
Dockum	625101	13			-284.8	-262.4			22.4
	625201	1			-211	-262.5			-51.5
	625402	5			-96.1	-95.8			0.3
	626201	88			-107	-125.1			-18.1
	626301	36			-50	-62.5			-12.5
	626501	109			-22.4	-21.7			0.7
	633401	3			-66	-67.0			-1.0
	633701	21			-55.6	-56.9			-1.3
	633702	17			-99	-99.5			-0.5
	641102	26			-102.9	-103.1			-0.2
	641104	19			-138.7	-138.9			-0.2
	641310	7			-39.9	-39.7			0.2
	641613	219	-88.1	-81.9	-90.5	-91.5	-3.4	-9.6	-1.0
	641703	90			-307	-306.8			0.2
	641802	54			-99	-96.7			2.3
	641931					-57.1			
	642409					-64.2			
	642703	220				-90.8			
	642714	220				-77.5			
	642719	220				-126.2			
	642902	102			-223.3	-221.8			1.5
	649201	46			-111.3	-110.9			0.4
	649311	12			-54	-54.5			-0.5
	650401	187			-162.1	-158.9			3.2
	651102	73			-176	-175.7			0.3
	731301	48			-20.7	-21.3			-0.6
	731903	103			-20.8	-22.6			-1.8
	732401	55			-28.4	-46.9			-18.5
	732402	30			-17.5	-16.7			0.8
	732701	36			-28	-36.4			-8.4
	732801	47			-132.5	-131.8			0.7
	739301	58			-4.6	-4.5			0.1
	739302	58			-131.7	-130.1			1.6
	740102	99			-25.6	-27.0			-1.4
	740301	42			-164.8	-164.8			0.0
	740402	89			-84.2	-83.9			0.3
	740403	10			-59.7	-60.2			-0.5
	740503	53			-31.1	-31.0			0.1
	740504	93			-26	-25.7			0.3
	740601	2			-70.6	-71.5			-0.9
	740702	8			-74.1	-69.5			4.6
	740901	4			-132	-127.9			4.1
	747601	57			-40.1	-40.9			-0.8
	747602	14			-96.2	-94.2			2.0
	747901	38			-115.1	-114.8			0.3
	748101	6			-113.1	-111.2			1.9
	748103				-42.4	-42.1			0.3
	748201	10			-134.9	-128.1			6.8
	748202	14			-11.9	-8.6			3.3
	748301	3			-78	-86.7			-8.7
	748401	188			-42.2	-43.9			-1.7
	748402	8			-25	-25.9			-0.9
	748501	156			-44.1	-61.1			-17.0
	748502	16			-51	-85.5			-34.5
	748702	190			-42.2	-45.2			-3.0
	748901	123			-79	-102.2			-23.2
Quartermaster	627401	17			-116.2	-116.2			0.0
Whitehorse	626701	19			-36.9	-36.5			0.4
	626802	66			-44.2	-51.9			-7.7
	626803	16			-32.7	-35.5			-2.8

WATER TABLE VARIATIONS

Aquifer	County	1997	1998	1999	2000	2001	2002	2003	4 Yr Avg	5 Yr Avg
Ogallala	Armstrong	2.3	-0.1	0.5	-0.7	-0.5	0.0	-0.3	-0.4	-0.2
	Carson	0.9	-0.7	-0.5	-1.1	1.2	-2.7	-0.3	-0.7	-0.7
	Donley	0.1	0.9	-0.1	0.1	-0.6	-2.0	-0.7	-0.8	-0.7
	Gray	0.8	0.6	0.5	-0.5	0.2	0.3	0.3	0.1	0.2
	Hutchinson	n/a	n/a	n/a	2.1	-0.5	0.2	0.3	0.5	0.5
	Potter	3.5	-0.2	0.1	-0.4	1.8	-0.3	-0.6	0.1	0.1
	Roberts	-0.5	1	-0.6	-2.9	3.1	-0.7	-0.1	-0.2	-0.2
	Wheeler	-1.6	2.7	1.5	0.7	1.5	-0.9	0.3	0.4	0.6
	District Average	0.8	0.6	0.2	-1.3	0.6	-0.8	-0.1	-0.4	-0.3
	Wells Measured	387	406	435	511	541	595	600	--	--
Whitehorse / Quartermaster (and Blaine before 2003)	Carson	0.9	5	-7.3	1	-1.4	0.1	-1.0	-0.3	-1.7
	Donley	-2.4	2.2	-0.4	-1.5	-0.8	-2.4	1.0	-0.9	-0.8
	Gray	-1.3	-2.6	10.7	4	-0.2	0	0	1.0	2.9
	Potter							-1.0	--	--
	Wheeler	0.4	3.1	-2.5	-2.2	2.2	-0.9	-1.0	-0.5	-0.9
	District Average	-0.6	1.9	0.1	-4.3	-0.1	-0.8	0	-1.3	-1.0
	Wells Measured	10	11	26	30	42	39	39	--	--
Dockum & Ogallala/ Dockum	Armstrong	2.8	-0.1	-0.1	-0.6	0.0	4.3	0	0.9	0.7
	Carson							0	--	--
	Potter	n/a	n/a	n/a	n/a	-1.6	-0.2	-2.0	-1.2	-1.2
	District Average	2.8	-0.1	-0.1	-0.6	-0.8	2.1	0	0.2	0.1
	Wells Measured	10	10	11	19	61	83	80	--	--
Blaine	Wheeler							-0.8	--	--
	District Average							-0.8	--	--
	Wells Measured							11	--	--
Seymour	Wheeler	n/a	n/a	1.3	5.7	-2.1	-4.0	1.8	3.5	0.4
	District Average	n/a	n/a	1.3	5.7	-2.1	-4.0	1.8	3.5	0.4
	Wells Measured	n/a	1	2	3	3	5	4	--	--

WATER LEVEL CHANGE OVER 10 YEAR PERIOD
1993-2003

	# OF RECORDS	AVERAGE CHANGE	MAX DECLINE	LEAST OR MAX RISE	MEDIAN CHANGE	UP FROM 1973	DOWN FROM 1973
District	324	-1	-27.1	23.9	-1	145	179
Armstrong	54	-1	-12.8	8.7	0	27	27
Carson	57	-5	-27.1	23.7	-4	15	42
Donley	56	-4	-20.1	13.7	-4	12	44
Gray	77	1	-15.9	16.1	0	38	39
Potter	8	1	-21	23.9	2	5	3
Roberts	41	1	-10.8	18.4	1	24	17
Wheeler	31	1	-6.5	6.8	1	24	7

WATER LEVEL CHANGE OVER 20 YEAR PERIOD
1983-2003

	# OF RECORDS	AVERAGE CHANGE	MAX DECLINE	LEAST OR MAX RISE	MEDIAN CHANGE	UP FROM 1983	DOWN FROM 1983
District	217	-3	-55.9	31	-1	99	118
Armstrong	25	1	-27.2	31	0	12	13
Carson	51	-12	-55.9	19.7	-12	15	36
Donley	19	-1	-31.7	22	-1	7	12
Gray	70	-1	-11.3	10.4	-1	31	39
Potter	6	-22	-40.5	-7.6	-16	0	6
Roberts	24	1	-37.1	27.5	2	15	9
Wheeler	22	4	-3.4	17.8	3	19	3

WATER LEVEL CHANGE OVER 30 YEAR PERIOD
1973-2003

	# OF RECORDS	AVERAGE CHANGE	MAX DECLINE	LEAST OR MAX RISE	MEDIAN CHANGE	UP FROM 1973	DOWN FROM 1973
District	85	-9	-83.3	21.3	-3	34	51
Armstrong	13	-2	-26.6	17.5	-1	6	7
Carson	29	-22	-83.3	21.3	-16	7	22
Donley	7	-4	-17.2	1.1	-1	1	6
Gray	14	3	-17	17.1	5	9	5
Potter	3	-34	-60.3	-2.8	-38	0	3
Roberts	6	1	-22.8	17.4	2	3	3
Wheeler	13	0	-21	14.6	1	8	6

WATER LEVEL CHANGE OVER 40 YEAR PERIOD
1963-2003

	# OF RECORDS	AVERAGE CHANGE	MAX DECLINE	LEAST OR MAX RISE	MEDIAN CHANGE	UP FROM 1963	DOWN FROM 1963
District	67	-31	-147.8	16.1	-19	4	63
Armstrong	11	-21	-52.6	-1.8	-14	0	11
Carson	25	-58	-147.8	2.5	-59	1	24
Donley	7	-14	-23.1	-2	-19	0	7
Gray	11	-16	-31.5	-5.5	-15	0	11
Potter	2	-57	-63.2	-50.1	-57	0	2
Roberts	3	5	-3.5	16.1	3	2	1
Wheeler	8	-4	-13.2	4.1	-4	2	6

2003 WINTER WATER LEVEL MEASUREMENTS

The information collected in the Water Level Measurement Program show the hydrologic diversity within the Panhandle Groundwater Conservation District. Over 800 well sites were visited, some several times during the year. Measurements for the 2003 program were taken from 734 wells. Information from other organizations was also incorporated into our data system.

There are five aquifer systems in the District; 1) the Ogallala aquifer, the most common aquifer in the District, and some Ogallala sand dune deposits; 2) the Dockum Group aquifers including the Santa Rosa Formation, the Quartermaster and Whitehorse groups; 4) the Blaine Gypsum and associated Dog Creek Shale; and 5) the Seymour formation (in southeast Wheeler County).

The Ogallala aquifer is found in all counties within the District; 600 of the wells measured in 2003 were Ogallala wells. One measurement was made in a perched aquifer well located north of the Pantex Plant, in Carson County. This perched aquifer, found in the upper part of the Ogallala formation, covers about 7,000 acres in the Pantex plant area. Other Ogallala wells located in Armstrong, Carson, and Potter counties produce water from both the Ogallala and the Dockum Group aquifers.

Thirty-nine measurements were taken from wells completed in the Quartermaster / Whitehorse formations. These wells are primarily in southern Donley and Wheeler counties, with isolated wells in northeaster Potter and northern Carson counties.

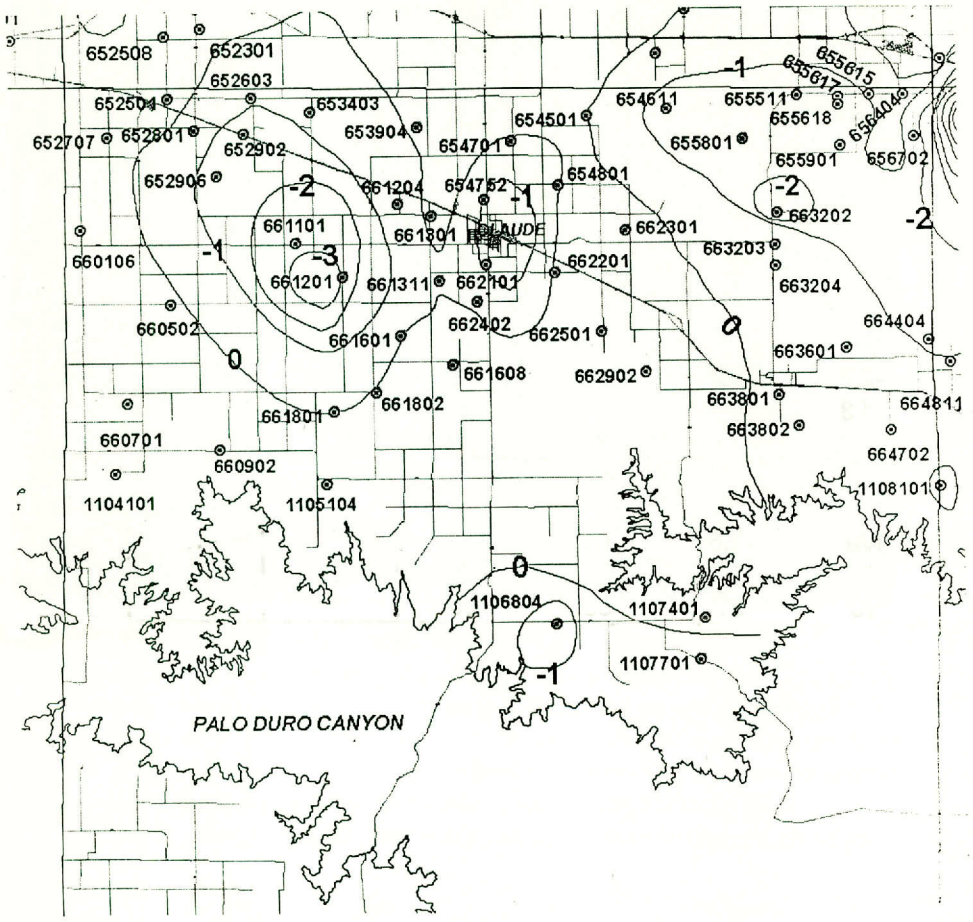
In southern Wheeler County, measurements were taken from eleven Blaine / Dog Creek wells. Four Seymour wells were also measured.

The average depth to water by county, the ranges of depths, and the median depths are shown in the **"Water Table Variations"** chart, above. The median depth is the depth value at which half of the measurements are deeper, and half are shallower than the median value. The average depth to water measured in the District was 195 feet. The values shown are county or district averages, individual well measurements will vary widely.

REMINDER . . . .

Cap or plug all abandoned wells. If you have questions, or need help, call the District office, 806/883-2501.

ARMSTRONG COUNTY
OGALLALA AQUIFER
contour interval = 1 foot



FOURTH GRADE STUDENTS LEARN ABOUT AGRICULTURE

Did you know that bubble gum is made from sheep, or that everything living or manufactured takes water? These are just some of the questions that were answered at the first annual Amarillo Independent School District Ag Day. Approximately 1,000 fourth grade students from the AISD elementary schools attended the show, on May 20-21. Students were able to learn all about agriculture and how important it is for humanity and the economy. Students learned about beef, sheep, pigs, peanuts, corn, cotton, dairy cows, horses, dirt, wheat, wildlife, and last but not least, water.

Bart Wyatt, Director of Education and Information, showed students how water flows below the ground, with the use of the groundwater flow model. Also, within the fifteen minute session, he showed the fourth graders how an e-line works for measuring the depth of water and ways they can conserve water around the house. The students were amazed to find out that one person, who didn't turn the water off while brushing his teeth, wasted 80 gallons of water a year. On average, the fourth grade classes wasted over 1,000 gallons of water per year.

All the students seemed to have a great time and, hopefully, learned more about what agriculture is and what it does for them. The District would like to thank Ms. Kim McKinney for inviting us to participate and we look forward to presenting at next year's show.

PGCD ASSISTS WITH WATER CAMP

"Water *Works* Camp for Kids," was held June 2-5, in Nazareth, Texas. Coordinated by Dr. Darryl Birkenfeld, assisted by Mrs. Beverly Schulte and Mrs. Carolyn Wilhelm, the camp was for third through seventh grade students. The purpose of the camp was to further their education of water and local landscapes. Throughout the week, the students visited local playa lakes, draws, and Buffalo Lake.

June 4th was set aside as "Ogallala Aquifer Day". PGCD's Director of Education and Information, Bart Wyatt, presented his educational power-point presentation to the thirty-four students in attendance. This was the same presentation he gave to all the fifth grade students in the District, during the past school year. Bart also showed them, in two different experiments, how little fresh water for drinking is left in the world, and demonstrated the underground flow model, which shows students how water moves, or flows, in the ground.

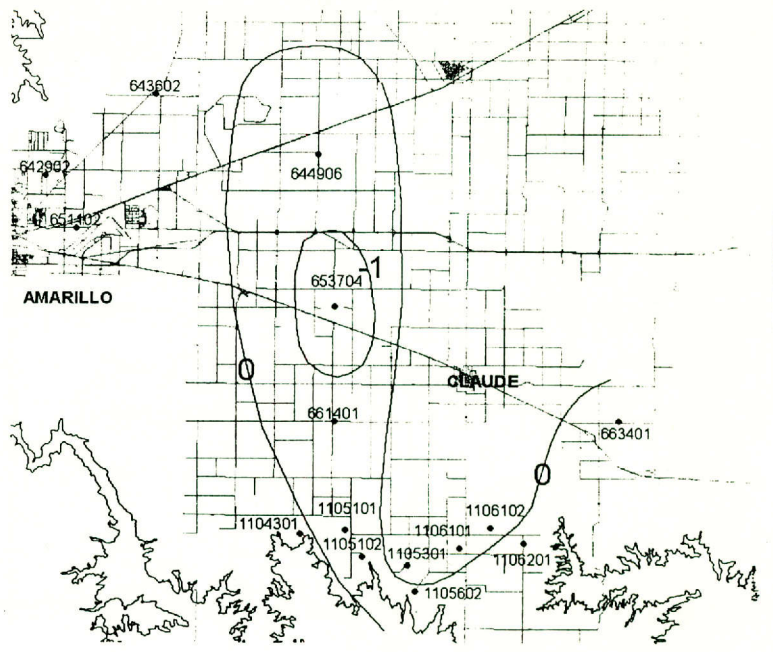
Later, he took the students to observe a working windmill and submersible pump, and explained how each one transports water to the top of the ground. The day concluded with a quick review of what had been seen and learned about the Ogallala aquifer and all its characteristics.

The District was honored to be part of the first annual water camp in Nazareth, and hopes to assist with the camp in coming years.

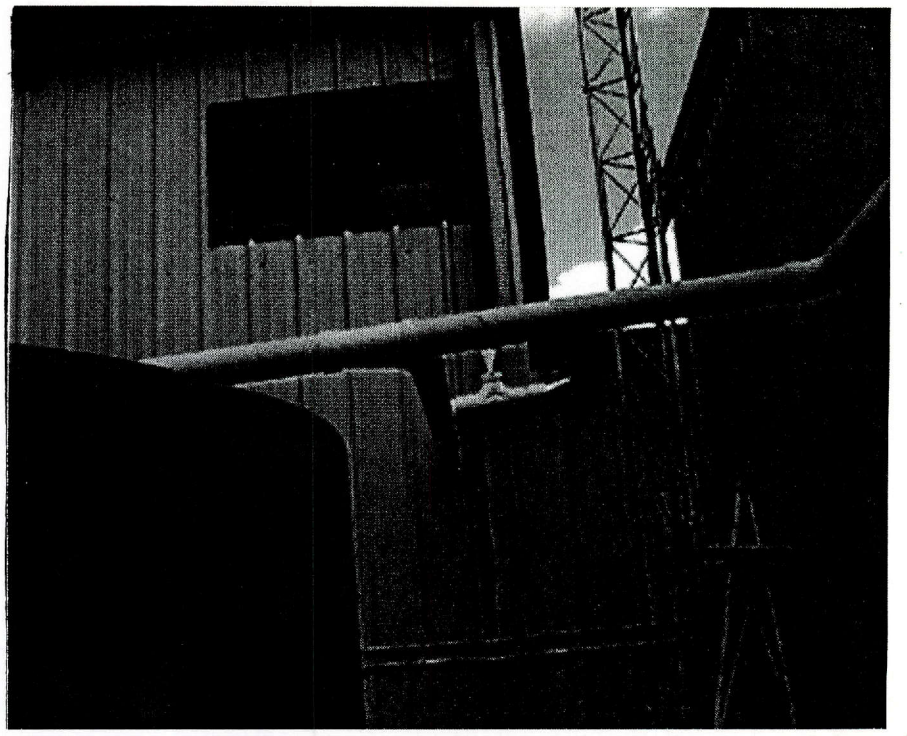
Armstrong County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Ogallala / Dockum	653704	93			-178.5	-179.5			-1.0
	663401	170	-173.8	-193.5	-194.5	-194.4	-20.6	-0.9	0.1
	1105102	8	-192.0	-160.0	-160.3	-160.8	31.2	-0.8	-0.5
	1105301	10	-173.1	-158.7	-157.2	-157.2	15.9	1.5	0.0
	1105602	6	-177.8	-173.2	-173.6	-173.7	4.1	-0.5	-0.1
	1106101	10	-162.4	-175.4	-175.4	-175.3	-12.9	0.1	0.1
	1106102	5	-161.8	-170.0	-162.4	-161.9	-0.1	8.1	0.5
	1106201	4	-140.7	-160.6	-160.3	-160.6	-19.9	0.0	-0.3
Ogallala	652501	97	-211.0	-204.1	-202.2	-202.3	8.7	1.8	-0.1
	652603	95			-168.7	-168.6			0.1
	652707	101			-220	-228.2			-8.2
	652801	104	-169.2	-169.6	-176.6	-171.8	-2.7	-2.2	4.8
	652902	99	-167.2	-166.7	-167.4	-174.0	-6.8	-7.3	-6.6
	652906	136	-108.7	-112.0	-118	-118.2	-9.5	-6.2	-0.2
	653403	92	-181.4	-181.3	-180.6	-184.8	-3.4	-3.5	-4.2
	653904	112			-186.6	-187.1			-0.5
	654501	83	-306.5	-263.1	-254.2	-254.6	51.9	8.5	-0.4
	654611	196	-256.5	-304.3	-311.5	-312.6	-56.1	-8.3	-1.1
	654701	115	-182.7	-252.8	-249.6	-253.1	-70.4	-0.3	-3.5
	654752	154				-225.2			
	654801	157	-291.4	-294.1	-294.1	-294.2	-2.8	-0.1	-0.1
	655511	132			-348.4	-342.2			6.2
	655615	88	-122.9	-345.6	-352.4	-352.8		-7.2	-0.4
	655617	100			-350.4	-350.3			0.1
	655618				-349.6	-348.8			0.8
	655801	154		-127.6	-130.7	-134.3		-6.7	-3.6
	655901	101	-145.9	-238.0	-246.2	-245.6	-99.7	-7.6	0.6
	656404	89	-214.4	-340.0	-341.9	-343.7	-129.4	-3.7	-1.8
	656702	60		-335.7	-332.6	-333.6		2.1	-1.0
	660106	13	-163.5	-214.9	-212	-212.0	-48.5	2.9	0.0
	660502	224	-172.6	-152.8	-151.9	-152.0	20.6	0.8	-0.1
	660701	299	-213.9	-194.8	-186.2	-187.2	26.7	7.6	-1.0
	660902	305	-158.3	-218.8	-213.8	-212.9	-54.6	5.9	0.9
	661101	173	-206.8	-155.5	-166.5	-164.5	42.3	-9.0	2.0
	661201	211	-160.7	-192.0	-200	-206.3	-45.6	-14.3	-6.3
	661204	151			-167	-166.0			1.0
	661301	168	-174.1	-160.3	-158.6	-158.5	15.6	1.8	0.1
	661311	208	-172.2	-174.0	-174.5	-174.2	-2.0	-0.2	0.3
	661601	249	-167.6	-170.0	-174.8	-169.4	-1.8	0.6	5.4
	661608	273	-196.4	-165.6	-166.5	-165.2	31.2	0.4	1.3
	661801	292	-159.6		-163.4	-163.5	-3.9	-163.5	-0.1
	661802	290	-211.2	-157.7	-157.7	-157.0	54.2	0.7	0.7
	662101	195	-186.7	-211.5	-209.6	-218.0	-31.3	-6.6	-8.4
	662201	204	-234.5	-187.5	-186.6	-186.9	47.6	0.6	-0.3
	662301	162	-290.4	-288.9	-284	-285.4	5.0	3.5	-1.4
	662402	234			-146	-146.0			0.0
	662501	243	-234.1	-189.0	-189.3	-187.8	46.3	1.2	1.5
	662902					-242.3			
	663202	136	-162.0	-156.7	-159.1	-164.8	-2.8	-8.1	-5.7
	663203	137			-167.2	-166.2			1.0
	663204	137	-193.4	-162.4	-165.3	-164.2	29.2	-1.8	1.1
	663601	108		-93.9	-94.4	-95.2		-1.3	-0.8
	663801	142	-195.5	-193.5	-193.6	-194.0	1.5	-0.5	-0.4
	663802	143	-173.6	-195.0	-197.5	-197.5	-23.9	-2.5	0.0
	664404	1	-115.8	-107.5	-114.1	-112.8	3.0	-5.3	1.3
	664702	71	-201.5	-137.1	-139.2	-140.1	61.4	-3.0	-0.9
	1104101	1	-185.7	-208.5	-201.2	-200.2	-14.5	8.3	1.0
	1105104					-174.6			
	1106804	7			-224.5	-231.5			-7.0
	1107401	17	-116.8	-119.3	-115.1	-117.0	-0.2	2.3	-1.9
	1107701	14	-101.1	-121.7	-122.3	-122.0	-20.9	-0.3	0.3
Dockum	661401	228		-160.6	-162.7	-163.2		-2.6	-0.5
	1104301	7	-304.0	-308.1	-303.2	-302.0	2.0	6.1	1.2
	1105101	5	-161.6	-182.4	-185.3	-183.8	-22.2	-1.4	1.5
	1116401	113			-57.2	-72.1			-14.9

Armstrong, South Carson, SE Potter Counties
Dockum & Ogallala Aquifers
based on measurements taken December 2002 - March 2003
contour interval = 1 foot
These wells completed in multiple aquifers



RAINWATER HARVESTING PROJECT



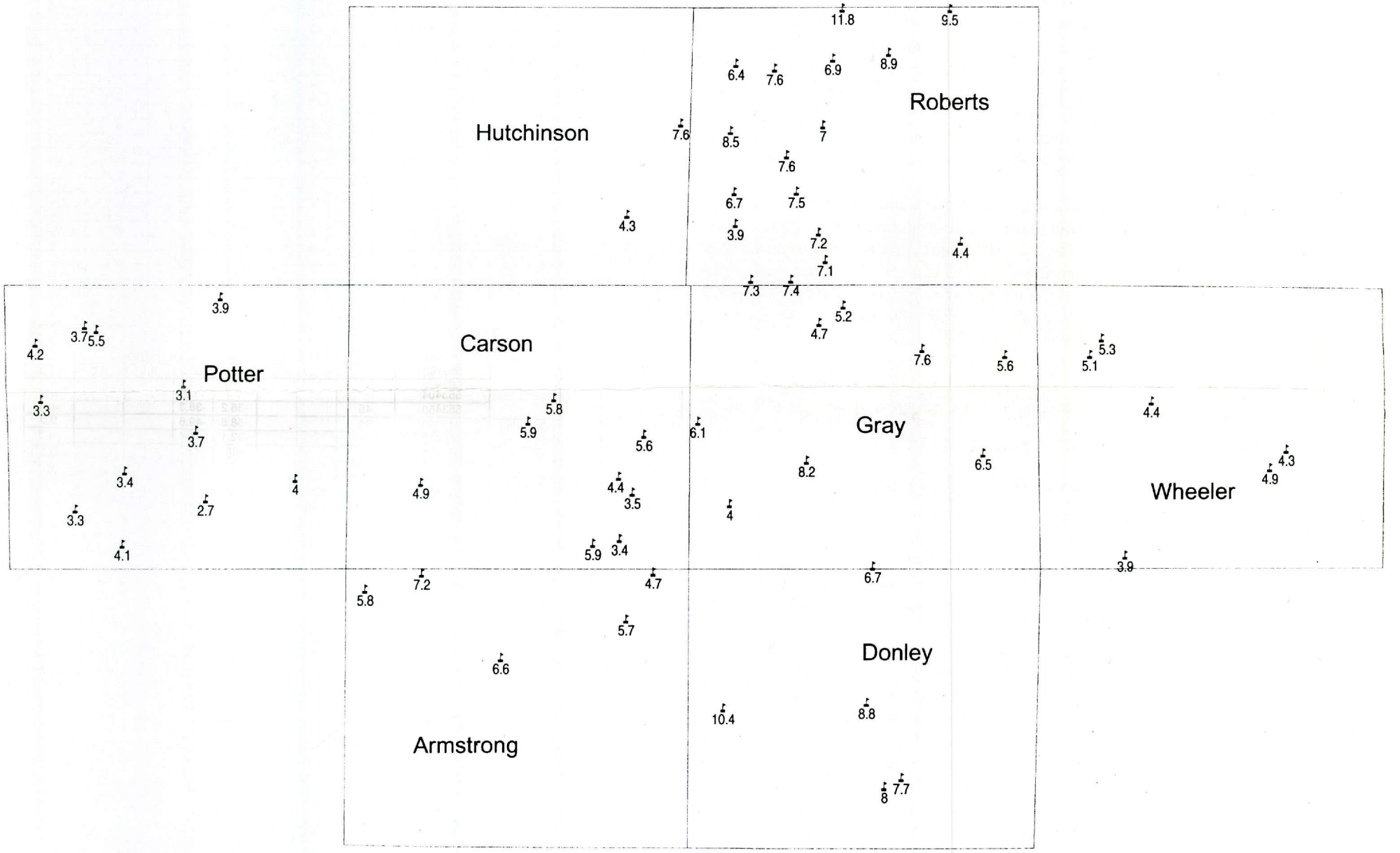
Panhandle Groundwater Conservation District employees have recently completed the installation of a rainwater harvesting system on the District's office building in White Deer.

While looking out the upstairs window of the Precipitation Enhancement office, general manager C. E. Williams noticed how much roof area was exposed that could be used to collect rainwater for use on the lawns and landscape at the headquarters.

Rainwater from the approximately 3,800 square feet of roof area is being collected through the gutter and pipe system and flows into a black 3,000 gallon storage tank, located at the back of the garage. Approximately 1.25 inches of rain will fill the tank. A small electric pump, with attached soaker hoses, are used to water the landscape.

In an effort to further reduce water needs at the office, the employees are planning to add a xeriscape garden to the landscape, next year.

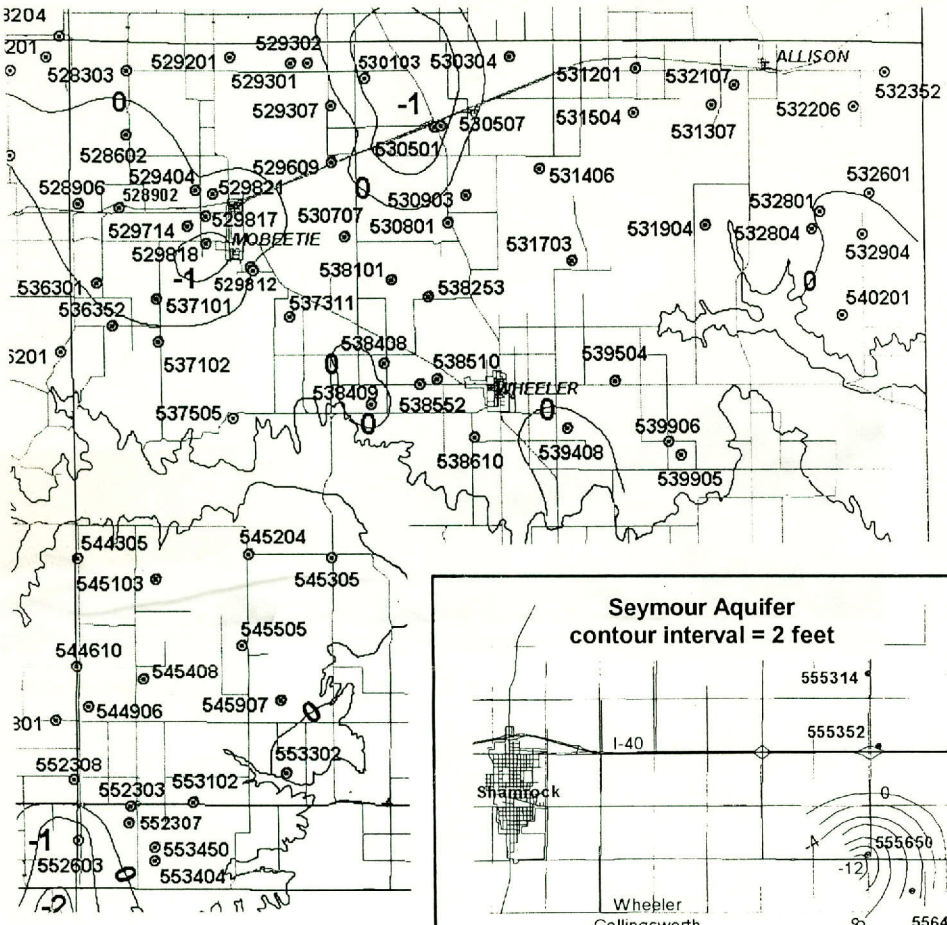
June Rainfall



The above map shows the amount of rainfall in inches that was recorded by the District's rain gage network in June.

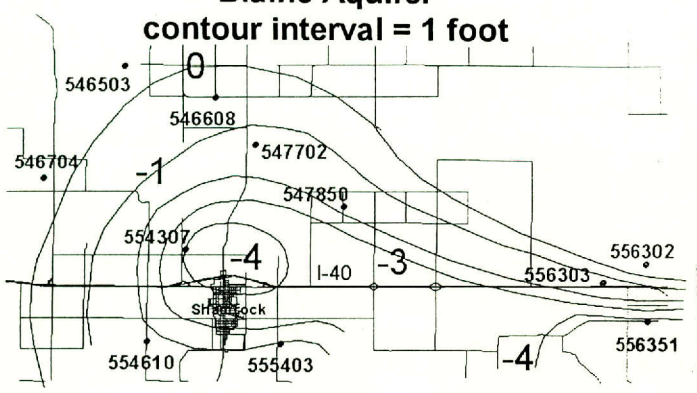
WHEELER COUNTY

Ogallala Aquifer
contour interval = 1 foot

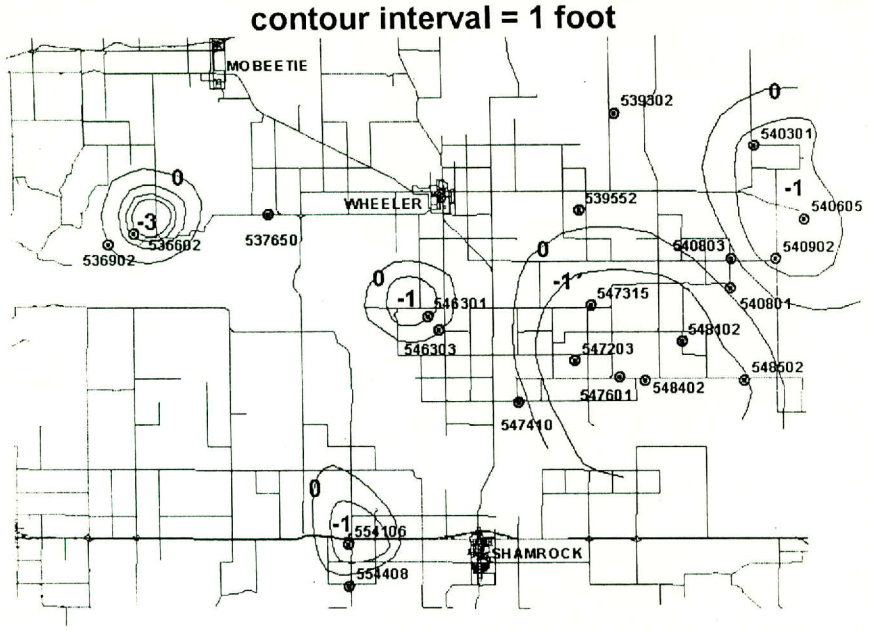


Seymour Aquifer
contour interval = 2 feet

Blaine Aquifer
contour interval = 1 foot



Whitehorse & other Permian Aquifers
contour interval = 1 foot



Wheeler County
based on measurements taken Dec 2002 - Mar 2003

Aquifer	Well Number	Section	Depth to Water in feet				Water Level Variation		
			1993	1998	2002	2003	10 yr	5 yr	1 yr
Alluvium	548804	84			-50.2	-46.1			4.1
	548701	94				-7.9			
	553603	51			-48.2	-50.1			-1.9
	531405	11			-11.6	-10.7			0.9
Seymour	555352				-52.1	-51.8			0.3
	555650				-21	-32.6			-11.6
	555314	53		-80.2	-71.9	-71.4		8.8	0.5
	556409	27			-40.4	-44.9			-4.5
Ogallala	528303	3			-297.9	-297.3			0.6
	528602	88	-107.6	-106.7	-108.9	-107.6	0.0	-0.9	1.3
	528902	69	-28.0	-22.6	-27.1	-27.2	0.8	-4.6	-0.1
	528906	51				-167.0			
	529201	4			-142.2	-141.0			1.2
	529301	79	-123.9	-123.2	-126	-123.1	0.8	0.1	2.9
	529302	74		-129.6	-116.2	-117.6		12.0	-1.4
	529307	100	-121.0		-120.8	-118.6	2.4		2.2
	529404	66			-68.8	-61.0			7.8
	529609	79			-60.4	-58.2			2.2
	529714	55			-5.1	-1.8			3.3
	529802		-20.2			-21.1	-0.9		
	529812	37			-20.4	-20.1			0.3
	529817	55	-65.9	-62.8	-74.5	-65.1	0.8	-2.3	9.4
	529818	46	-53.1	-48.5	-53.9	-56.1	-3.0	-7.6	-2.2
	529821	66			-72.8	-67.3			5.5
	530103	64	-39.5		-77.1	-73.4	-33.9		3.7
	530304	34	-89.1	-92.8	-88.4	-86.8	2.3	6.0	1.6
	530501					-107.0			
	530507	5	-81.2	-79.5	-87	-87.8	-6.6	-8.3	-0.8
	530801		-65.1	-65.2	-65.8	-64.9	0.2	0.3	0.9
	530903	59	-77.8		-76.5	-75.1	2.7		1.4
	531201	HWY		-112.7	-110.9	-108.3		4.4	2.6
	531307	25		-57.2	-49.3	-49.7		7.5	-0.4
	531406	9	-80.3		-78.6	-78.6	1.7	-78.6	0.0
	531504	18			-32.9	-33.2			-0.3
	531703	43	-96.9		-94.2	-94.3	2.6		-0.1
	531904	4			-52.7	-51.5			1.2
	532107	20			-48.8	-50.0			-1.2
	532206	29		-69.9	-63	-64.5		5.4	-1.5
	532352	26				-98.4			-98.4
	532601	10			-70.6	-65.7			4.9
	532801	44			0	-0.6			-0.6
	532804	44			-14.9	-16.9			-2.0
	532904	3				-70.8			-70.8
	536301	31			-121.7	-132.2			-10.5
	536352	12			-48.8	-48.5			0.3
	537101	28			-80.5	-78.8			1.7
	537102	13			-53.1	-54.1			-1.0
	537311	23	-24.2	-21.8	-21.8	-21.6	2.6	0.2	0.2
	537505	26	-62.1	-65.4		-61.6	0.5	3.8	
	538101	32			-5.1	-4.4		-4.4	0.7
	538253	33			-92.5	-92.0		-92.0	0.5
	538408	10	-95.5	-95.4	-95.8	-95.2	0.3	0.2	0.6
	538409	56	-73.2		-74.1	-73.7	-0.5		0.4
	538510	8			-30.9	-28.2			2.7
	538552	58			-41.6	-45.6			-4.0
	538610	51	-66.6	-64.3	-61.4	-62.2	4.4	2.1	-0.8
	539408	4	-5.8	-4.6	-6.1	-5.2	0.6	-0.6	0.9
	539504				-36.7	-40.8			-4.1
	539905	9	-35.1	-34.6	-30.8	-33.2	1.9	1.4	-2.4
	539906				-47.3	-50.1			-2.8
	540201	23			-19.3	-17.2			2.1
	544305	31	-86.4	-86.5	-84.5	-84.7	1.7	1.8	-0.2
	544906	114			-106.5	-106.7			-0.2
	545103	33			-6.8	-6.5			0.3
	545204	37	-115.8		-114.8	-114.3	1.5		0.5
	545305	40	-73.5	-75.3	-77.6	-72.0	1.5	3.3	5.6
	545408	123		-124.4	-109.6	-105.4		19.0	4.2
	545505	5	-103.1	-103.5	-102.4	-99.2	3.9	4.3	3.2
	545907	101	-49.1	-45.8	-45	-44.6	4.5	1.2	0.4
	552303	61	-45.5	-40.1	-39.6	-40.2	5.3	-0.1	-0.6
	552307	61			-71.7	-73.0			-1.3
	553102	23	-65.0	-66.2	-56.4	-58.2	6.8	8.0	-1.8
	553302	81			-21.6	-20.8			0.8
	553404				-7.7	-7.2			0.5
	553450	45			-38.2	-38.3			-0.1
Ogallala / Whitehorse	539302	33			-58.6	-49.6			9.0
	539552	2			-22.1	-24.4			-2.3
Blaine	547850				-88	-89.9			-1.9
	546704	90			-82.4	-94.5			-12.1
Dockum / Blaine	546503	8			-35	-34.3			0.7
	546603	4	-25.7	-19.4	-20.2		25.7	19.4	20.2
	546608	4				-23.6			
	547702	98			-33.4	-37.8			-4.4
	554307	65			-40.8	-44.9			-4.1
	554610	35			-37.5	-42.5			-5.0
	555403	39			-76.6	-90.6			-14.0
	556302	60			-7.4	-3.8			3.6
	556303	59			-21.1	-32.5			-11.4
	556351	41			-54.1	-58.2			-4.1
Whitehorse	536602	23			-22.4	-36.4			-14.0
	536902	9			-31.8	-5.6			26.2
	537650	28			-9.7	-7.7			2.0
	540301	19			-31.4	-34.6			-3.2
	540605	21			-43.4	-43.8			-0.4
	540801	52			-18.7	-19.1			-0.4
	540803	60			-14.8	-9.1			5.7
	540902	62			-33.5	-35.2			-1.7
	546301	34			-7.2	-9.1			-1.9
	546303	35				-8.3			-8.3
	547203	30	-17.6	-14.2	-16.5	-23.2	-5.6	-9.0	-6.7
	547315				-17.8	-21.0			-3.2
	547410	2			-26	-25.7			0.3
	547601	28			-47.9	-49.7			-1.8
	548102	36			-38.1	-44.6			-6.5
	548502	18			-29.8	-32.7			-2.9
	554106	50			-52.6	-55.3			-2.7
	554408	30			-99.8	-83.9			15.9

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PANHANDLE GROUNDWATER DISTRICT
"Conserving Water for Future Generations"

SIGNIFICANT GROUNDWATER LEGISLATION THAT PASSED

78th Legislature 2003-2004

HB 803 author Geren - Relating to the assessment of damages in a condemnation proceeding based on the market value of groundwater rights as property apart from the land. This bill amends the Property Code to state that the court or special commissioners in a condemnation proceeding shall admit evidence related to the market value of the groundwater rights in the damage award to the property owner, if the court or commissioners find that the groundwater may be developed or used for public purposes. Amended to include some of HB 1532 by Robby Cook.

HB 1065 author Cook - Relating to the eligibility requirements to serve as a director of a groundwater conservation district. The bill clarifies that the common law doctrine of incompatibility does not apply to small districts with less than 50,000 population.

HB 1534 author Cook -Removes the following groundwater conservation districts (GCDs) powers: 36.103(b) necessary facilities for purchase, sale, or transport of water; 36-105-eminent domain was amended to "within the boundaries of the district and necessary for conservation purposes"; 36.106-eliminates surveys for development, production, transportation, distribution, and use of the water.

HB 3035 author Cook - Clarifies that districts can limit production based on contiguous acreage.

HB 3338 author Puente - Conservation bill requiring retail public utilities to conduct certain water audits, and submit the system's most recent water loss to the TWDB, to be used by Regional Water Planning Groups in the Regional planning process.

SB 1639 author Cook - Clarifies that a district can subdivide an aquifer into areas and adopt different rules for each area. Includes part of HB 3035, which clarifies that districts can limit production based on contiguous acreage.

SB 1700 author Wentworth - This bill transfers weather modification program from the Texas Department of Agriculture to Texas Department of Licensing and Regulation, beginning September 1, 2003.

HB 3082 author Puente - Extends the life of the Texas Water Advisory Council through September 1, 2005. Two members added (one senator and one public member). Council elects chair as proposed to governor appointment. Chair must alternate between a house and senate member. Functions redefined; more like interim committee. Review of 30 water authorities replaced with ability to request a report from any water authority or district. Passed as amendment on HB 1378.

SB 19 author Ratliff - Makes certain correcting and conforming changes to audit language applicable to government entities throughout the law, including Chapter 36. Amends Chapter 36 to remove 5-year mandatory audit and replace it with 7-year permissive audit.

SIGNIFICANT GROUNDWATER LEGISLATION THAT DID NOT PASS

HB 1203 author Cook - This bill would have provided that districts can use site-specific information in groundwater availability modeling without the necessity of receiving TWDB approval.

HB 1379 author Cook - The bill would have codified the notice and hearing requests for groundwater conservation districts, and clarified notice requests for rule hearings and permit hearings.

HB 2417 author Gattis - This bill would have allowed a groundwater conservation district to impose more restrictive permit conditions on exporters than on in-district users, if the district is experiencing, or will experience within 30 years, critical groundwater problems, which includes shortage of surface water or groundwater, subsidence, or contamination.

HB 2890 author Cook - This bill would have amended 36.101 to provide that a district may adopt a rule that defines waste to include the use of groundwater in a pond or fountain solely for the purpose of landscape enhancement.

LEGISLATION CREATING NEW GROUNDWATER DISTRICTS

Five new districts created:

SB 1888/HB 1419	Jasper and Newton Counties
HB 3374	Kenedy County and parts of four counties from SB 1947 (Brooks, Jim Wells, Kleberg, and Nueces)
HB 3569	Rusk County
HB 3602	Brazoria County
HB 3635	Upshur County

One district failed to pass:

HB 3601	Houston County

Two districts dissolved:

HB 2348	Comal County
SB 1494	Groundwater district authority removed from Bexar Metropolitan Water District

Did you know . . . . .

In the United States, lawns occupy more land than any single crop, including wheat, corn, or tobacco. Homeowners use 10 times more chemical pesticides per acre than farmers do. As much as **60% of water** in Western cities is used for lawns; as much as 30% in Eastern cities. (*Newsweek*)