PANHANDLE GROUNDWATER CONSERVATION DISTRICT

2019 ANNUAL REPORT

"CONSERVING WATER FOR FUTURE GENERATIONS"

Table of Contents

WHO ARE WE?

Panhandle Groundwater Conservation District

Mission

The Panhandle Groundwater Conservation District will strive to develop, promote and implement water conservation, augmentation and management strategies, to protect water resources for the citizens, economy and environment of the District.

50/50 Standard: Our Motto

We want to preserve at least 50 percent of current water supplies for 50 years from now.

About Us:

Created in 1955 by Texas legislature.

Derives its authority from Chapter 36, Texas Water Code

Funded by ad valorem taxes.

Manager's Address

When I reflect on FY 2018-2019 the thing that comes to my mind most is "CHANGE". Change is usually difficult for many to accept initially, but usually turns out for the better in the long run. We started our year with many public meetings on the proposed rule changes and most notably the inclusion of a new Operating Permit process, intended to treat each operator the same. We had meetings in most counties and several here at the District office. The interest was slow at first, but gained attention towards the end of year.

The District Board adopted the new rules in December of 2018 and we started off on the adventure of getting operators to obtain their Operating Permits, as with anything new, not everyone was overly thrilled at first. However, most found that that the process was not as difficult as first envisioned and seems to be reasonable. My staff put in countless hours with operators to accomplish this important task, and to all of them I must give them an "A+" for this important accomplishment.

2019 was another year when the Texas Legislature met from January to May to do the State's business. When it came to water issues, it was another busy session, but this session focused mostly on flooding issues and not as much on groundwater issues as it has in the past. It created a process similar to the Regional Water planning process to address the wide-range of flooding issues. It also created a funding process to aid in recovery when floods occur.

While there were several bills filed addressing groundwater issues only a few passed. There was a bill that extended the time for the TWDB to designate brackish groundwater production zones. Another groundwater bill that passed addresses the permitting system for identified brackish groundwater zones. Both of these bills are intended to encourage the use of brackish groundwater over fresh. There was another push by some in the Legislature for groundwater districts to have the same rules across Districts. Luckily it didn't pass, however, the issue will likely come up again in 2021 session.

The legislature was also focused on amending the State's tax code, government transparency and limiting the ability of local government entities. These changes affect all local entities, not just groundwater districts. In my view was a real overreach by some legislators. I feel the locals are the closest to the people and make better decisions because of it. Another concern for rural areas will be redistricting in the 2021 session how those lines are drawn could have significant effect on all of us in the Panhandle.

Going into the new decade I know water conservation will be challenging, but my Granddad told me years ago "that the harder things are to accomplish the more rewarding they are in the end". I think we all must remember the Ogallala is a gift from God and we all are only stewards of his gift, and the future generations are counting on us to make the right decisions where they will have a bright future.

Board of Directors

Phillip Smith
President
Serving since 1990

Chancy Cruse
Vice President
Serving since 2013

Bill Breeding
Secretary
Serving since 2013

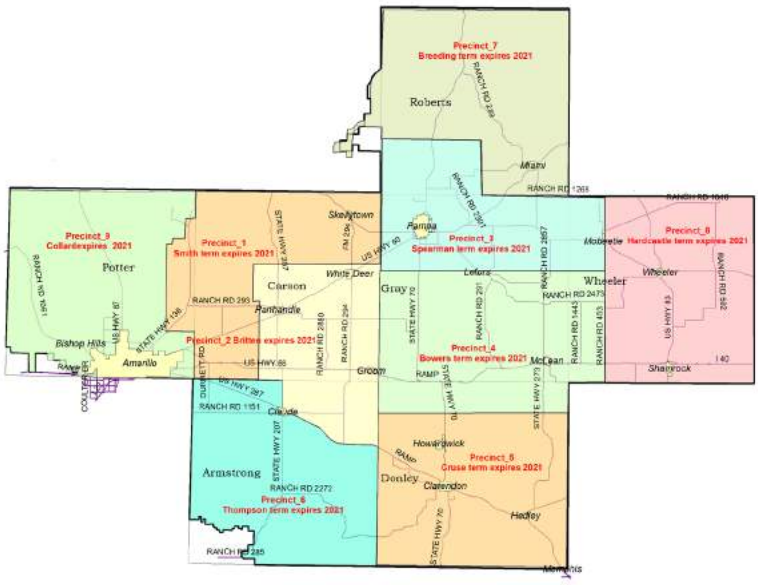
Charles Bowers
Director
Serving since 1990

Jim Thompson
Director
Serving since 1994

Danny Hardcastle
Director
Serving since 1997

John R. Spearman
Director
Serving since 2000

F. G. Collard
Director
Serving since 2010



Brett Britten
Director
Serving since 2019

Desired Future Conditions

The main purpose of a management plan is to develop goals, management objectives, and performance standards that, when successfully implemented, will work together to achieve the adopted DFCs. Goals 2 through 10 directly and/or indirectly support Goal 1. DFCs adopted for the Ogallala and Dockum aquifers by GMA 1 on November 1, 2016, and subsequently adopted by the Panhandle GCD Board of Directors on July 14, 2016, for the District are described below (note, the Blaine Aquifer in Wheeler County is now classified by GMA 1 as non-relevant for joint planning). A 50-year planning horizon was used in setting the DFCs. Throughout the joint planning process, the District actively worked with the other District Representatives and stakeholders within GMA 1 to determine the DFCs for each relevant aquifer located within each district.

Management Objective 1.1

The cornerstone of the many programs and activities of the District is the 50/50 Management Standard which drives its Rules and this Management Plan. The 50/50 Management Standard states that 50 percent of the current volume within the Ogallala Aquifer will remain in 50 years. This 50/50 Management Standard is the tool by which the District will ensure that it meets or exceeds the 50/50 DFC outlined in Rule 1, 3, and 4, which states the maximum allowable volume of pumping from the Ogallala Aquifer is 1-acre foot per acre per year. In order to ensure that the 50/50 Management Standard is being met, the District goes through an annual review process to identify and act upon Contiguous Acreage Tracts exceeding the maximum allowable volume of pumping from the Ogallala Aquifer utilizing flow meter data.

In order to complete Management Objective 1.1, the following Performance Standards will be met. Actions by the District Board of Directors that may result from this review include the enforcement actions stipulated in Rule 3.3, as required.

Performance Standard

1.1 A	Quantify Permitted Pumping Volumes based on Flow Meter Readings of Individual Contiguous Acreage Tracts	179,451 Acre-Feet	Completed
1.1 B	Evaluate Winter Water Level Ogallala Aquifer Measurements	Reported to the Board on August 8, 2019	Completed
1.1 C	Board of Directors will Conduct a Sunset Review on the Maximum Allowable Volume of Production	To Be Completed by January 1, 2025	In Progress

Estimates of Modeled Available Groundwater for the Ogallala Aquifer from TWDB, 2017

Ogallala County	2020	2030	2040	2050	2060	2062
Armstrong	57,984	53,414	48,170	43,462	38,860	38,080
Carson	192,135	184,263	169,931	153,767	137,215	134,055
Donley	74,808	76,289	72,962	67,873	62,058	60,901
Gray	181,105	175,267	162,653	148,713	134,431	131,744
Hutchinson	15,734	16,740	15,156	13,324	11,742	11,455
Potter	16,969	15,820	14,442	13,162	11,836	11,609
Roberts	430,618	455,129	427,218	390,247	350,459	342,748
Wheeler	130,425	138,810	137,385	132,312	124,778	123,309
District Total	1,099,778	1,115,732	1,047,917	962,860	871,379	853,901

Management Objective 1.2

The District maintains an integrated geodatabase system based on the District's Observation Well Network and computer mapping programs to annually track and evaluate current supplies by a baseline (1998) Ogallala Aquifer saturated thickness dataset in the District. This analysis is utilized to track and review changes in water supplies

Performance Standard

1.2 A	Update and Publish the latest Ogallala Aquifer Saturated Thickness Map. The Map must be Updated at least Every Five Years.	Published in 2016 - www.pgcd.us/mapping	Completed

Dockum Aquifer DFCs

The Dockum Aquifer is classified by the TWDB as a minor aquifer that is present primarily in the western portions of the District and is generally under confined (artesian) conditions. Based on our current understanding of water resources in the Dockum Aquifer, DFCs have been adopted for Armstrong, Carson, and Potter counties within the District. Due to the predominantly confined nature of the Dockum Aquifer, a different approach was taken in adopting DFCs for the Dockum Aquifer. The DFCs adopted for the Dockum Aquifer in GMA 1 are that the average decline in water levels will be no more than 30 feet within the District over the next 50 years. The maximum allowable volume of pumping from the Dockum Aquifer is 1-acre foot per acre per year.

The estimates of modeled available groundwater for the Dockum Aquifer were extracted from predictive simulations performed for GMA 1 using the updated High Plains Aquifer System.

Estimates of Modeled Available Groundwater for the Dockum Aquifer from TWDB, 2017

Dockum County	2020	2030	2040	2050	2060	2062
Armstrong	7,131	9,024	9,588	9,704	9,535	9,494
Carson	68	108	140	169	198	204
Potter	38,803	39,113	36,937	34,505	32,008	31,558
District Total	46,002	48,245	46,665	44,378	41,741	41,256

Management Objective 1.3

While there are tens of thousands of data points collected over time relative to the Ogallala Aquifer, the opposite is the case for the Dockum Aquifer. This can primarily be attributed to dominance of the Ogallala Aquifer in the region and the general prevalence of poor water quality and yields from the Dockum Aquifer. Due to declining water levels in the Ogallala Aquifer, there are areas where the Dockum Aquifer is becoming a more important water resource. There are localized areas of good water quality and where technological advances are being made using brackish groundwater desalination.

Due to the scarcity of data regarding the Dockum Aquifer, the District is primarily focused on data collection and trend analysis on wells completed in the Dockum Aquifer currently included in the District's Observation Well Network. This management objective is to monitor and report on Dockum Aquifer wells in the District's Observation Well Network that are experiencing declines for which the trend is in excess of the DFC of 30 feet

Performance Standard

1.3 A	Data Collection and Trend Analysis in the Dockum Aquifer on Wells in Excess of 30 Feet	Reported to the Board on August 8, 2019	Completed

Management of Groundwater

Throughout its history, the District has operated on the core principle (or goal) that groundwater should be used as efficiently as possible for beneficial purposes. In order to achieve this goal, the District maintains a qualified staff to assist water users in protecting, managing, and conserving groundwater resources. The Board of Directors has in the past and continues today to base its decisions on the best data available to treat all water users as equitably as possible. Once data is collected, the District utilizes a wide variety of forums to provide important information to water users throughout the District so that sound decisions regarding the efficient use of groundwater can be made. The District's Observation Well Network will continuously be reviewed and maintained in order to monitor changing storage conditions of groundwater supplies within the District. The District will continue to undertake and cooperate with technical investigations of groundwater resources within the District. The following management objectives and performance standards have been developed and adopted to collect needed information, disseminate information, and provide opportunities through the District's Agricultural Water Conservation Equipment Loan Program to ensure the efficient use of groundwater.

Management Objective 2.1

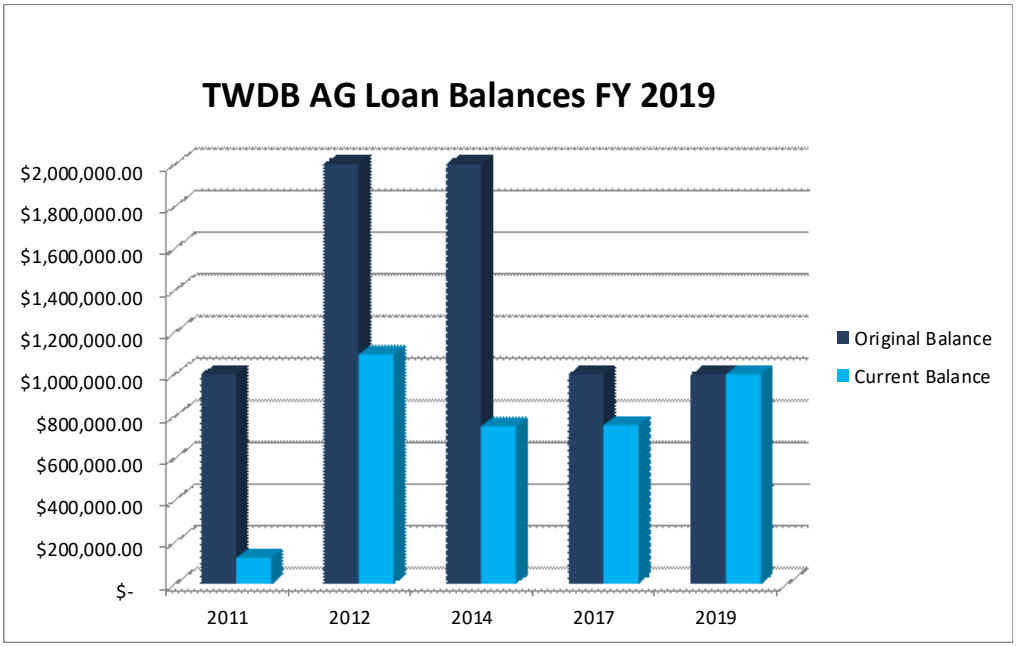
The Observation Well Network, with approximately 850 water wells located throughout the District is continuously maintained and monitored. Wells in the Observation Well Network produce groundwater from the Ogallala Aquifer, the Dockum Aquifer, and also other minor aquifers in the area. Water levels are measured by District staff in as many wells as possible, with the management objective being to measure water levels in at least 90 percent of the wells in the Observation Well Network each year. This data is then processed for quality assurance/quality control, entered into the District's geodatabase, analyzed, mapped, and used to make decline calculations and update historic trend lines (hydrographs).
Water level measurements from wells in the District's Observation Well Network are used to generate annual decline maps. The District will strive to install additional monitoring wells in locations when necessary in order to evaluate the effects of high-impact pumping operations as necessary.

Performance Standard

2.1 A	Measure Water Levels in 90 Percent of Wells in the District's Observation Network	Measured 288 out of 852 - 96 Percent	Completed
2.1 B	Prepare and Publish Annual Depletion Maps in the Panhandle Water News	Published on July 17, 2019	Completed
2.1 C	IRS Depletion Maps & Letters Updated and Sent	January 3, 2019	Completed

Management Objective 2.2

The District encourages efficient groundwater use by continued promotion of low pressure and other efficient sprinkler systems, drip irrigation systems, and other recognized water conservation measures, which will decrease the utilization of less efficient row irrigation techniques. This will be accomplished by increasing the use of the District's Agricultural Water Conservation Equipment Loan Program, as long as TWDB Agricultural Loan Program funds are available and economically competitive. The District will enhance awareness of the loan program by utilizing local newspapers and the PWN. The District website will have information on availability of funds and guidelines for applicants. The District will strive to provide timely responses to loan applicants.

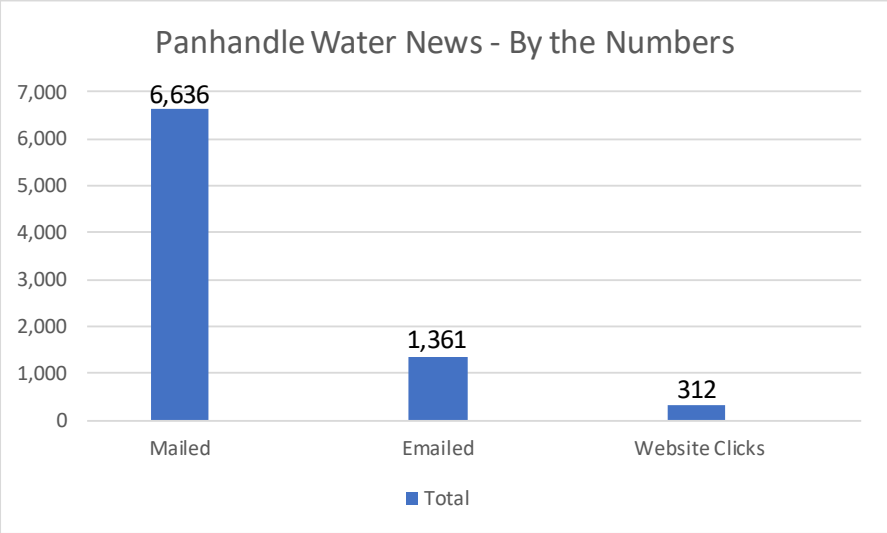


Performance Standard

2.2 A	Ag Loan Reminder in Panhandle Water News	October 2018 and April 2019	Completed
2.2 B	Review Ag Loan Applications within 60 Days of Receipt	All Applications were Review within 60 Days	Completed

Management Objective 2.3

The District encourages the efficient use of groundwater by disseminating educational information regarding current best management practices and trends in water conservation for agricultural, municipal, and industrial applications. The District publishes a newsletter quarterly that contains resources for water users interested in water conservation. In addition, the District also attends and participates in public events throughout the District including the annual Amarillo Farm and Ranch Show as often as possible.



Performance Standard

2.3 A	Publish the Panhandle Water News on a quarterly basis.	October 2018, January - July 2019	Completed
2.3 B	Participate and Exhibit at the Annual Amarillo Farm & Ranch Show	November 27-29, 2018	Completed

Management Objective 2.4

In order to ensure that the Board of Directors and District constituents are aware of and informed on the most current information on water conservation, groundwater management, and emerging policy issues related to groundwater resources, District staff actively participate in a broad grouping of professional associations that focus on water resource issues. District staff will report at the next available regularly scheduled Board of Directors meeting in the General Manager's Report on any activities resulting from participation with the following active affiliations:

- Texas Alliance of Groundwater Districts (TAGD)
- Texas Water Conservation Association (TWCA), and,
- Groundwater Management Districts Association (GMDA).

Performance Standard

2.3 A	Attend and participate in 75% of TAGD, TWCA and GMDA Meetings.	Attended 6 out of the 8 required meetings - 75%	Completed

Management of Groundwater Continued

Management Objective 2.5

The District has adopted rules that require an approved metering method on all wells producing more than 35 gallons per minute. The District believes that when a water user understands the volume of groundwater being used, they are better able to adopt best management practices that result in the efficient use of groundwater. Therefore, the District is committed to continuing the program focused on requiring a metering method for wells pumping more than 35 gallons per minute, flow meter monitoring, and data collection and analysis of water use by crop and irrigation type. To achieve this objective the District will read and record meter data from installed, registered, and accessible, meters in the District annually. The information from the District's metering program will be published in the District's Annual Report. Additionally, the District will provide water-users with meter data production reports. Finally, the Board will consider meter data with respect to individual Contiguous Acreage Tracts in order to document compliance with the District maximum allowable production rate.

Performance Standard

2.5 A	Read & Record data for 90% of Approved Metering Methods Annually	Field Technicias Read & Recorded Data for 943 out of 988 Meter Methods - 98%	Completed
2.5 B	Send Production Reports to Producers by September 1, 2020	To be completed in 2020	In Progress
2.5 C	Prepare and Send TWDB Annual Agriculture Water Estimates	April 2, 2019	Completed

Groundwater Waste Prevention

Management Objective 3.1

The District is continuously working to take positive and prompt action to identify and address all reported wasteful practices and instances of waste located by District staff within the District. This effort involves the following actions to be taken by the District.

- Report each complaint to the landowner and/or operator within five working days.
- Resolve the complaint and note the corrective action taken.
- Report resolution of each complaint to the landowner/operator and to the Board at the next regularly scheduled meeting during the General Manager's Report

Performance Standard

3.1 A	Record, Investigate and Report Complaint to Landowners/Operators within Five Working Days	No Formal Complaints were Reported this Year.	Completed
3.1 B	Report Complaints to the Board with Staff Recommendations and Solutions	No Formal Complaints were Reported this Year.	Completed

Drought Plainning

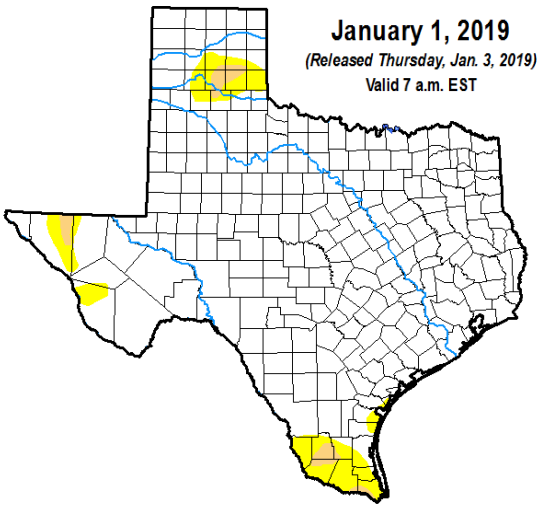
Management Objective 4.1

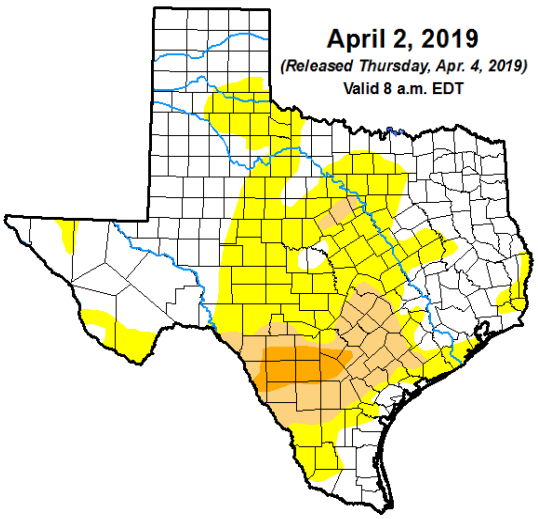
In order to provide ongoing information regarding water conditions in the District, establish and maintain links to National Oceanic and Atmospheric Administration Drought Monitor indices are on the District website.

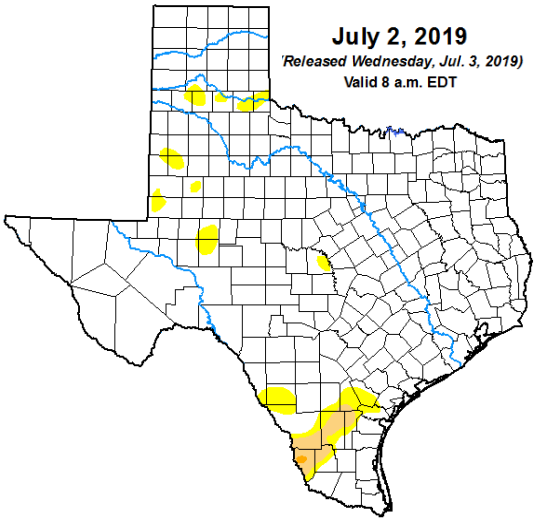
Performance Standard

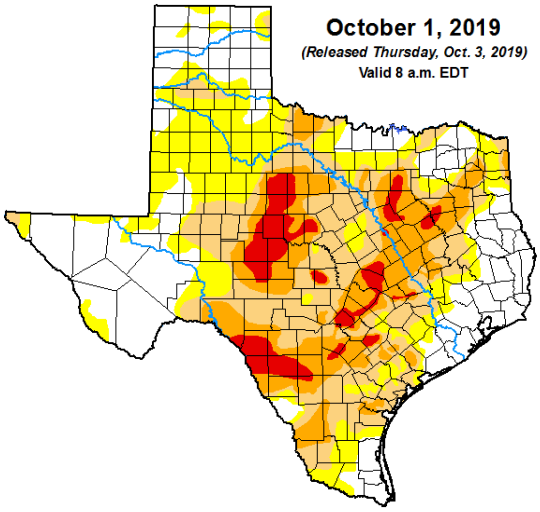
4.1 A	Update Link to the NOAA Drought Monitor indices on the District's Webstie	https://www.pgcd.us/links	Completed

2019 Texas Drought Monitor Maps









Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/

Joint Management Efforts

The Canadian River Municipal Water Authority (CRMWA) supplements member city allocations of groundwater with supplies from Lake Meredith. The CRMWA system is the largest conjunctive use water provider in the State of Texas, providing a combination of groundwater and surface water to 11 member cities. All current CRMWA groundwater supplies are produced within the boundaries of the District.

The Greenbelt Water Authority (GWA) is the second surface water user with supplies inside the boundaries of the District. GWA is now also utilizing groundwater resources from the Ogallala Aquifer. The District will communicate with regards to rules and technical data as it applies to conjunctive use within the District.

Management Objective 5.1

In order to continually monitor the impact of declining surface-water availability on groundwater resources within the District, the General Manager or designee will participate in the Panhandle Water Planning Group (PWPG) with the two surface-water entities currently operating within the District. This activity helps facilitate regular communication and cooperation with regards to conjunctive use issues in the District.

Performance Standard

5.1 A	District Staff Member will participate in at least 75% of PWPG Meetings & Activities	Attended 11 out of 13 Meetings & Activities - 85%	Completed

Natural Resource Issues

As part of the umbrella goal of achieving the adopted DFCs, the District recognizes that the protection of water quality is equally as important as working to ensure adequate water quantity. In order to protect the District's most important natural resource, the abundant, high quality groundwater resources, the District has for many years maintained and operated a water quality sampling program sampling different areas each summer which yields a complete set of data biennially.

Management Objective 6.1

In order to control and prevent the contamination of groundwater, the District maintains and works to expand the groundwater quality monitoring. As part of this effort, an annual sampling program will be conducted within the District's Water Quality Network. The objective will be to sample at least 80 percent of the wells in the District's Water Quality Network on a biennial basis. Also, upon request the District will conduct analysis of water within current District sampling capabilities, including sites near oil and gas industry injection well sites.

Performance Standard

6.1 A	Sample 80% of the District's Water Quality Network Biennially	Sampled 306 out of 256 - 87%	Completed
6.1 B	Record Water Quality Data in District Database within 30 Days of Sampling	356 Total Water Samples (306 by District Staff and 50 brought in by District Constituents) were Collected and Recorded in the Database	Completed

Customer Service

Management Objective 7.1

Customer service is of great importance to the Board of Directors and Staff of the District. As detailed in the corresponding performance standards, the District will continue to provide timely response to customer assistance requests in the following areas:

- Pump flow tests.
- Processing of well drilling permits.
- Review and revision of District Rules, as necessary, to incorporate revisions required by new legislation and as necessary to achieve adopted Desired Future Conditions.
- Well camera recordings.

Performance Standard

7.1 A	Provide Requested Flow Tests within Five Working Days	Provide Requested Flow Tests within Five Working Days	Completed
7.1 B	Manager's Action on Well Drilling Permits within 10 Working Days of Approval	Manager's Action on Well Drilling Permits within 10 Working Days of Approval	Completed
7.1 A	Provide Well Camera Service within 5 Working Days & Archive the DVD to District Library	All Requests Completed	Completed

PGCD strives to provide the best customer service possible to constituents. Much of 2019 was spent educating the public on recent rule changes. District Staff members not only traveled to several counties within the District, but also hosted many meetings at the District Office to make sure all constituents were aware of new processes. Below are pictures from those meetings.

Precipitation Enhancement

Texas Water Code Section 36.1071(a)(7) requires groundwater conservation districts to include in the management plan a goal addressing precipitation enhancement. The District has one of the longest continuous precipitation enhancement programs in the Texas.

Management Objective 8.1

The District will continue to operate its Precipitation Enhancement Program throughout the planning horizon of this management plan. The program will operate within budget. A rain gauge network will be maintained and monitored to confirm precipitation enhancement results. Flight records will be collected and archived.

The program will abide by Texas Department of Licensing and Regulation requirements for testing, monitoring, and reporting in order to ensure compliance with permit guidelines. Results of the District's Precipitation Enhancement Program will be presented to the Board of Directors.

Performance Standard

8.1 A	Annually Conduct the Precipitation Enhancement Program from April 1st to September 30th	April 1 - September 30	Completed
8.1 B	Calculate Baseline Costs for Precipitation Enhancement Program Each Year	$.028/Acre	Completed
8.1 C	Collect and Record Rain Guage Readings at Least Once a Quarer	Collected and Recorded in October 2018, January and March-September 2019	Completed
8.1 D	Annually Maintain all Flight Records and Archived Data on all Precipitation Enhancement Operations and Make Available Upon Request	Current Flight Tracks are on our Website https://www.pgcd.us/flight-tracks	Completed
8.1 E	Provide Precipitation Enhancement Annual Report to the Texas Department of Licensing and Regularion	2018 Report Sent on August 5, 2019	Completed

Panhandle Groundwater Conservation District completed its 20th year of precipitation enhancement. The weather trends across the Texas Panhandle this summer turned out to be unique in many ways which led to this being one of the program's slower seasons. This year we had 11 operational days, a total of 12 seeding missions, 16 reconnaissance flights and we used 156 flares. This year's first seeding mission occurred on June 1, 2019 and the final seeding mission was on September 28, 2019. The season had a late start, because the temperatures stayed unseasonably cool through April and May. Cooler weather normally brings with it overcast skies, fog and showers with some embedded thunderstorms. Through June, July and August an upper level high pressure ridge was persistently over the region. This leads to thunderstorms that are high based and create a lot of virga. Neither situation is very suitable conditions for precipitation enhancement. September's weather was more typical of August with upper level low pressure system's moving through the area accompanied with a cold front. These conditions led to some of the season's best seeding missions.

The season started in April with no drought in place across the Texas Panhandle. The area stayed generally drought free until end of July into first of August when some areas became abnormally dry. However, by the end of September much of that had returned to normal throughout the District. April and May's rainfall started the season off well with all counties showing well above the normal rainfall for both months. June and July's rainfall stayed closer to normal or just below average while July's rainfall for the District was below normal for all counties. August and September ended the season well with both months showing at normal or above for the counties. As of the end of September 2019, all the counties within the District have received the yearly normal rainfall and above.

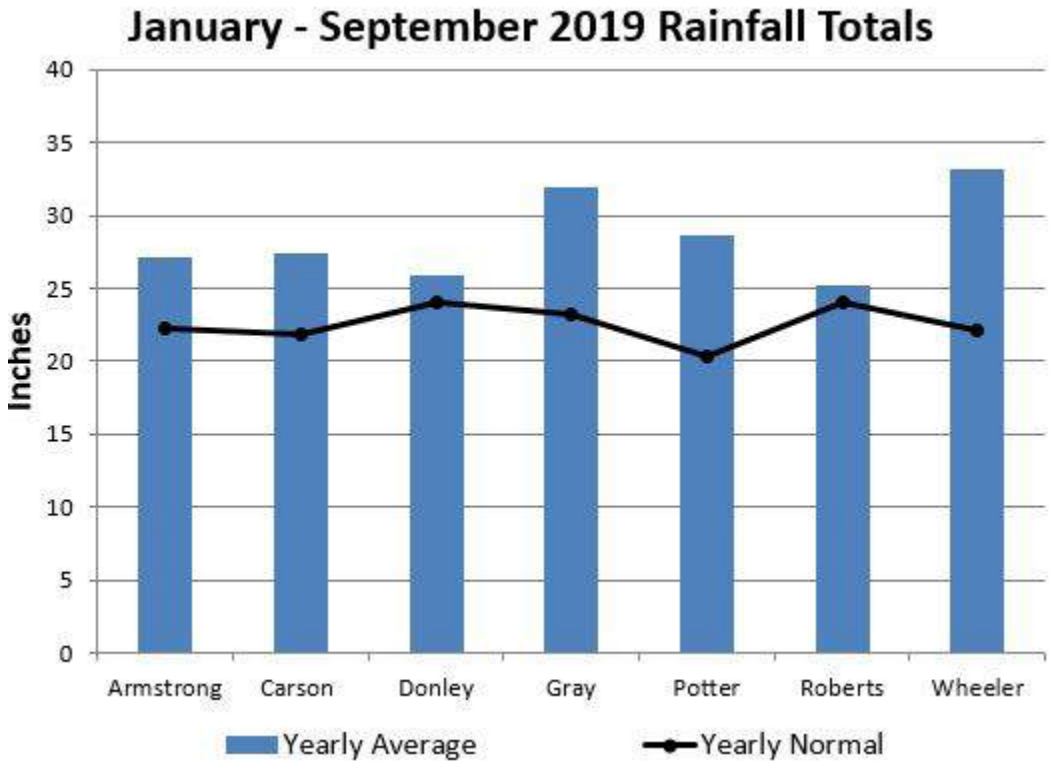
Management Objective 8.2

Educate the public with regards to the benefits of the District's Precipitation Enhancement Program through informational articles in the PWN and local newspapers, public presentations, and program summaries in the District's Annual Report each year.

Performance Standard

8.2 A	Publish an Article about Precipitation Enhancement in at least 2 of the Quarterly Issues of PWN	Provided Requested Flow Tests and Recorded in the Database	Completed
8.2 B	Provide at least 1 Article about the Program to all Local Papers	Weekly Rain Reports to White Deer News	Completed
8.2 C	Provide at least 2 Presentations Annually to a Public or Civic Group	Travis Middle Schol (3/29/18), Pampa Rotary (4/25/19)	Completed
8.2 D	Complete the Program Summary Report and Include in District's Annual Report Each Year	See Table Below	Completed

2018 Program Summary	
Number of Seeding Days	11
Number of Seeding Missions	12
Number of Recon Flights	16
Total Flares Used	156
Total Program Cost	$111,635.49



Conservation Education

Texas Water Code Section 36.0015 states, in part, that, "In order to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater.…Groundwater conservation districts may be created…are the state's preferred method of groundwater management through rules developed, adopted, and promulgated by a district in accordance with the provisions of this chapter." It is noteworthy that in this overview section of Texas water law addressing groundwater management that "conservation" is the first action groundwater conservation districts are to pursue. The 50/50 Management Standard can only be achieved if our groundwater resources are conserved in a manner that ensures adequate water resources will be available for future generations. While water conservation is a fundamental component of many of the District's programs, the following represent management objectives most focused on water conservation.

Management Objective 9.1

Continue and expand, when possible, the District's Groundwater Conservation Education Program. District staff will make presentations on the importance of water conservation to at least 5 civic organizations and in at least 30 educational settings. Annually, the District will award at least three college scholarships to students in the District based on participation in a water conservation essay competition. The District will maintain an Internet information page and launch an aggressive conservation education initiative called "Water Warriors", as well as work with other entities to present an ongoing Panhandle area water conservation symposium.

Performance Standard

9.1 A	Make at least 5 Civic Educational Presentations	Carson Co. Playa Festival (10/2/18), Potter/ Randall Co. Ag Day (10/17/18), Area Boy Scout Meeting at Camp Don Harrington (11/10/18), Shamrock 4-H After School Program (11/13/18), Austin Elementary Career Fair (11/16/18), Pampa Rotary Presentation (4/20/19), Rolling Hills Homeowners Association (5/20/19), White Deer Library Summer Reading (6/18/19)	Completed
9.1 B	Present Water Conservation Presentations in at least 30 Educational Settings	Presented 34 Educational Presentations (Education Spreadsheet)	Completed
9.1 C	Provide at least 2 Presentations Annually to a Public or Civic Group	Travis Middle Schol (3/29/18), Pampa Rotary (4/25/19)	Completed
9.1 D	Water Warrior Presentations to at Least 3 Educational Settings	Carson Co. Playa Festival (10/2/18), Potter/ Randall Co. Ag Day (10/17/18), Area Boy Scout at Camp Don Harringon (11/10/18), Shamrock 4-H After School Program (11/13/18), Carson Co. Ag Day (2/21/19)	Completed

Rainwater Harvesting

Rainwater harvesting is becoming an increasingly important strategy for meeting water supply needs, especially in the more rural areas of Texas. While rainwater harvesting is one of the many topics included in the District's water conservation education programs, the following management objective and performance standards are specifically focused on rainwater harvesting.

Management Objective 10.1

The District has established and maintains a rainwater harvesting system and provides educational tours to the public regarding the many benefits of the system. Tours of the District office rainwater harvesting system are provided upon request. A link to an informational page highlighting the rainwater harvesting system will be maintained and updated as necessary on the District's website. In addition, a link to the TWDB website on rainwater harvesting will also be maintained on the District's website.

Performance Standard

10.1 A	Webpage Highlighting the District's Rainwater Harvesting Rebate Program	www.pgcd.us/rainwater-harvesting	Completed
10.1 B	Provide a Link to TWDB's Rainwater Harvesting Webpage	www.pgcd.us/links	Completed

Since the Program's inception, PGCD's Rainwater Harvesting Rebate Program has funded three rainwater harvesting projects. In 2015, Hodges Farms, operated by David and Destan Hodges were the first to apply for the programs rebate. They installed two tanks totaling at just over 43,000 gallons of storage capacity. After seeing much success in 2015, the Hodges' applied for another tank in 2016.

Since 2016, Hodges Farms has captured over 800,000 gallons of rainwater, allowing them to continue their spray operations and give water to their livestock without pumping any groundwater. In addition to using rainwater, Hodges Farms strives to conserve groundwater by rotating crops and staying up-to-day with the latest developments in the agriculture industry.

Earlier this year, PGCD was proud to submit an application nominating Hodges Farm for the Blue Legacy Award at the State Capitol. Hodges Farm accepted the award from the Texas Water Development Board along with the Water Conservation Advisory Council in March during Texas Water Day in Austin.

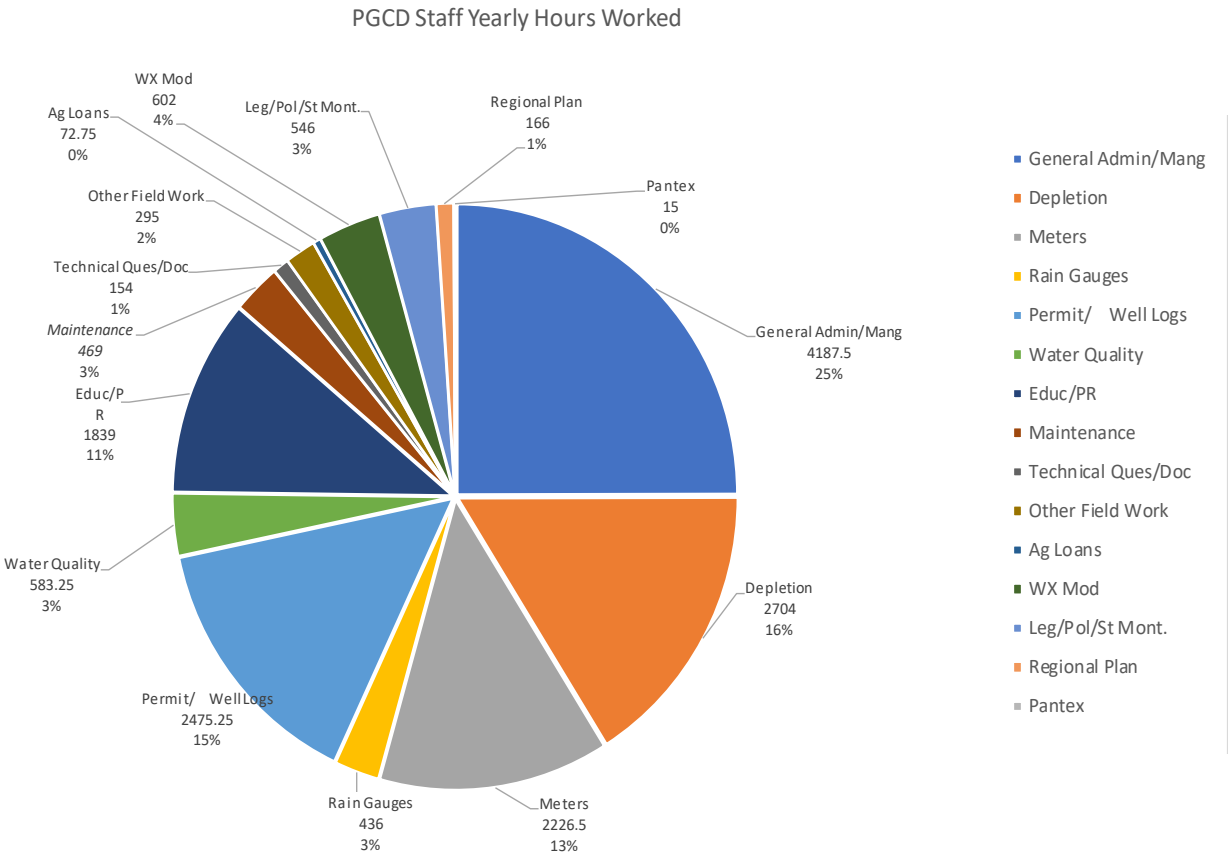
Hodges Farms accepting their Blue Legacy Award.

Hodges Farms pictured with one of their Rainwater Harvesting Tanks.

2018-2019 Expenditures

Accounting Fees	$	6,400.00	Payroll Expenses	$	500.00
Appraisal District Fees	$	31,904.27	Payroll Taxes	$	42,883.22
Board Expense	$	23,036.71	Postage	$	2,902.13
Capital Operating Improvements	$	32,097.15	Printing	$	7,123.43
Capitol Expense	$	-	Professional Services	$	111,894.35
Car Expense	$	23,508.80	Regional Planning	$	15,272.19
Contract Labor	$	-	Repairs & Maintenance	$	17,234.19
Dues	$	6,126.61	Retirement	$	31,430.07
Education/Information	$	34,166.43	Salaries	$	587,881.71
Field Equipment Assets	$	54.31	Scholarships	$	7,375.00
Field Supplies	$	6,879.52	Service Charges	$	675.55
Grant Fund	$	4,546.55	Tax Increment Payment	$	7,675.00
Insurance & Bonds	$	82,855.54	Special Studies	$	23,259.00
Janitorial	$	5,412.38	Travel & Training	$	21,363.24
Meters	$	121,232.28	Utilities	$	20,777.38
Miscellaneous	$	2,259.99	Water Quality	$	3,376.05
Office Supplies & Software	$	20,188.85	Weather Modification	$	111,635.49
Election Expenses	$	3,508.75	RWH Rebate	$	-
Total				$	1,417,466.64

Time Tracking



Permitting and Registration

It is important to remember that all water wells drilled to the water table MUST have a completed application, signed by the landowner, BEFORE it is drilled. This statement is made every year, but is important because without the application prior to drilling, a fine will be assessed to the driller and the landowner. It is as simple as giving the District a call before drilling. "Spacing and Placing" the Blue PGCD Logo Flag has worked out extremely well. There is no mistaking if that blue PGCD Logo Flag is on the location where the water well is to be drilled.

Currently, wells drilled pumping 17.5 gallons per minute or less, which are most commonly domestic and stock wells, is considered an exempt well and is required to be registered with the District prior to drilling. The GPS coordinate of an exempt well, being drilled on 10 acres or less is REQUIRED prior to drilling, and may require being spaced from property lines and other wells. Rig supply wells generally produce more than 17.5 gallons per minute, but they are defined as an exempt use in Chapter 36 of the Texas Water Code.

Any well that produces more than 17.5 gallons per minute must be permitted. This requires being spaced both from property lines and other water wells. Once the proposed well location meets these requirements and is approved by our field technicians, by placing a blue PGCD flag with the latitude, longitude, date spaced & initials, the well may be drilled at the landowner's risk. The application must be approved by the Board of Directors. The following is the total water wells permitted or registered with Panhandle Groundwater Conservation District for the 2018-2019 fiscal year and the four previous years. This year well applications totaled 270, which is down slightly from last year's total of 295.

Well Permits Approved

	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
Armstrong	3	8	2	2	2
Carson	13	20	11	18	17
Donley	7	8	8	13	11
Gray	7	12	8	10	13
Hutchinson	0	0	0	0	0
Potter	5	21	42	37	25
Roberts	1	2	2	4	2
Wheeler	9	9	14	13	9
Total	45	80	87	97	79

Observation & Monitoring Well Registrations Received

	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
Armstrong	0	0	0	0	0
Carson	8	31	15	4	0
Donley	0	0	0	0	0
Gray	0	1	0	0	0
Hutchinson	0	0	0	0	0
Potter	7	30	13	5	1
Roberts	0	0	0	0	0
Wheeler	4	4	4	4	0
Total	19	66	32	13	1

Domestic, Stock & Rig Supply Well Registrations Received

	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
Armstrong	22	28	10	11	10
Carson	22	33	13	6	5
Donley	37	22	20	21	41
Gray	32	19	21	15	17
Hutchinson	1	0	0	0	1
Potter	65	12	22	9	34
Roberts	5	12	7	10	19
Wheeler	22	23	32	22	27
Total	206	149	125	94	154

Operating Permits Approved

	2018-2019
Armstrong	4
Carson	60
Donley	80
Gray	35
Hutchinson	0
Potter	0
Roberts	2
Wheeler	22
Total	203

Year at a Glance

October 2018

10.3 Carson County Playa Lake Festival, Panhandle
10.5 Wheeler County Farm Bureau - Informational Rules Presentation, Wheeler
10.17-19 TWCA Fall Conference, San Antonio
10.23 GMA 1 Meeting, Amarillo

Carson County Playa Festival Attendees

November 2018

11.7 TWCA Committee Meeting, Austin
11.9 TWCA Committee Meeting, Austin
11.9 GMA1 Meeting, Amarillo
11.27-29 Amarillo Farm & Ranch Show
11.28-29 TWCA GW Commitee Meeting, Austin

December 2018

12.5-6 TWCA Board Meeting, Austin

January 2019

1.22 TAGD Meeting, Austin
1.23-25 TAGD Water for Texas, Austin

February 2019

2.20 PGCD Rules Informational Meeting, PGCD Office
2.21 Carson County Ag Day, Panhandle

March 2019

3.6-8 TWCA Annual Convention, Austin
3.13 Texas Water Day
3.22-23 TAGD Meeting, Austin
3.25-27 Legislative Meetings, Austin
3.28 GMA 1 Meeting, Amarillo

City of Amarillo accepting their Bluc Legacy Award at Texas Water Day

April 2019

4.15-16 Legislative Meetings, Austin

May 2019

5.7 Rain Maker Dinner, Austin
5.8 Legislative Meetings, Austin
5.13 Legislative Meetings, Austin
5.29 GMA 1 Manager's Meeting, Amarillo

PGCD Staff at Summer Library Education

June 2019

6.18 White Deer Library Presentation
6.19-21 TWCA Mid-Year Conference, Galveston
6.28 Regional Planning Meeting, Amarillo

July 2019

7.8 GMA 1 Conference Call

August 2019

8.6 GMA 1 Meeting, Amarillo
8.6 Symposium Planning Meeting, Amarillo
8.14 Texas 2036 Meeting, Austin
8.20-21 TAGD Summit, San Antonio
8.29 Texas Water Foundation Board Meeting, Austin

September 2019

9.10 Legislative Wrap Up Meeting, Lubbock

Legislators speaking over Ag, Water & Energy at the Legislative Wrap Up in Lubbock.

2019's Main Focus

Much of 2019 was focused on December 2018 District Rule Changes. PGCD Rules are written with our motto of "Conserving Water for Future Generations" in mind, while treating each operating equally. Below is an FAQ of those Rule Changes provided by the District.

PGCD Rule Changes FAQ

What are the reasons behind the proposed rule changes?

- The goal is to conserve water for future generations.
- Treat each operator the same.
- The former Depletion Rule contained confusing trigger mechanisms.

What is not changing?

- The Maximum Annual Volume of 1 acre-foot per contiguous acre per year, which has been in place since 2004. (PGCD Rules, Rule 4.2 (g))
- The Maximum Rate of Production of 2,880 GPM (gallons per minute) on any square mile (equivalent to 640 acres) contiguous acreage tract (CAT) or 4.5 GPM/acre for CATs containing less than 640 acres. This rule has also been in place since 2004. (PGCD Rules, Rule 4.2 (g))
- The spacing rules in Rule 8.1 will remain the same.
- The Drilling Permit process will remain the same, except drillers are now required to drill within 3 yards of drill location with the blue PGCD flag. (PGCD Rules, Rule 4.3)

What does 1 acre-foot of water mean?

- There are 325,851 gallons of water in 1 acre-foot. An acre-foot calculates to 12 inches of water over each contiguous acre.

What is an Operating Permit?

- An Operating Permit is required for all wells, new or existing, 2 inches or greater in pipe diameter and actively producing more than 17.5 GPM.
- An Operating Permit is made up of a CAT provided by the operator, which will be verified by District staff. Operators will also be required to list all wells and production associated with that tract.
- Multiple CATs will result in multiple Operating Permits. (PGCD Rules, Rule 4.2)

What does "contiguous" mean?

- Contiguous, as defined by PGCD, is land with or without production that shares a ¼ mile boundary or the ¼ mile wavier.

What is the ¼ mile waiver?

- Operators are allowed to waive the ¼ mile contiguous acre restriction one time per Operating Permit. The waiver states the operator can include up to 640 additional acres if the two properties share a common boundary. (PGCD Rules, Rule 4.2 (a) (2))

Who is required to obtain an Operating Permit?

- Any operator who owns or controls wells 2 inches or greater in pipe diameter actively producing more than 17.5 GPM. Operating Permits are required to produce groundwater beginning January 1, 2020. This means operators have 2019 to obtain their Operating Permit(s) from PGCD.

Who is responsible for ensuring meters are operational at all times?

- Operators are responsible for staying in compliance with District Meter Standards, meaning they are responsible to ensure meters are operating to manufacturer's specifications. Operators must notify the District within three working days on non-operational meters. A full copy of District Meter Standards can be found online at www.pgcd.us/metering. (PGCD Rules, Rule 4.4)

What are the requirements to obtain a Registration?

- Registrations are still required for all wells pumping less than 17.5 GPM and exempt wells. (PGCD Rules, Rule 5.1)

Staff Members & Job Titles

- C.E. Williams, General Manager
- Steve Shumate, Hydrogeologist
- Julie Bennett, Permitting Clerk
- Britney Britten, PR/Education
- Katie Hodges, Business Administrator
- Jake Robinson, Field Technician
- Kelly Lane, Field Technician
- Richard Dills, Field Technician

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