Sandy Land Underground Water Conservation District

Annual Report
January 1, 2016 through December 31, 2016

Sandy Land Underground Water Conservation District
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Sandy Land Underground Water Conservation District

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Sandy Land Underground Water Conservation District

Board of Directors and Staff

Sandy Land Underground Water Conservation District

Board of Directors

Ross Hilburn, President
Dennis Harrison, Vice-President
Tracy Welch, Secretary
Rickey Bearden, Director
Linda Powell, Director

District Staff

Amber Blount, Manager
Gale McDonnell, Office Manager

District Office

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Sandy Land Underground Water Conservation District

District Creation

District Creation

Sandy Land Underground Water Conservation District was created by the 71st Legislature of the State of Texas under Article 16, Section 59 of the Constitution of Texas Statutes.

On November 7, 1989, a special election was held in Yoakum County in order to confirm the establishment of the district as provided by Senate Bill No 1777, agree to a levy of a maintenance tax at a rate not to exceed 2½ cents per $100 valuation, and to elect the initial board members for the district. A total of 764 votes were cast with 388 voting "for" and 177 voting "against" the district establishment and levy. David Turnbough, L.J. Sanders, Jr., R. E. Bearden, Brad Palmer and Don Parrish were elected as the initial board members.

Gary L. Walker was selected as the first Manager of Sandy Land Underground Water Conservation District in January 1990.

Kathy Jones was employed by the District in February 1990 to serve as District Secretary and remained so until her resignation in October 2001.

Board members adopted the proposed Rules and Regulations for Sandy Land Underground Water Conservation District on December 12, 1990. The initial tax rate of the District was set at $.007 per $100 valuation at a tax hearing held on August 26, 1991.

David Turnbough was elected President of the Board in 1990. He served in that capacity for the entire time that he was a Sandy Land UWCD Director. David and his wife, Vi, moved to Lubbock in the summer of 2006 necessitating his resignation from the Board of Directors.

R. E. Bearden served on the Board of Directors continuously for 18 years. Mr. Bearden's retirement became effective September 2007.

Amber Blount was named Manager of Sandy Land Underground Water Conservation District in March 2015 after the retirement of Gary L. Walker on January 31, 2015

Sandy Land Underground Water Conservation District

2016 Annual Report Overview

2016 Annual Report Overview

Sandy Land UWCD is, today, an active, functional enterprise that had its beginning in 1989 with the creation of the Water District. The common thread that runs through this program is that of water conservation. We hope this report will detail some challenges and efforts of water conservation this year.

January

- Rain gauge readings taken in 26 locations throughout the county.
- Depletion letters mailed.
- Annual well depth measurements taken for Monitor Well Network.
- Board President, Ross Hilburn designated as District Representative for GMA2.
- Ross Hilburn, Tracy Welch, Rickey Bearden, Linda Powell, and Manager Amber Blount attended GMA2 meeting held in Plains – Sandy Land UWCD office.
- Ross Hilburn, Linda Powell, and Manager Amber Blount attended USGS information meeting at LEUWCD in Seminole.
- Board of Directors reviewed and approved the Sandy Land UWCD 2015 Annual Report.
- Manager Blount attended TAWC Water College in Lubbock.
- Gale McDonnell mailed loan payment letters to borrowers in our Water Conservation Agricultural Loan Program.
- Ms. Blount attended TAGD meeting in Austin.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady continues contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

February

- Rain gauge readings taken in 26 locations throughout the county.
- Loan payments on existing loans due from producers on February 15.
- Amber Blount attended Mineral Values Meeting.
- Ms. Blount attended Region O meeting in Lubbock.
- Sandy Land UWCD begins process of publishing bid notices to update office restrooms.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady continues contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

March

- Rain gauge readings taken in 26 locations throughout the county.
- Sandy Land UWCD made loan payment to Texas Water Development Board for the Water Conservation Agricultural Loan Program.
- Terry and King CPAs PC 2015 in-house tax audit.
- Ross Hilburn and Amber Blount attended the GMA2 in Seminole.
- Linda Powell and Amber Blount attended WATTS Ogallala Symposium in Lubbock.
- Manager Blount attended ARC training in San Antonio.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

April

- Rain gauge readings taken in 26 locations throughout the county.
- Sandy Land UWCD made loan payment to Texas Water Development Board for the Water Conservation Agricultural Loan Program.
- Ms. Blount attended High Plains UWCD Board Meeting in Lubbock.
- Terry and King CPAs presented Sandy Land UWCD's 2015 financial audit.
- Texas Tech University endowment recipients were presented at the regular Board Meeting.
- Winning bid from Fehr's Construction of Seminole approved at the regular Board Meeting.
- Manager Blount and Ross Hilburn attended the GMA2 meeting in Lamesa.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

May

- Rain gauge readings taken in 26 locations throughout the county.
- Reviewed 2016 tax values.
- Work began on District office bathroom remodel.
- Churchwell Plumbing contacted to repair deteriorated plumbing discovered at onset of bathroom remodel.
- Rainwater Harvesting Community event presented in Plains by Michelle Cooper, Education Coordinator.
- Ms. McDonnell presented Essay Scholarships at Plains High School awards assembly.
- Notice posted for Public Hearing to set proposed DFCs.
- Ms. Blount attended TAGD meeting in Austin.
- Churchwell Plumbing completed extensive plumbing repairs.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

June

- Rain gauge readings taken in 26 locations throughout the county.
- Water quality tests begin for Sandy Land UWCD's Water Quality Network.
- Fehr's Construction completed bathroom updates and remodel.
- The Board begins work on Sandy Land's 2017 budget.
- Manager Blount attended education budget meeting in Brownfield with SPUWCD and LEUWCD managers.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

July

- Rain gauge readings taken in 26 locations throughout the county.
- Water quality testing continues for wells in the Water Quality Network.
- Reviewed and discussed SLUWCD 2017 budget.
- Jake Wood presented Amber Blount and Gale McDonnell retirement updates.
- Brittany Michaleson begins as summer contract labor.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.

- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

August

- Rain gauge readings taken in 26 locations throughout the county.
- Water quality testing continues on wells in the Water Quality Network.
- The Board of Directors adopts the 2017 Sandy Land budget.
- Approved SLUWCD 2017 budget.
- Manager Amber Blount attended the Texas Groundwater Summit in San Marcos.
- Amber attended Region O meeting in Lubbock.
- Brittany Michaleson completes her summer contract labor.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Michelle Cooper, Education Coordinator, continues to work with the region's water districts.

September

- Rain gauge readings taken in 26 locations throughout the county.
- Tax Rate Hearing notice posted in Denver City Press.
- 2016 Tax rate set at .016581/$100.
- Board reviewed and approved the Sandy Land UWCD policy and Investment policy.
- Approved list of financial institutions.
- Water quality testing concluded on wells in the Water Quality Network.
- Amber Blount attended the HR Natural Resource Committee meeting in Fort Stockton.
- Ms. Blount attended Homeland Security meeting for Region 17 in Lubbock.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Raymond Brady begins preparing decline maps. This map is constructed from data gathered earlier in the year from well depth measurements and used for IRS depletion program.
- Michelle Cooper, Education Coordinator, continues to work with the region's water districts.

October

- Ray Brady begins initial work on hydrographs.
- Rain gauge readings taken in 26 locations throughout the county..
- Manager Blount attended High Plains UWCD board meeting.
- Amber Blount attended the Region O meeting in Lubbock.
- Ms. Blount attended GMA2 meeting in Brownfield.
- Amber Blount presented at TAGD Leader Training in Austin
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Raymond Brady continues work on decline map for use in IRS depletion program.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

November

- Rain gauge readings taken in 26 locations throughout the county.
- Approved line item adjustments to 2016 budget.
- Gale McDonnell attended Election Law Seminar in Austin.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Raymond Brady continues work on decline map for use in IRS depletion program.

- Michelle Cooper, Education Coordinator, continues work with the region's water districts.

December

- Rain gauge readings taken in 26 locations throughout the county.
- Ms. McDonnell attended TWDB Work Session in Lubbock.
- Amber Blount attended TAGD Executive Committee Retreat at Lake Buchanan.
- Michelle Cooper, Education Coordinator, continues work with the region's water districts.
- Continue USGS project – Hydrogeologic Framework of the Ogallala and Edwards-Trinity Aquifers in Gaines, Terry and Yoakum Counties.
- Raymond Brady and Amy Bush continue contracted hydrological work for the water district.
- Sandy Land Board and staff enjoy Christmas dinner at Double Nickel Restaurant in Lubbock.
- End of year reporting begins for Sandy Land.

Sandy Land Underground Water Conservation District

Goals, Management Objectives and Performance Standards

Goal 1.0 Provide for the most efficient use of groundwater within the District.

Management Objective

(a) Annually conduct irrigation well efficiency tests for 100 percent of requests within 10 days of the property owner request.

Performance Standard

(a1) Percentage of irrigation well efficiency test requests conducted annually within ten (10) days of request.

Current Performance Status

In 2016, property owners requested well efficiency tests from the District for **29** wells & pivots. One hundred percent (100%) of these wells/pivots were tested within 10 days.

Management Objective

(b) There are currently 93 water wells in the District's water level monitoring network. The objective is to annually measure water levels in 80 percent of the district's monitor well network.

Performance Standard

(b1) Percentage of monitor wells in monitor well network in which water levels were measured.

Current Performance Status

In 2016, **85** of the wells (or **91**%) in the monitor well network were measured.

Management Objective

(c) By January 1 of each year, prepare a map for the Internal Revenue Service documenting changes in water table elevation (the District Depletion Map) in the Ogallala aquifer within the District.

Performance Standard

(c1) A map submitted to the Internal Revenue Service by January 1 of each year.

Current Performance Status

Raymond Brady, contract hydrologist for the district, completed the 2016 annual depletion map using data collected from the District's monitor well network. Lorinda Busby retired from the Internal Revenue Service at the end of 2014. The IRS has informed the district that they would no longer provide staff support for the Depletion Program but has confidence in the districts expertise to continue to develop the cost of water data and depletion maps to continue administering the program.

Goal 2.0 Control and prevent waste of groundwater within the District

Management Objective

(a) Each year, the District will sample the water quality in at least one selected well(s) in order to monitor water quality trends and prevent the waste of groundwater by contamination. The District will also sample for water quality analysis on 100 percent of other wells which the owner requests to be sampled each year.

Performance Standard

(a1) Number of wells sampled for water quality analysis by the District to monitor water quality trends, each year.

Current Performance Status

Out of 97 wells in the District's water quality network, **79** wells were sampled 2016 to monitor water quality trends and prevent the waste of groundwater by contamination.

Performance Standard

(a2) Percent of wells sampled for water quality analysis by the District upon request each year.

Current Performance Status

In 2016, the District performed water quality and bacteria analysis tests on 100 percent of the 29 requested samples for the residents of Sandy Land Underground Water Conservation District and for others outside the district.

Management Objective

(b) Each year, the district will enforce district spacing and production limitation rules requiring the permitting of all new wells to prevent the waste of groundwater. The District will issue temporary permits for 100 percent of the application requests that meet the District's rigorous rules for spacing within 30 days of the receipt of the application.

Performance Standard

(b1) Number of temporary permits issued by the District for new wells in compliance with spacing and production limits, each year.

Current Performance Status

Sandy Land Underground Water Conservation District has issued **144** well permit applications for fiscal year 2016.

Performance standard

(b2) Percent of temporary permits issued within 30 days of receipt of application.

Current Performance Status

Sandy Land Underground Water Conservation District has issued 100% of permits within 30 days of receipt of application this year to date.

Management Objective

(c) The District will publish articles on the district's activities and water conservation to encourage a reduction of water use. This information may be made available by direct mail, website or local newspaper.

Performance Standard

(c1) Number of articles on water conservation presented by the District each year.

Current Performance Status

In 2016, a total of 15 articles were given to the newspapers of the county to publish, and the website contains information for any interested parties.

Goal 3.0 Conservation of Groundwater within the District

Management Objective

(a) Each year, the District will participate in the TWDB Agricultural Conservation Loan program as a lender district and make loans available to all qualified applicants for the purchase of water conserving irrigation apparatus, up to the maximum amount of the loan commitment made to the District by TWDB.

Performance Standard

(a1) Number of Agricultural Conservation loan applications received by the District from qualified applicants, each year.

Current Performance Status

For the fiscal year 2016, one (1) Agricultural Conservation loan application was received from qualified applicants.

Performance Standard

(a2) Number of Agricultural Conservation loans made by the District to qualified applicant, each year.

Current Performance Status

For the fiscal year 2016, one (1) Agricultural Conservation loan was made to qualified applicant.

Management Objective

(b) Each year, the district will award scholarships to at least four (4) high school students graduating from a high school within the District to facilitate study of water conservation topics.

Performance Standard

(b1) Number of scholarships awarded to students graduating high school within the District to facilitate study of water conservation topics, each year.

Current Performance Status

In May of 2016, a total of four scholarships were awarded to seniors within Yoakum County.

Management Objective

(c) Each year, the District will make available a water conservation video to each elementary level school within the District.

Performance Standard

(c1) Number of water conservation videos made available to elementary level schools within the District, each year.

Current Performance Status

In September, the Districts education coordinator met with the elementary & middle school principals and informed them of the many water conservation education tools available. A note was also given to the elementary science teachers in October that informed them of the district's education program you-tube channel, which has water conservation videos available.

Goal 4.0 Precipitation Enhancement

Management Objective

(a) The District will conduct at least one weather modification activity during five months (April, May, June, July and August) of each year to increase rainfall.

Performance Standard

(a1) Number of months that weather modification activities took place.

Current Performance Status

In 2015, the Board of Directors decided to suspend all weather modification activity for the District. In February of 2015, the board began the process of liquidating all SOAR property. This is no longer an applicable goal of the District.

Goal 5.0 Addressing in a Quantitative Manner Desired Future Conditions

The District adopted Desired Future Conditions for relevant aquifers in August 2010. The relevant aquifers are the Ogallala and Edwards-Trinity (High Plains) Aquifers. The Board decided that the Dockum Aquifer is not a relevant aquifer for Sandy Land UWCD at this time.

During the joint planning process, this District and five other gcds along the southern end of GMA#2 adopted DFCs for the Ogallala and Edwards-Trinity (High Plains) based on an allowable amount of drawdown. The allowable drawdown is based on the average change during the 10-year period 1998-2007. For Sandy Land UWCD, that number is -1.10 ft/year. Based on the 50 year planning horizon, GAM Task 10-023 Model Run Report, Scenario 3, predicts the cumulative drawdown to be 18 feet for the District.

Management Objective

(a) The District will calculate the average annual drawdown using the results of annual water level measurements each winter.

Performance Standard

(a1) Present the average drawdown results to the Board of Directors each year.

Current Performance Status

(a1) The District staff presented the drawdown results to the Board of Directors during the annual report presentation in the January 2016 monthly board meeting.

(a2) The average drawdown results will be made available to the public each year.

Current Performance Status

(a2) The drawdown results are published in the Districts Annual Report which is available to the public. The results are also published on the district's website.

Management Objective

(b) The District will calculate the average annual drawdown beginning with the year 2012. The District will calculate the remaining allowable drawdown (based on the DFC) for the remaining years of the 2012-2017 period.

Performance Standard

(b1) Present the cumulative average drawdown results to the Board of Directors each year.

Current Performance Status

(b1) The cumulative average drawdown results were presented to the Board of Directors during the annual report review at the January 2016 monthly board meeting.

(b2) The cumulative average drawdown results will be made available to the public each year.

Current Performance Status

(b2) The cumulative average drawdown results are available to the public through the district's website.

Goal 6.0 Drought Conditions

The District is under a constant state of drought; therefore this goal is not applicable.

Goal 7.0 Recharge Enhancement

*A review of past work conducted by others indicates this goal is not appropriate at present; therefore this goal is not applicable***.**

Goal 8.0 Rainwater Harvesting

A review of past work conducted by others indicates this goal is not appropriate at present; therefore this goal is not applicable.

Current Performance Status

(a) Although rainwater harvesting is not currently an applicable goal for Sandy Land UWCD held its First Annual Rainwater Harvesting Workshop in May 2016.

Goal 9.0 Brush Control

Existing programs administered by the USDA-NRCS are sufficient for addressing this goal. The Board does not believe that this activity is cost-effective and applicable for the District at this time; therefore this goal is not applicable.

Goals identified in Chapter 36, Texas Water Code, not applicable to the District

The following goals referenced in Chapter 36, Texas Water Code, have been determined not applicable to the District.

§36.1071(a)(3) The goal of controlling and preventing subsidence is not applicable to the District.

§36.1071(a)(4) The goal for addressing conjunctive surface water management issues is not applicable to the District due to the absence of any surface water features and hence, any surface water management issues.

§36.1071(a)(5) The goal for addressing natural resource issues that impact the use and availability of groundwater or are impacted by the use of groundwater within the District is not applicable.

Sandy Land Underground Water Conservation District

Irrigation Efficiency Tests
Water Level Monitoring Network
Depletion Program

Irrigation Efficiency tests, Water Level Monitoring Network & The Depletion Program

Reference Goal 1.0 (a) (b) (c)

One of the goals of Sandy Land UWCD is to provide the most efficient use of groundwater within the District. One of the ways this is accomplished is by conducting efficiency tests on irrigation wells at the owner's request. District personnel endeavor to perform these tests in a timely manner so that the owner may have the needed information as soon as possible to make important irrigation decisions.

Sandy Land UWCD took the first water level measurements in 1991 and has been doing so on a yearly basis ever since. Approximately 90 wells are in the Water Level Monitoring Network and these are measured each year in January and/or February to provide information about the Ogallala Aquifer in Yoakum County. Measurements in the network are generally taken in the winter months because water levels are more stable at that time than during the summer months when pumping is heavier. Irrigation wells are normally used in the monitoring program as they afford ease of entry for measurements. The measurements from these wells are compared with previous year's measurements to determine any changes in water levels.

District personnel use this well depth data to construct hydrographs and depletion maps which are given to an Internal Revenue Service agent for review. After approval, these are used to determine the amount of decline allowable on federal income tax returns.

All landowners in Yoakum County who utilize groundwater may claim a cost-in-water income tax depletion allowance on their federal income tax return. Landowners must have an established value in their water and a decline of the water table for the year before the claim may be made.

Based on the interest from landowners over the last few years it appears the benefits have been exceptionally good. Request forms may be picked up at the district office in Plains. Requests to participate in the Depletion Program must include:

name;
address;
complete legal description of the tract of land on which a claim is to be filed;
date of acquisition; and
the number of acres in the tract.

Sandy Land UWCD currently has approximately 93 participants and approximately 92,000 acres of land enrolled in the Depletion Program.

Below is an allocation of time spent on Irrigation Efficiency Tests, Water Level Monitoring Network and Depletion Program.

Activity	Total Hours
Perform Irrigation Efficiency Tests at Producers Request	35
Measure Water Levels	85
Draw Decline Map & Assign Declines	30
Update Hydrograph Spreadsheet & Charts, Prepare Hydrograph Book	24
Update, Prepare and Mail Depletion Letters	24
TOTAL	**198**

Well Depth Measurement Sheet for 2016 Measurements

Well Depth Measurement Sheet Comparing 2015 and 2016 Measurements			
Well Number	**Section Number**	**2015 Measurement**	**2016 Measurement**
24-33-801	41	135.90	135.50
24-41-201	100		119.00
24-41-502	183	168.10	167.50
24-41-602	187	116.40	113.40
24-41-802	306	77.80	75.80
24-41-804	305	83.80	83.10
24-42-401	128	129.40	129.00
24-42-801	252	161.80	
24-43-403	196	89.70	89.60
24-43-501	146	110.60	110.40
24-43-801	260	LOCKED	
24-44-101	10, Block K	140.80	89.60
24-49-101	344	50.90	110.40
24-49-201	365	55.80	
24-49-203	397	94.60	96.60
24-49-303	368	32.10	33.70
24-49-401	418	144.30	143.50
24-49-601	422	DRY	
24-49-702	518	173.80	176.10
24-49-802	540	156.10	154.90
24-49-903	514	139.10	139.00
24-50-203	371	104.00	103.70
24-50-204	312	154.40	154.60

Well Number	Section Number	2015	2016
24-50-402	425	108.00	105.60
24-50-501	440	47.40	47.70
24-50-801	510	86.90	87.20
24-51-101	317	126.10	123.00
24-51-201	380	77.70	77.80
24-51-602	489	120.10	119.80
24-51-701	504	114.20	109.80
24-52-701	40, Block K	106.60	106.50
24-57-101	581	148.50	147.40
24-57-301	576	120.50	118.50
24-57-302	640	90.00	
24-57-501	642	82.70	77.40
24-57-502	707	LOCKED	54.40
24-57-601	734	82.20	82.00
24-57-702	772	96.10	97.00
24-57-802	770	84.00	84.70
24-57-901	797	75.20	75.00
24-58-101	607	107.10	107.10
24-58-201	610	107.40	106.10
24-58-301	632	112.50	112.10
24-58-401	637	87.80	87.30
24-58-501	634		
24-58-601	696	101.90	98.20
24-58-801	764	95.20	
24-58-901	761	71.50	
24-59-101	566	96.60	96.10
24-59-201	564	57.80	60.90

Well Number	Section Number	2015	2016
24-59-301	627	130.30	130.60
24-59-601	690		
24-59-801	757	72.30	74.60
24-60-402	686	95.50	93.50
24-60-701	752	DRY	
25-48-301	121	131.50	131.80
25-48-601	165	115.00	114.20
25-48-801	299	64.00	62.40
25-56-201	358	124.30	124.50
25-56-502	414	148.70	148.50
25-56-802	534	142.50	140.90
25-56-901	521	148.80	146.30
25-64-301	597	149.30	150.30
25-64-501	660	DRY	
25-64-602	710	DRY	
25-64-801	777	148.30	148.00
25-64-901	789	150.10	
26-08-202	852	167.00	171.50
27-01-101	901	DRY	
27-01-202	835	125.90	126.00
27-01-301	895	BEES	
27-01-302	862	DRY	
27-02-101	864	70.60	68.20
27-02-303	825	71.10	70.50
27-03-101	886	129.10	129.90
27-03-202	819	131.50	
27-04-101	Block 19, C34, PSL	142.10	140.70
24-44-701	Block 20, K, PSL	23.40	

Well Number	Section Number	2015	2016
22-42-504	154	89.10	88.80
25-48-921	241	69.30	67.60
26-08-317	854	215.20	218.40
24-50-605	431	86.70	84.60
24-57-112	645	77.90	
24-58-508	700	94.10	94.60
27-02-212	891	99.20	99.10
24-50-924	549	112.60	107.70
24-57-735	791	196.20	196.10
25-48-329	106	136.20	134.40
24-41-535	160	94.40	94.10

New Wells added to Network in 2014

NEW2014101	101	132.10	130.00
NEW2014248	248	71.20	71.20
NEW2014662	662	138.60	139.80
NEW2014902	902		193.80

Sandy Land Underground Water Conservation District

Water Quality Network

Sandy Land Underground Water Conservation District
Water Quality Network

Reference Goal 2.0 (a)

Sandy Land UWCD has completed 26 years of study of rural water in Yoakum County. The district performs water quality analysis on a majority of the 97 wells in the network yearly and has data on the majority of these wells since the districts creation in 1990. Sandy Land UWCD believes it is important to monitor the trends of these wells in order to detect changes in water quality within the Ogallala Aquifer. By detecting changes in the groundwater quality, the District would ideally be able to identify the source that caused the change and work to eliminate it. We at Sandy Land UWCD feel it is important, as a single county water district, to continue to work to protect the groundwater in our area.

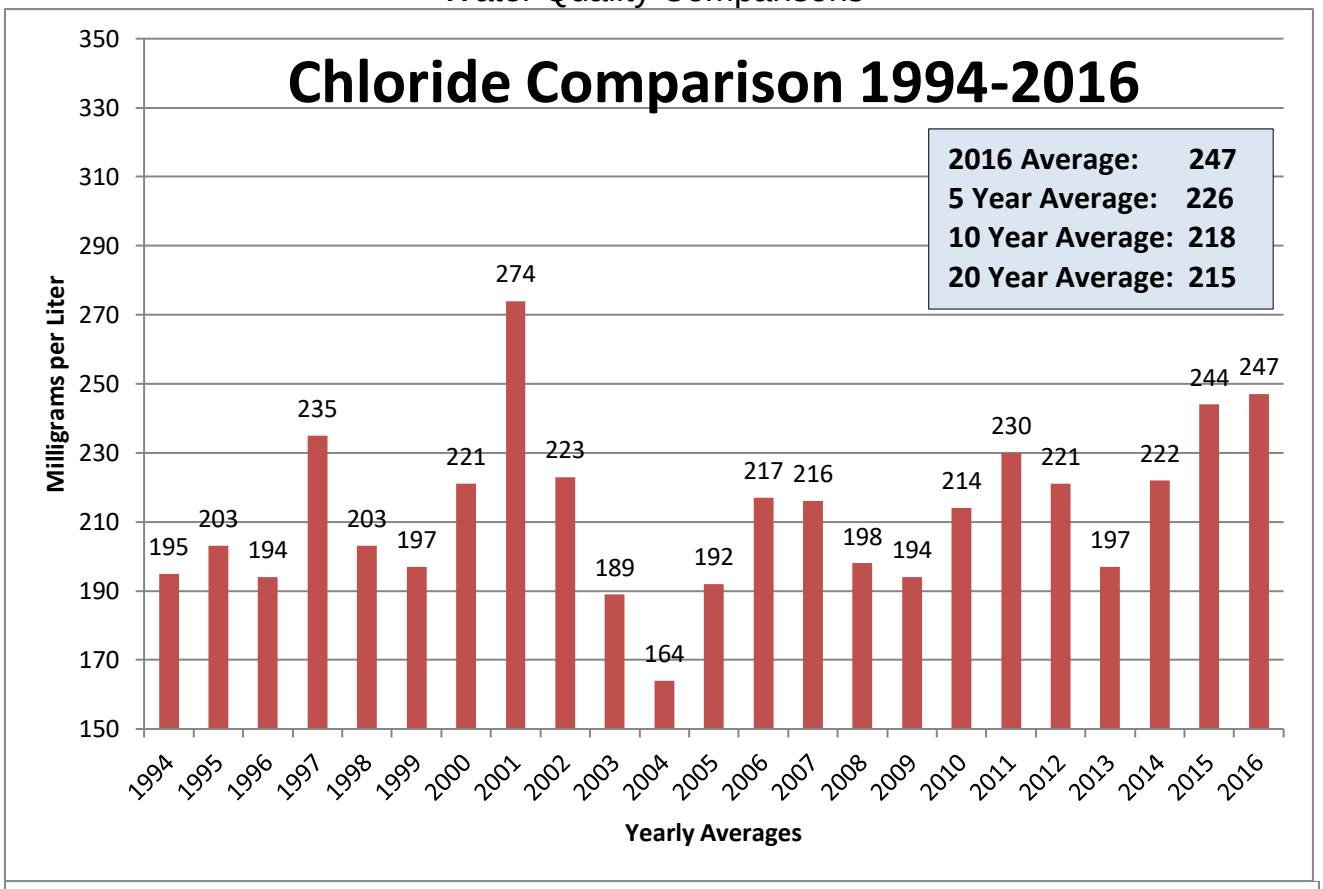
Sandy Land tests for a total of seven components or properties each year. These consist of chloride, hardness, total dissolved solids, fluoride, iron, nitrate, and pH for each well. During the testing process in 2012, we decided that the alkalinity and specific conductivity tests were not pertinent to determining the district's water quality. For this reason, we decided to no longer keep a record of these levels. Bacteria test analysis is not routinely done on network wells but can be done upon request. Residents of the District may request water quality tests at any time and we will perform these tests in a timely manner. Within each property, we are able to detect variances from year to year. Since the test wells are scattered throughout Yoakum County, we are able to tell the difference in quality in different regions of our county.

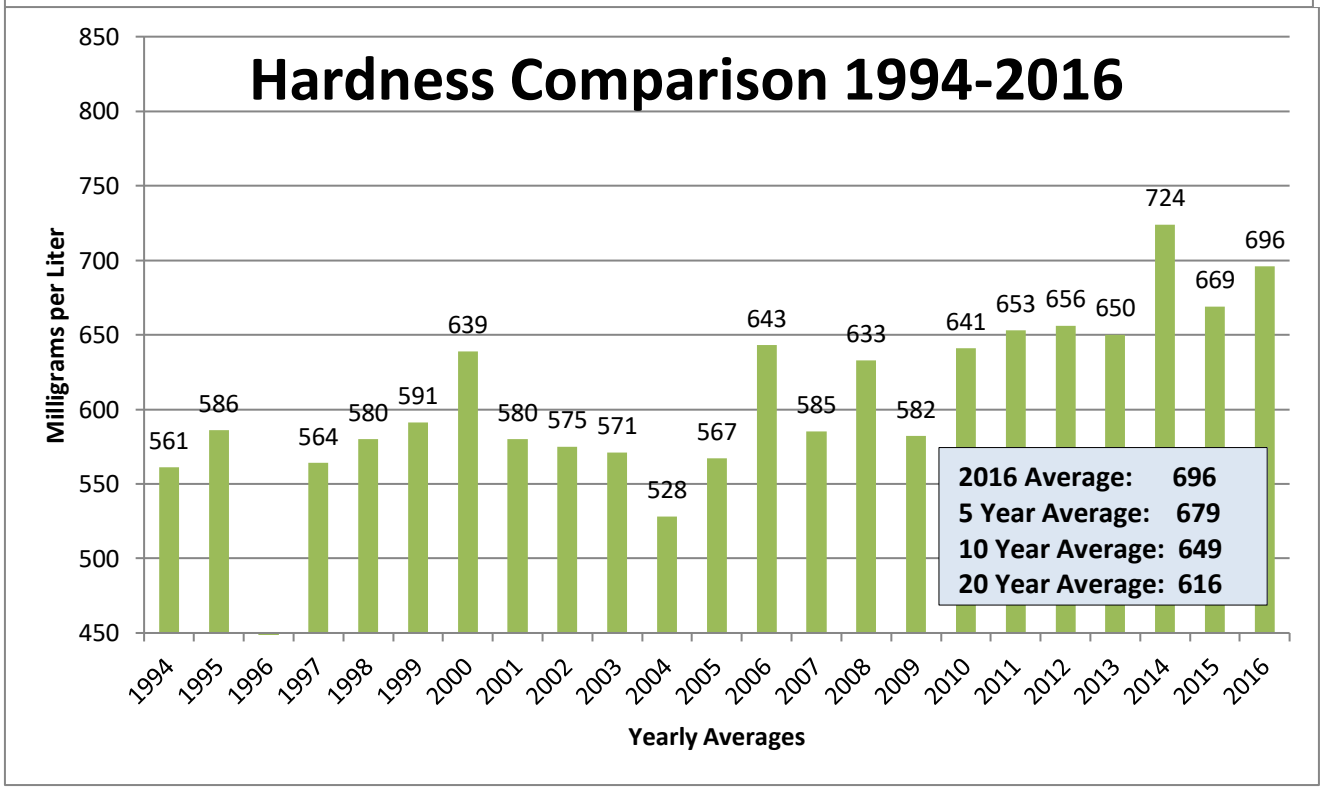
The chart below shows the number of well samples, average, maximum, and minimum values for 2016, as well as the current drinking standards, if available.

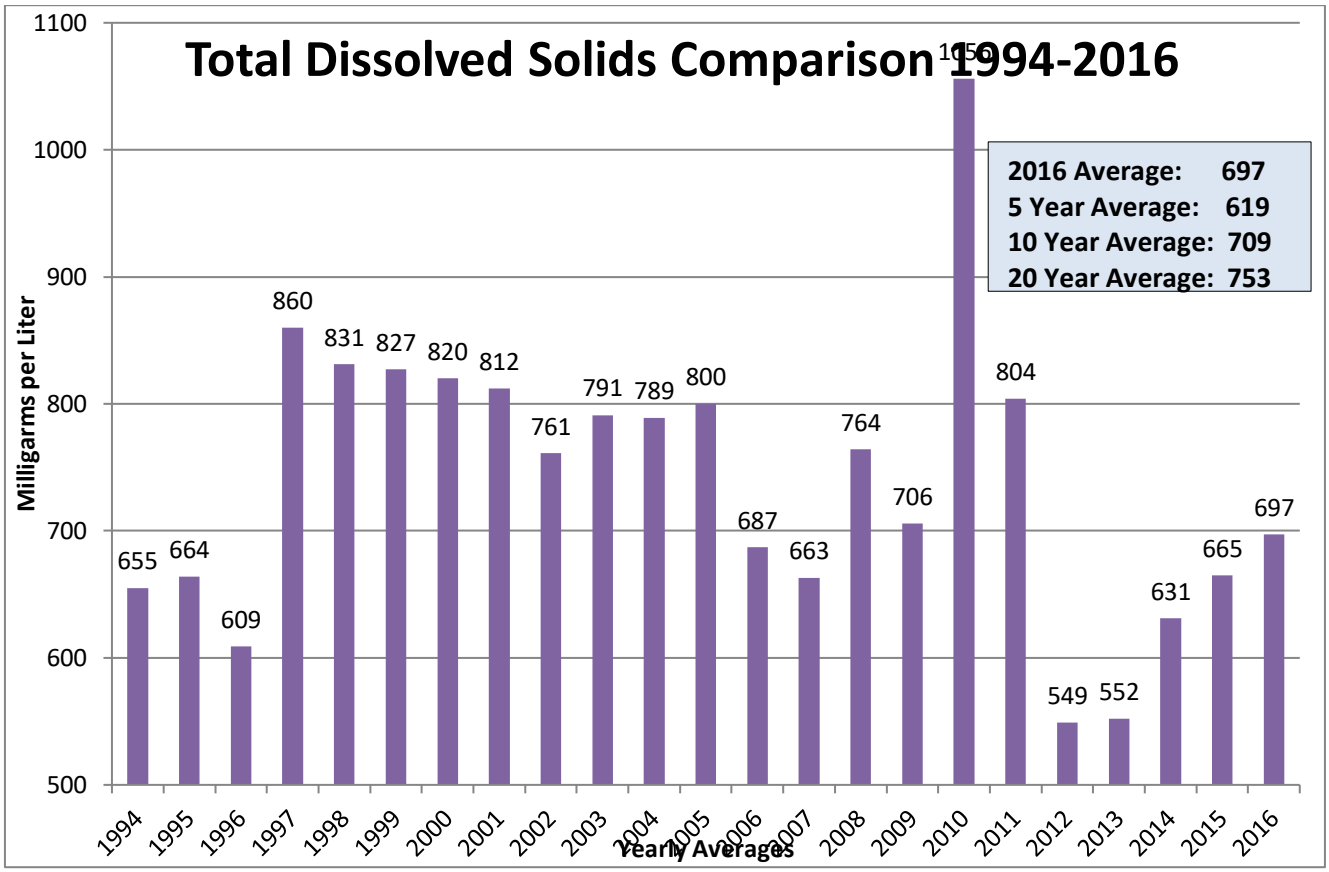
2016 Water Quality Data

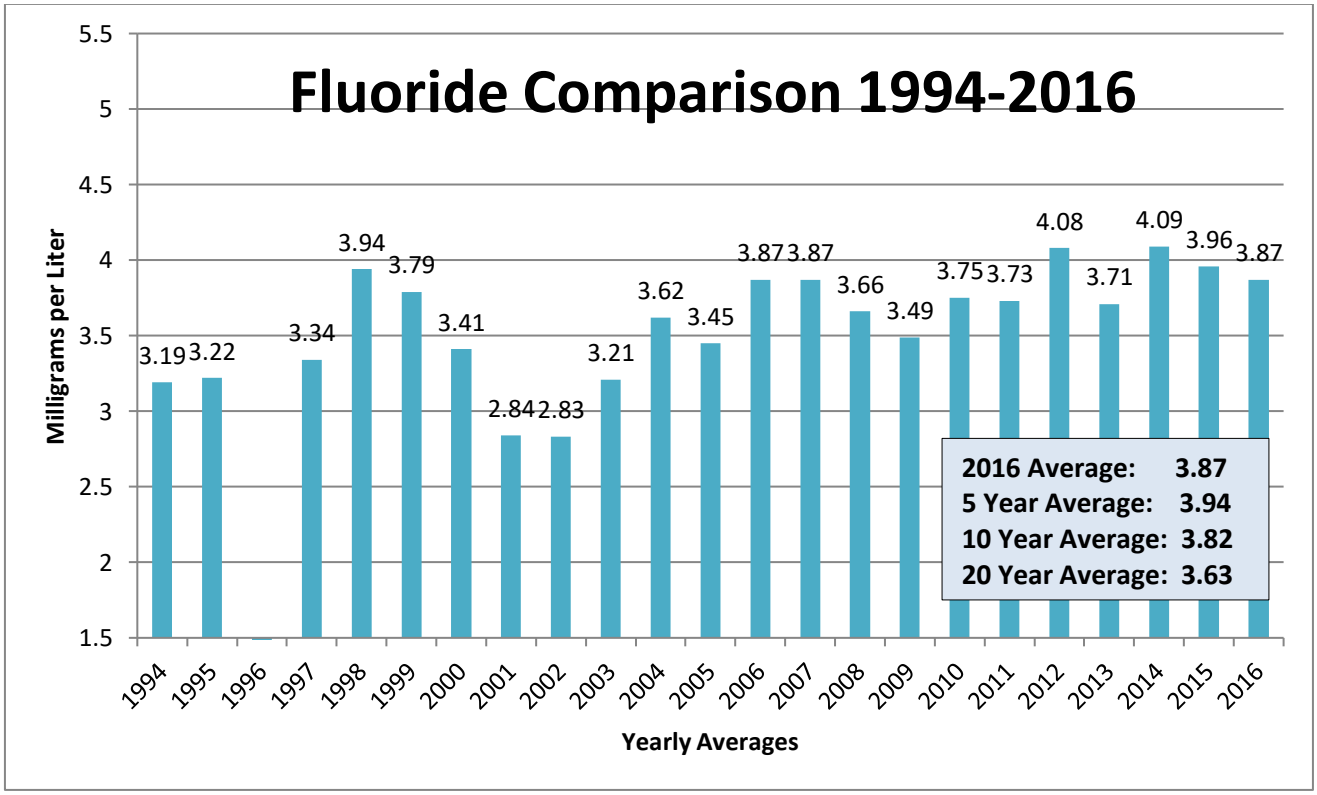
2016	Chloride	Hardness	Total Dissolved Solids	Fluoride	Iron	Nitrate	pH
Average	245	683	689	3.88	.12	3.7	7.57
No. of Wells Tested	79	79	79	79	79	79	79
Minimum	34	159	116	.3	0	.113	7.28
Maximum	770	2160	1790	6.15	2.6	21.1	8.42
Drinking Water Standard	Not to Exceed 300 mg/L	N/A	N/A	Not to Exceed 4.0 mg/L	Not to Exceed 0.3 mg/L	Not to Exceed 10 mg/L	N/A

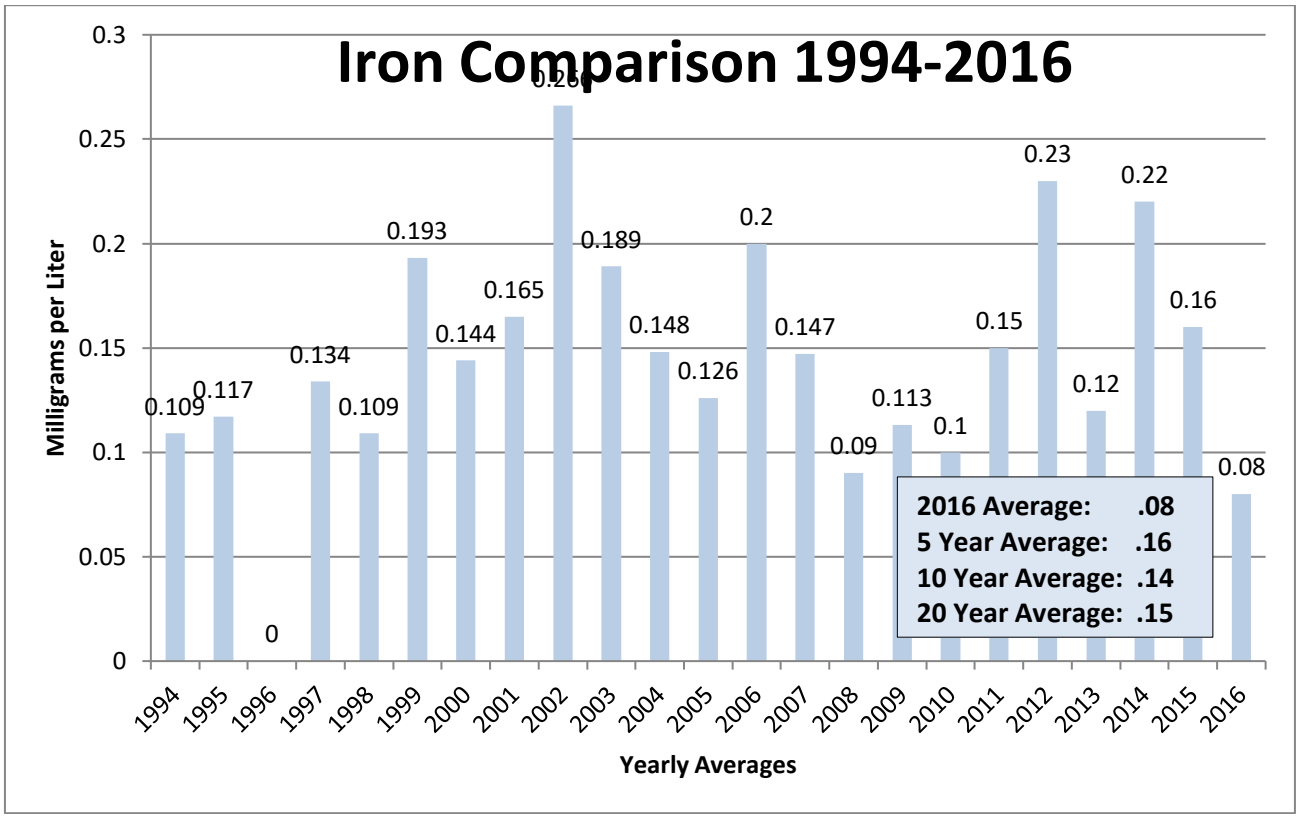
Water Quality Comparisons

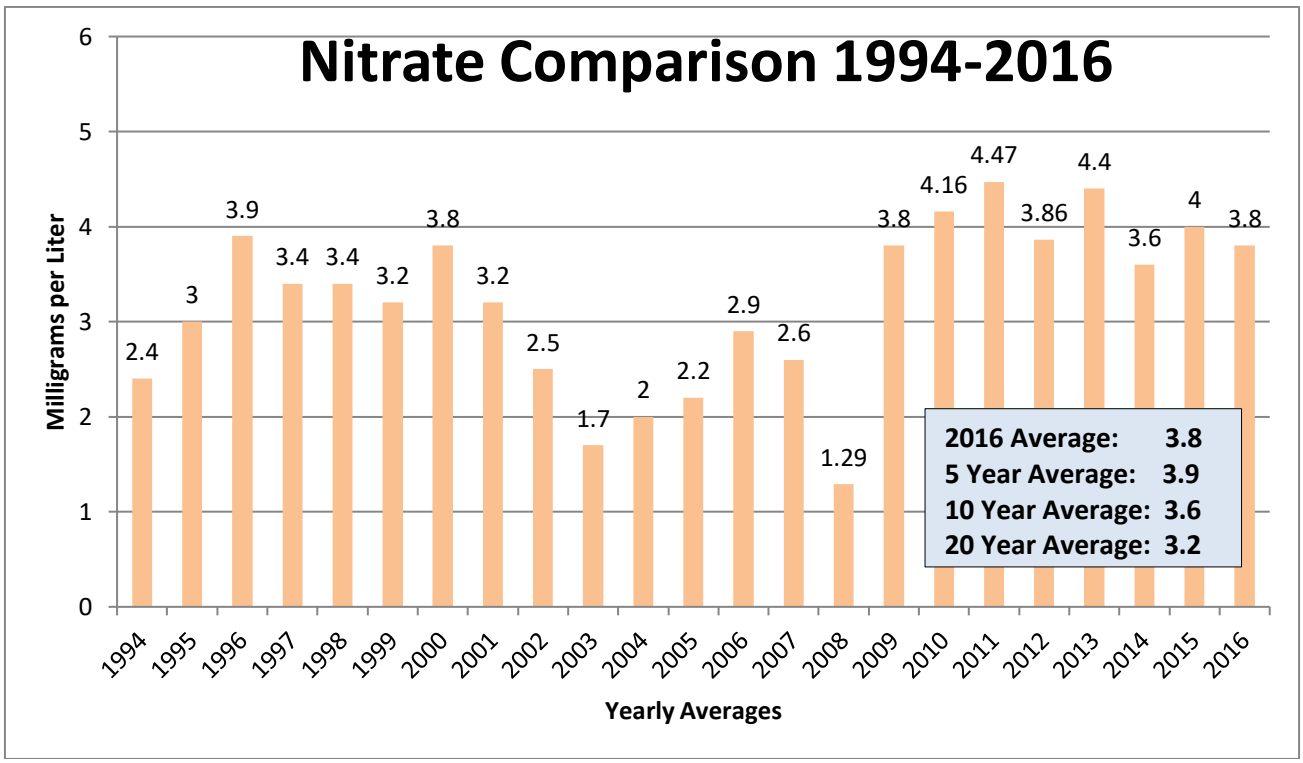





Total Dissolved Solids Comparison 1994-2016
Milligarms per Liter
Yearly Averages
2016 Average: 697
5 Year Average: 619
10 Year Average: 709
20 Year Average: 753
655 664 609 860 831 827 820 812 761 791 789 800 687 663 764 706 1056 804 549 552 631 665 697


Fluoride Comparison 1994-2016
Milligrams per Liter
Yearly Averages
2016 Average: 3.87
5 Year Average: 3.94
10 Year Average: 3.82
20 Year Average: 3.63
3.19 3.22 3.34 3.94 3.79 3.41 2.84 2.83 3.21 3.62 3.45 3.87 3.87 3.66 3.49 3.75 3.73 4.08 3.71 4.09 3.96 3.87


Iron Comparison 1994-2016
Milligrams per Liter
Yearly Averages
0.3
0.25
0.2
0.15
0.1
0.05
0
0.109
0.117
0
0.134
0.109
0.193
0.144
0.165
0.266
0.189
0.148
0.126
0.2
0.147
0.09
0.113
0.1
0.15
0.23
0.12
0.22
0.16
0.08
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016
2016 Average: .08
5 Year Average: .16
10 Year Average: .14
20 Year Average: .15


Nitrate Comparison 1994-2016
Milligrams per Liter
Yearly Averages
6
5
4
3
2
1
0
2.4
3
3.9
3.4
3.4
3.2
3.8
3.2
2.5
1.7
2
2.2
2.9
2.6
1.29
3.8
4.16
4.47
3.86
4.4
3.6
4
3.8
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016
2016 Average: 3.8
5 Year Average: 3.9
10 Year Average: 3.6
20 Year Average: 3.2

Below is an allocation of time spent on Water Quality Program.

Activity	Hours per Sample	Number of Samples	Total Hours
Perform Water Quality Tests by Requests	1	29	29
Water Quality Network - Retrieve Samples and Perform Tests	1	79	79
Update Records, Notification to Residents	.50	108	54
		TOTAL	**162**

Sandy Land Underground Water Conservation District

Well Permitting and Registration

Well Permitting and Registration

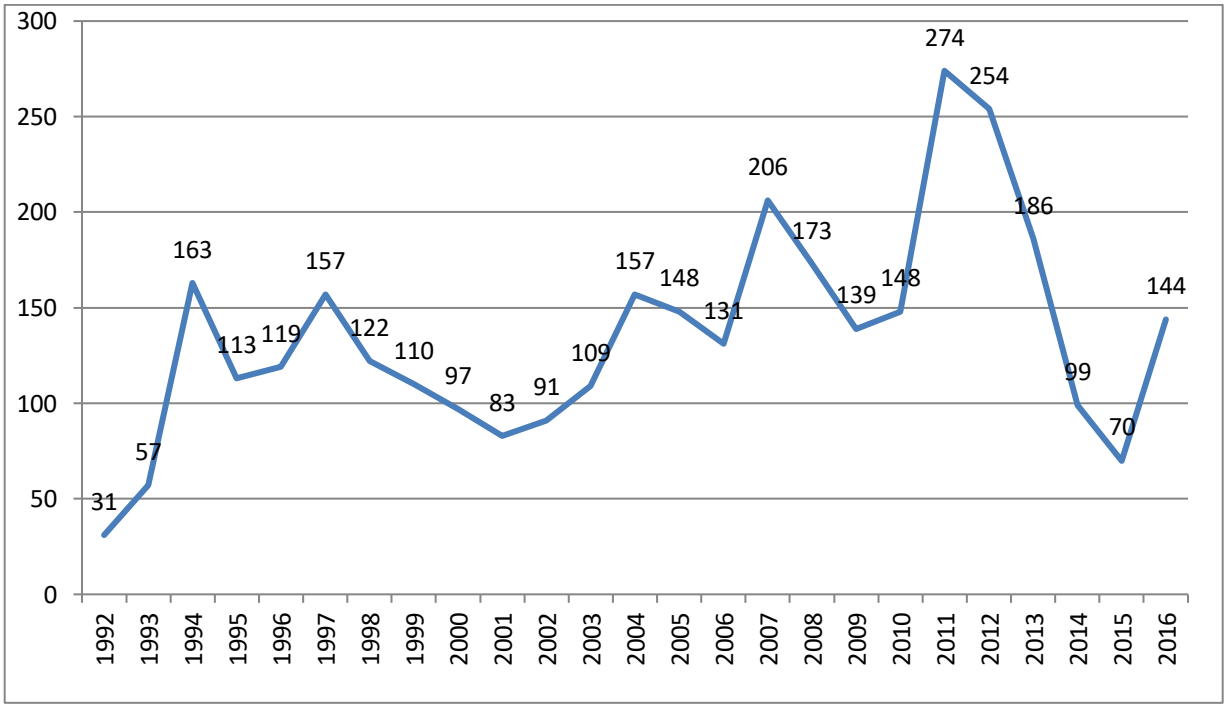
Reference Goal 2.0 (b)

Each year, the District enforces spacing and production limitation rules requiring the permitting of all new wells to prevent the waste of groundwater. The District issues temporary permits for requests that meet the District's rules for spacing. Production limits are also set in an attempt to prevent misuse of our groundwater supply.

During 2016, one hundred and forty-four **(144)** permits have been issued to local producers. Of these permits, one hundred and thirty-seven (137) have been returned with well registration logs from the driller or have been voided in view of the fact that the well was not drilled, or the well log has been retrieved from internet. Of the remaining seven (7) permits not returned, four (4) are still within the 90-day drilling period and are not due at this time. This leaves three (3) permits (or 2%) not returned within the allotted time period.

Raymond Brady was hired in October of 2005 as a contract hydrologist to enter the well log data into a well log database program. From this information, he has been able to prepare new maps for the district. He presented saturated thickness maps, base of the aquifer maps and prepared our decline map for the depletion program. He is currently working on finding information from other aquifers.

The following graph denotes the number of permits issued over the past 25 years.



Below is an allocation of time spent on the Well Permitting and Registration Program.

Activity	Hours	Number of Applications/Logs	Hours
Preparing Permit and Well Log for Applicant, Refunding Deposit	.50	144	72
Entering Permit Information into Computer	.50	144	72
		TOTAL	**144**

Sandy Land Underground Water Conservation District

Agricultural Loan Program

Agricultural Loan Program

Reference Goal 3.0 (a)

In 1989, the 71st Texas Legislature implemented the Agricultural Water Conservation Program to allow the Texas Water Development Board to loan money to water conservation districts. This money was to be used by local districts to make loans to producers within their respective districts for improved efficiency of irrigation systems.

In the February of 1992, the Texas Water Development Board approved their initial loan to Sandy Land Underground Water Conservation District in the amount of $500,000 to provide financing for the purchase of approved agricultural water conservation equipment, including center pivot irrigation systems, sprinkler package conversions, and drip irrigation equipment. Since that time, the Texas Water Development Board has made 21 loans to Sandy Land for over **$17,000,000.00**.

Since 1992, Sandy Land UWCD has loaned money for **393** new and used water conserving center pivot irrigation systems, for a total of **$11,142,210.7157** to Yoakum County producers. The District has also loaned money for four sprinkler packages in the intervening years. Sandy Land UWCD has never had a default on a loan.

Below is an allocation of time spent on the Ag Loan Program.

Activity	Hours per Loan	Number of Loans	Total Hours
Processing Existing Loans (Preparing Invoices, Receipts, UCC Filings, etc.)	1.00	68	68
Maintaining Database	1.00	68	68
Maintaining Insurance	.50	68	34.0
Inspection	.50	68	34.0
		TOTAL	**204**

Sandy Land Underground Water Conservation District

Scholarship and Education Program

Scholarship and Education Program

Reference Goal 3.0 (b) (c)

Not only is Sandy Land Underground Water Conservation District concerned with the technical side of water issues, education has also become a top priority. With the knowledge that the Ogallala Aquifer has been depleting over the last few years, Sandy Land believes that it has an obligation to help educate the residents of Yoakum County in water conservation. This is being done in several ways, including water conservation booklets and presentations to our school age children, a scholarship essay contest for our high school senior students, and newspaper articles, newsletters, and program presentations at various events and conferences for everyone in the District.

Sandy Land Underground Water Conservation District began awarding scholarships to Plains and Denver City high school seniors in 1991. These scholarships are based on essays written by these students on the topic of the current water situation in our area and proposals for future conservation of that water. In the beginning, only two scholarships were awarded every year, one to a Plains student and one to a Denver City student. In 1996, the Board of Director's decided to give two scholarships to each school. Over the past **25** years, Sandy Land Underground Water Conservation District has awarded **$88,000** to the students of Yoakum County through these scholarships.

Sandy Land Underground Water Conservation District has participated for many years in the Conservation Jamboree, a presentation of the Natural Resource Conservation Service in Yoakum County. This Jamboree, which targets all the fifth-grade students in the county, presents different learning stations that highlight many aspects of conservation. District personnel from Sandy Land present a water conservation activity to the fifth graders. Sandy Land's education coordinator, presented teacher gifts to elementary science teachers at the beginning of the school year. The gift boxes contained water saving tools, along with a note informing the teachers of the availability of videos, lesson plans, etc. from the water district.

Sandy Land UWCD frequently has articles published in the county newspaper. These articles are used to inform the residents of upcoming events, public notices, deadlines for conservation programs and scholarship essays, and other services that are provided by the District.

Various members of the District staff have been very busy this year both attending and speaking at conferences and meetings.

Sandy Land UWCD keeps a supply of water-conserving showerheads and aerators to be given away in an effort to make water conservation more convenient and accessible to Yoakum County residents.

Below is a listing of scholarship winners by year.

1991
Plains – Dan Rushing
Denver City – J.J. Kleam

1992
Plains – Ashlee Winn
Denver City – Tie
Evertt Harrel
Dallas Stevens

1993
Plains – Gerald Goodman
Denver City – Lysette Silvas1994

1994
Plains – Gabriel Flores
Denver City – Shailaja Marion

1995
Plains – Ken McAdams
Denver City – Jamie Huber

1996
Plains – Valerie Blair
Kelly McGinty
Denver City – Joshua Smith
Jonathan Mock

1997
Plains – Marte Pierce
Jacob Lester
Denver City – Amy Risley
Bud Sanders

1998
Plains – Yvonne Gonzales
Shawna Box
Denver City – Elvia Garcia
Justin Mock

1999
Plains – Steven Bunch
Mike Bell
Denver City – Kristen Long
Traci Tucker

2000
Plains – Jason Swann
Shaunda Eady
Denver City – Glinnis Wolf
Nichole Newsom

2001
Plains – Taylor Gray
Armando Luna
Jessica Long
Denver City – Jennifer Arnold

2002
Plains-Chris Hansen
Jeffrey Lollar
Denver City- Kyndal Eady
Jarryn Mock

2003
Plains- Ryan Swann
Kelly Bowers
Denver City- Jeremy Thompson
Nicole Gutierrez

2004
Plains- Brandon Davis
Lashonda Diamond
Denver City- Abby Droogsma
Leah Gibson

2005
Plains-Caylon Garnett
Payton Bean
Denver City-Chelsey-Anne Bearden
Torre Stewart

2006
Plains- Blake O'Quinn
Benjamin Hays
Denver City- Melina Terrazas
Lizette Bayona

2007
Plains-Clarissa Zorilla
Jose Luis Gallegos
Denver City- Chelsea Stroud
Brandon King

2008
Plains- Lauren Davis
Maria M. Andazola
Denver City- Mallory Milligan
Jacqueline Martinez

2009
Plains- Tie for 1st ($500 each)
Bené Baum and Yesenia Loya
Denver City- Javier Arzate
Lindsey Hudgins

2010
Plains- Natalie Haynes
Emilia Gallegos
Denver City- Amanda Guzman
Katelyn Flores

2011
Plains-Hannah Crump
Shaylin Taylor
Denver City-Brittani Weir
Celia Broadwater

2012

Plains –	Jordan Martin
	Whitney Davis
Denver City –	Garrett English
	Mariza Santillan

2013

Plains -	Merrit Crump
	Matthew Ramos
Denver City -	Kathryn English
	Jaci Zingerman

2014

Plains –	Bailey Winn
	Taylor Michaleson
Denver City –	Rowdy Brumley
	Kaleb King

2015

Plains -	Riley Earnest
	William Boyles
Denver City -	Angel Loya
	Hadel Almubiadin

2016

Plains -	Brittany Michaleson
	Madison Davis
Denver City -	Bailee Burkett
	Katy Patterson

Below is an allocation of time spent on the Scholarship and Education Program.

Activity	Hours
Scholarship Program	15
Conservation Jamboree	10
Newsletter Publications and Newspaper Articles	5
Public Programs and Presentations	40
Website & Blog Entries	5
Total Hours	**75**