

# OKLAHOMA WATER NEWS

Bimonthly Newsletter of the Oklahoma Water Resources Board

## Board Revokes OKC Firm's Drilling License in Rare Action

At the February 9 meeting, members of the Oklahoma Water Resources Board voted to revoke the well drilling license of General Minerals Corporation and the operator certificate of its president, Kris K. Agrawal of Oklahoma City.

The Board noted more than 50 violations of Oklahoma well drilling regulations by Agrawal as a drilling contractor and by his firm, General Minerals. Most of the activities under scrutiny by the OWRB centered around 26 monitoring wells drilled in 1991-1992 at sites in Ardmore, Checotah, Oklahoma City, Apache and Medford.

Agrawal, an environmental engineer, had been certified previously by the Water Resources Board and was responsible for overseeing the drilling operations of the company and keeping the firm in compliance with the OWRB rules and the terms of its license. The Water Resources Board requires all drillers of water wells, monitoring wells, observation wells, heat exchange wells and geotechnical borings to be examined and licensed by the Board. In order to retain their licenses, drillers must comply with OWRB rules.

According to OWRB hydrologist Gary Glover, who oversees the licensure program, the monitoring wells constructed by Agrawal's firm did not meet minimum construction standards. Glover said the wells lacked surface seals and annular seals,

lacked gravel pack, and some were constructed without the cement surface pad required by Board regulations. The minimum well construction standards are enforced to protect Oklahoma's groundwater basins from pollution and to insure that samples taken from monitoring wells are rep-

resentative of groundwater quality.

The Board found that Agrawal had also violated regulations by making intentional misrepresentations on multipurpose completion reports he filed with the Board. The Board requires these reports to accurately describe how the monitoring wells had been constructed. Drillers are required to file these reports with the Water Resources Board within 30 days of completion of wells regulated by the Board.

## Playa Proposal Presented, Withdrawn

An application by the Oklahoma Department of Wildlife Conservation for a permit to use 20 acre-feet of groundwater to develop a playa lake and wildlife habitat in Cimarron County brought fire from citizens of the three Panhandle Counties at the January 8 Board meeting.

After considering the application, Board members remanded the application to staff with instructions to prepare findings of fact, conclusions of law and a proposed order recommending denial of the permit. Although the motion for denial had been prepared to come for reconsideration at the February meeting of the Water Board, the ODWC asked that the application be withdrawn from the agenda.

In the letter requesting withdrawal of the application for pumping groundwater into the Cimarron County playa, ODWC Director Steve Lewis said the playa would be constructed to receive only runoff surface water.

In the original application, the Wildlife Department had asked for water to irrigate 80 acres of grain and partially fill a 30-acre playa basin for wildlife habitat. The proposed Cimarron County playa is part of the Playa Lakes Joint Venture sponsored by five states, Canada and Mexico, and underwritten by Phillips Petroleum. The 160-acre tract on which the playa lies is owned by the ODWC. It lies northwest of Boise City, on the Central Flyway for migrating ducks and geese.

Citizens of the Panhandle contended that the water pumped from the Ogallala Aquifer is too precious to use in the creation of artificial wetlands. They believed it would be better used for municipal and industrial water supplies and irrigation in the arid region that gets 11-12 inches of annual precipitation. Landowners said the birds forage on farmers' grain crops and create a nuisance.

*Continued on page 3*

# mainstream

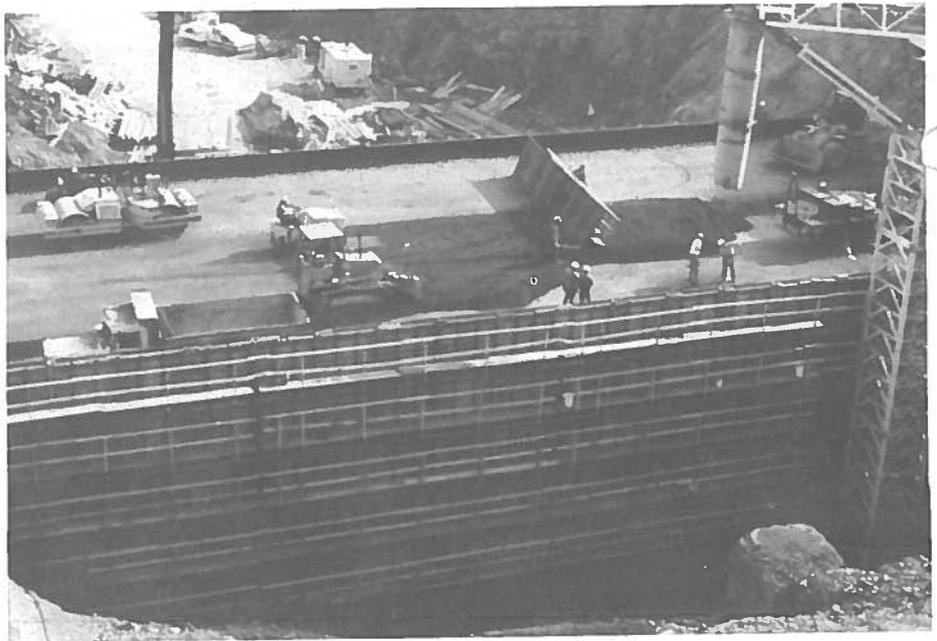
## Well Inspections Begin

Gary Glover, who oversees the OWRB well driller/pump contractor licensing program, announced the beginning of a well inspection program in February. Glover said over the next 11 months, staff will inspect more than 200 water wells throughout the state to assure they meet minimum well construction standards spelled out in the OWRB Rules and Regulations.

Staff will also visit 100 or more drilling/pump contracting firms to discuss new regulations and answer questions. As part of the effort to assist drillers and pump contractors, Glover said the OWRB is planning training and education seminars to be held later this year at Clinton, Muskogee and Oklahoma City.

## Dam Safety Seminar Mar. 4-5

The OWRB invites dam owners, operators, engineers and others interested in dam safety to attend the Dam Safety Seminar at Lake Murray Country Inn (formerly Lodge) March 4 and 5. The training course is sponsored by the Water Resources Board, Association of State Dam Safety Officials and the Federal Emergency Management Agency.



A new dam is currently under construction to replace the old Elmer Thomas Dam in the Wichita Mountains Wildlife Refuge near Lawton. The new dam will be the first roller compacted concrete (RCC) dam in Oklahoma. It will be constructed of 109 one-foot lifts of RCC with a conventional concrete lift to cap the dam at 113 feet. According to OWRB Chief Engineer Harold Springer, RCC dams are less expensive than conventional concrete dams and can be constructed faster. Lake Elmer Thomas, owned by the U.S. Fish and Wildlife Service, was drained several years ago when the dam developed a leak.

Conventional concrete will also be used to form the facing on the upstream and downstream surfaces and at the interfaces of the dam with the rock abutments. A 20-foot road surface will be provided across the top of the finished dam.

In the photo, a concrete batch plant out of view provides concrete to the tower and chute by conveyor belt. The dark material being spread is the "green" RCC.

Registration begins at 11:30 a.m. on March 4 and costs \$25. Rooms are available for \$35 and may be reserved by calling the Country Inn at 1-800-654-8240. For additional information,

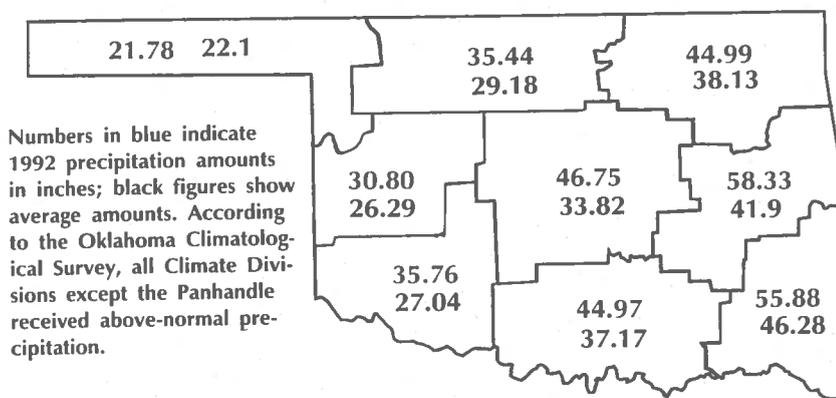
call Cecil Bearden or Ing Yang at the Water Resources Board, (405) 231-2536.

## Branson's Water in Jeopardy

When Branson, Missouri, bloomed into a country music mecca, it caused a developmental nightmare in the Ozarks. In addition to concern over narrow roads and a big-city crime rate, the burgeoning entertainment center is worried about endangering its underground drinking water supply. The run-away development has not been accompanied by updated septic codes and water supply planning, said "U.S. Water News."

The Ozark area is characterized by karst groundwater formations that are especially susceptible to contamination from the surface. One of the troubles is that no state law regulates on-site wastewater systems, so only county codes apply. The entire Ozark region relies on private and municipi-

## Panhandle Precip Low; Others Above Norm



Numbers in blue indicate 1992 precipitation amounts in inches; black figures show average amounts. According to the Oklahoma Climatological Survey, all Climate Divisions except the Panhandle received above-normal precipitation.

AVERAGE ANNUAL PRECIPITATION—1992

pal wells for drinking water, so undersized, corroded and poorly serviced septic systems have the potential of contaminating drinking water over a vast area.

The Missouri Department of Natural Resources has drafted an environmental plan, but the bottom line is that local citizens must take the lead, with state officials taking only an advisory/technical role. The Department has encouraged local citizens and communities to develop a plan that will let them enjoy the benefits of development without suffering further degradation of their environment.

### Globe's Fresh Water Declining

With human usage of water 35 times greater than it was just 30 years ago, the war for fresh water is being lost, according to the World Resources Institute. The Institute projects water use to stabilize and possibly decline in industrialized nations, but escalate in third-world nations. Fresh water supplies are falling behind demand in northern China, and shortages could reach critical proportions in the Middle East by the end of the decade. Total annual world water use is estimated at 4,000 cubic kilometers, about double usage in 1950. The World Resources Institute estimates 66 percent of the water is used for agriculture; 25 percent for industry and the remainder for domestic purposes. Water for agriculture is expected to increase slightly, but usage by industry is projected to double by the end of the century.

Sewage treatment, taken for granted in the U.S., is available in only 72 percent of European households and 33 percent of Mediterranean households. Half of the world's people live without wastewater treatment of any kind.

### Contest Winners Announced

The Oklahoma Alliance for Geographic Education (OKAGE) recently announced winners in a Water Awareness Week poster contest. Winners in each category will receive cash and other prizes, and their poster designs will be printed on

McDonald's placemats during Water Awareness Week March 1-6.

First place winner in Grades K-3 was David Thomas, 2nd grade, Hilldale Elementary School, Putnam City; in Grades 4-6, John Cross, 6th Grade, Fletcher Elementary School, Fletcher; in Grades 7-9, Morgan B. Deering, 8th grade, Yale High School, Yale; in Grades 10-12, Andy Ridge, a senior at Haworth High School, Haworth.

### Canadian Compact to Meet

Commissioners representing Texas, New Mexico and Oklahoma will meet in Oklahoma City at 1 p.m. on March 22 at the offices of the Water Resources Board. Oklahoma Commissioner is Lewis Kamas of Freedom. Also attending the meeting will be OWRB Executive Director Patty Eaton, Legal Counsel Dean Couch and Chief Engineer Harold Springer.

Oklahoma, Texas and New Mexico continue to work toward settlement of a lawsuit filed in the U.S. Supreme Court in 1987 concerning New Mexico's enlargement of Ute Dam on the Canadian River near Tucumcari in 1984.

### Playa, continued from page 1

Attorney Charles Huddleston, who represented the Oklahoma Farm Bureau and citizen protestants, said that the OWRB had never made a determination that the artificial creation and maintenance of wetlands is a beneficial use of water. He contended that water used for wildlife habitat was not a reasonable beneficial use.

"What is reasonable and beneficial use depends on facts and circumstances in each case," Huddleston said. "What may be a reasonable beneficial use in a case where water is present in excess of all needs would not be a reasonable beneficial use in an area of great scarcity and of great need. What is a beneficial use at one time may be, because of changed conditions, a waste of water at another time," Huddleston declared.

Huddleston urged Board members to find that the use of water to enhance wildlife habitat was not a beneficial use.

Neal Leader, assistant attorney general, represented ODWC interests at the January meeting of the OWRB. Leader pointed out that migratory bird populations are declining because habitat is lost to growing human populations and agriculture.

Hydrologist Eldon Beard, seated, and others of the National Weather Service in Norman conducted a tour of the facility for OWRB visitors on January 29. The Norman Forecast Center has responsibility for weather information for western, central and a small portion of southwest Oklahoma. Beard explained that state-of-the-art radar is so sensitive it can detect objects as small as a bee at 60 miles and "see" thunderstorms as far away as Kansas City, but 124 nautical miles is a practical limitation for accuracy. OWRB visitors shown are Ing Yang, Mary Whitlow, Terri Sparks and Harold Springer.



# FAP NEWS

## AN UPDATE ON THE OWRB FINANCIAL ASSISTANCE PROGRAM

### FAP Sets Records in 1992

On July 14, the Board approved a resolution authorizing the issuance of \$50 million in revenue bonds to provide new loan funds to the OWRB Financial Assistance Program.

The bond package proposed by the Board was awarded a AA rating by Standard and Poor's bond rating firm. Walid Maher, chief of the FAP Division, said the OWRB "blind pool" bond issue is the first in the nation to get a AA stand-alone bond rating, a rating that relieves the Board of \$800,000 to \$1 million in insurance costs. "Blind pool" means that investors purchase bonds without knowing the identity of communities participating in the loan program.

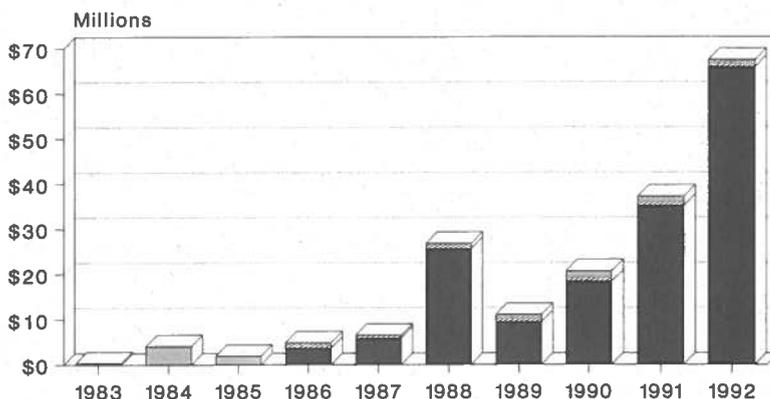
Board chairman Robert S. Kerr, Jr., attributed the high rating by S&P's to the integrity of the OWRB's approval, monitoring and loan-servicing process which has remained constant.

Another "first" was achieved by the FAP on December 16, when staff participated in closing six loans totaling \$10,135,000. According to Maher, it was a record number of closings for the Division on a single day.

The FAP makes loans available to qualified entities for water and sewer

improvements and emergency grants to troubled cities, towns and rural water districts. The program was enabled by a series of laws and a \$25 million appropriation to the Statewide Water Development Revolving Fund by the Oklahoma Legislature. The Loan monies are generated through bond sale proceeds; grant funds are derived from interest earned on the Statewide Water Development Revolving Fund.

### FAP Grants and Loans Approved\*



\* Calendar Year Totals      ■ Loans      ■ Grants



This is the staff of the Financial Assistance Division that make the Board's program so successful. Left to right: Reese Daugherty, engineer; Joe Freeman, financial analyst supervisor; Walid Maher, division chief; Jack Smid and Tim Smith, financial analysts. Seated left Brenda Maxey, financial analyst and Shelly Bacon, division secretary. Not shown is engineer Nader Sous.

#### HISTORY OF FAP VARIABLE INTEREST RATES

ISSUE	PERIOD	DATE	RATE %
1986-A	1	9/1/86-3/1/87	5.525
	2	3/1/87-9/1/87	4.676
	3	9/1/87-3/1/88	5.476
	4	3/1/88-9/1/88	5.522
	5	9/1/88-3/1/89	6.726
	6	3/1/89-9/1/89	7.776
	7	9/1/89-3/1/90	6.926
	8	3/1/90-9/1/90	6.476
	9	9/1/90-3/1/91	6.776
	10	3/1/91-9/1/91	5.076
	11	9/1/91-3/1/92	5.476
	12	3/1/92-9/1/92	3.776
	13	9/1/92-3/1/93	3.776
<b>AVERAGE</b>			<b>5.691</b>
1989	1	9/1/89-3/1/90	6.742
	2	3/1/90-9/1/90	6.292
	3	9/1/90-3/1/91	5.592
	4	3/1/91-9/1/91	4.892
	5	9/1/91-3/1/92	5.962
	6	3/1/92-9/1/92	3.592
	7	9/1/92-3/1/93	3.572
<b>AVERAGE</b>			<b>5.285</b>
1992	1	10/1/92-4/1/93	3.572
<b>PROGRAM AVERAGE</b>			<b>5.641</b>

Continued from page 2

By mid-February 1993, the Board had approved 114 loans totaling \$123.3 million; nine SRF loans totaling \$47.3 million; and 288 grants for \$16.9 million.

The program will continue to grow with the July 1, 1993, transfer of all functions, funds and personnel of the Wastewater Facility Construction Revolving Loan Program (SRF) from the State Health Department to the OWRB. All project prioritization for funding, formerly a task of the State Department of Health, will be transferred to the OWRB.

At that time, the Water Resources Board will house the state's only financial assistance program specifically for the purpose of providing loans and grants to qualified entities for the construction, renovation and replacement of water supply and water and wastewater infrastructure.

## Success Stories Abound in FAP

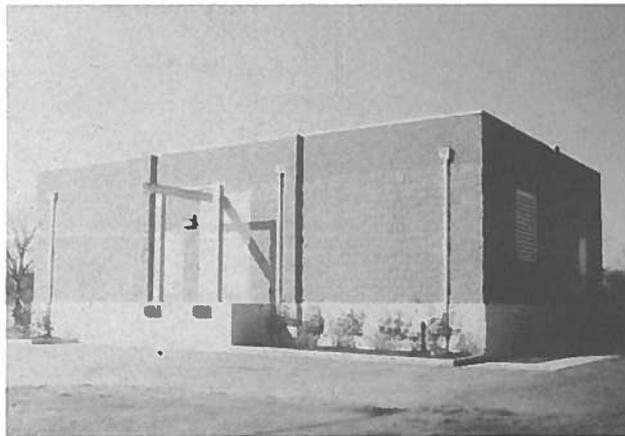
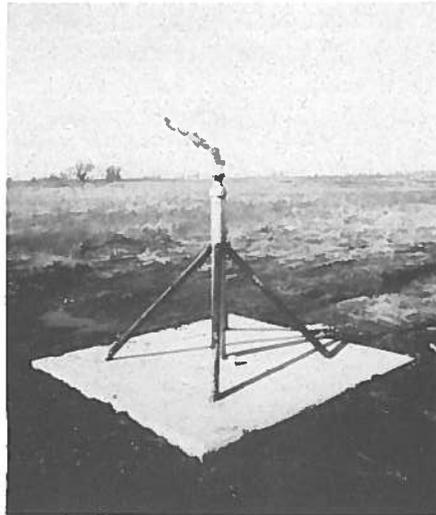
Loans and grants awarded to Oklahoma's communities through the Financial Assistance Program have funded a great variety of water and wastewater projects. The statewide Water Development Revolving Fund, the backbone of the program, has assisted hundreds of communities in developing reliable water supplies from surface and groundwater sources; constructing water storage facilities and water lines; building sewage collection systems; and improving water and sewage treatment facilities.

According to Engineer Reese Daugherty of the FAP Division, one of the most energetic projects underwritten by the program was that of the City of Arapaho. The city purchased a used 100,000 gallon elevated steel storage tank, dismantled it at its previous location, transported it eight miles by truck to Arapaho and reconstructed it to enhance the city's water supply and fire protection capability. The OWRB Financial Assistance Program provided the project a \$42,000 grant and a \$130,000 loan.

A \$100,000 OWRB grant and a \$520,000 loan assisted the City of Elgin in installing a land application sewage disposal system.

Other loans and grants from the Board's successful program constructed a water conveyance system that delivers raw water from Skiatook

One of 24 fixed-nozzle sprinklers that are components of Elgin's land application sewage disposal system.



This 30 MGD booster pump station at Sand Springs is part of a system that will deliver water to Sand Springs from Skiatook Lake.

Lake to water treatment plants in Sand Springs and Sapulpa. The Board assisted with loans of \$11.4 million to the Sand Springs Municipal Authority and \$7.2 million to the Sapulpa Municipal Authority.

Another FAP "success story" is that of Rural Water District #4 in Rogers County, says Division Chief Walid Maher. The district will be able to expand the capacity of its water treatment plant to meet the demands of the fast-growing service area. A \$600,000 loan from the FAP will make the improvements possible.

In December, the Board approved an emergency grant to assist Creek County RWD #10 replace a water well endangered by contamination from a nearby septic field.

"The program was specifically designed so that rural communities could avoid having to issue bonds on their own and be able to secure long-term financing which is exempt from federal and state taxes. Many of these communities can't get the rating necessary to market bonds," Maher pointed out.

### FINANCIAL ASSISTANCE PROGRAM UPDATE Approved at January and February Board Meetings

#### Grants

(Due to lack of funds, no grants were approved in January and February)

#### Loans

(3.572%; 30-year maximum term)

Rogers Co. RWD #4	\$600,000
Guymon UA	3,185,000
Cheyenne UA	3,850,000
Duncan PWA	1,830,000

#### Totals as of 2/9/93

	FAP Loans	FAP Grants	SRF Loans
Approved	114	288	9
Amount	\$123,120,000	\$16,930,604	\$47,350,079.67
Funded	102	264	8
Amount	\$106,125,000	\$15,473,545.37	\$46,550,079.67

**STORAGE IN SELECTED OKLAHOMA LAKES & RESERVOIRS  
AS OF FEBRUARY 8, 1993**

PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (acre-feet)	PRESENT STORAGE (acre-feet)	PERCENT OF STORAGE		PLANNING REGION LAKE/RESERVOIR	CONSERVATION STORAGE (acre-feet)	PRESENT STORAGE (acre-feet)	PERCENT OF STORAGE	
			conservation	flood				conservation	flood
<b>SOUTHEAST</b>					<b>EAST CENTRAL</b>				
Atoka	124,100	121,731	98.1	N/A	Eufaula	2,314,600	2,314,600	100.0	10.4
Broken Bow	918,070	917,078	99.9	0.0	Tenkiller	654,100	654,100	100.0	9.9
Hugo <sup>1</sup>	187,603	187,603	100.0	0.4	Wister <sup>1</sup>	58,601	58,601	100.0	0.4
McGee Creek	113,930	113,930	100.0	1.1	<b>NORTHEAST</b>				
Pine Creek <sup>1</sup>	73,346	73,346	100.0	0.9	Birch	19,200	19,200	100.0	0.5
Sardis	274,330	274,330	100.0	0.6	Copan	43,400	43,400	100.0	0.4
<b>CENTRAL</b>					Eucha	79,600	79,600	100.0	N/A
Arcadia	27,520	27,520	100.0	0.8	Fort Gibson	365,200	365,200	100.0	0.6
Hefner	75,400	75,400	100.0	N/A	Grand	1,672,000	1,664,180	99.5	0.0
Overholser	15,900	14,634	92.0	N/A	Heyburn	7,105	7,105	100.0	1.1
Stanley Draper	100,000	90,775	90.8	N/A	Hudson	200,300	200,300	100.0	0.8
Thunderbird	119,690	119,600	100.0	0.9	Hulah	31,160	31,160	100.0	1.6
<b>SOUTH CENTRAL</b>					Oologah	553,400	553,400	100.0	8.7
Arbuckle	72,400	72,400	100.0	1.9	Skiatook	322,700	322,700	100.0	0.8
Texoma <sup>1</sup>	2,740,000	2,643,300	96.5	2.1	Spavinaw	30,590	30,590	100.0	N/A
Waurika	203,100	203,100	100.0	1.2	<b>NORTH CENTRAL</b>				
<b>SOUTHWEST</b>					Kaw	428,600	428,600	100.0	15.0
Altus	132,830	129,561	97.5	0.0	Keystone	557,600	557,600	100.0	11.8
Ellsworth	72,490	59,470	82.0	N/A	<b>NORTHWEST</b>				
Fort Cobb	80,010	80,010	100.0	0.3	Canton	111,310	89,109	80.1	0.0
Foss	178,410	174,736	97.9	0.0	Fort Supply	13,900	13,900	100.0	0.1
Lawtonka	58,327	57,944	99.3	N/A	Great Salt Plains	31,420	31,420	100.0	3.6
Tom Steed	88,970	88,406	99.4	0.0	<b>STATE TOTALS</b>	<b>13,151,122</b>	<b>12,989,639</b>	<b>98.8</b>	<b>2.4</b>

<sup>1</sup>Seasonal pool operation

N/A -- not applicable; no flood storage allocation.

Data courtesy of the U.S. Army Corps of Engineers, Bureau of Reclamation, Oklahoma City Water Resources Department, City of Tulsa Water Superintendent's Office and City of Lawton.

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