

SOURCES OF PIMA COUNTY WATER QUALITY DATA

Prepared by

Pima Association of Governments

November 1996



Pima Association of Governments

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November 1996

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ACKNOWLEDGEMENTS

PAG appreciates the help of the following people who provided much of the information that is included in this document: Stuart Schillinger at Tucson Water; Nancy Ward and Karen Van Rijn with the City of Tucson Office of Environmental Management; John Schieffer at Pima County Wastewater Management Department; Susan Hess at Pima County Solid Waste Management; Byron McMillan at Pima County Department of Environmental Quality; Julia Fonseca at Pima County Flood Control District; Claire Logue, with Pima County Technical Services; Mike Block and Theresa Lutz with Metro Water District; Mary Simmerer, Lin Lawson, Patti Spindler, Marianne Gilbert and Steve Callaway at the Arizona Department of Environmental Quality; Jeff Tannler at the Arizona Department of Water Resources; Marc Dahlberg at Arizona Game and Fish; Steve Richard with the Arizona Geological Survey; and Chris Smith at the United States Geological Survey.

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SOURCES OF PIMA COUNTY WATER QUALITY DATA

I. INTRODUCTION

Numerous government agencies collect water quality data in Pima County. Because water quality sampling and analysis can be expensive, it is preferable, from a regional perspective, for organizations to share and exchange data whenever possible, instead of duplicating each other's sampling efforts. Also, historical water quality data are sometimes needed by organizations or individuals that did not collect the data. As a result, government agencies frequently receive data requests from private companies, research organizations, university students, local residents, and other government agencies. Responding to these requests can be time-consuming for agencies with large amounts of data, or with data sets which are not easily accessed. People requesting data can also find the process frustrating because they may not know where to find the data they need, and when they do find it, it is often in a format which they cannot use.

It might seem that a common electronic database should be developed which would allow all agencies with water quality data to be linked, and allow all interested parties to have access to the same data. However, there are several obstacles to developing such a database. Water quality data are collected for various reasons, including compliance with different public health and environmental regulations. Consequently, agencies collect different types of water samples (e.g., groundwater, drinking water, wastewater, or surface water), at different frequencies, and for different types of analyses. This makes it difficult to merge the data into a single database. Another obstacle is that agencies store their water quality data in different ways: as paper files of analytical laboratory reports; in spreadsheets such as Lotus, Excel, or QuattroPro; and in database programs such as DBase or Paradox. In addition, even if the same computer program is used, the databases (or spreadsheets) are usually structured differently.

For these reasons, inter-agency linkage of water quality databases is not practical at this time. Instead, it has been suggested that a directory of water quality data sources be developed, so that government agencies, private companies, and the general public can determine who has which types of water quality data, and in what formats. PAG has prepared this document to address this need. If there is sufficient local interest, this document could be updated on a regular basis.

II. DATA SOURCE MATRIX

The following matrix summarizes the water quality data and related hydrologic data available for Pima County. The matrix is based on information that PAG obtained by mailing a questionnaire to various organizations, by conducting telephone interviews, and by browsing the Internet. This matrix is only a summary; the information is presented in more detail in the following section of this report, along with brief descriptions of the agencies that collect water quality data.

EASTERN PIMA COUNTY WATER QUALITY DATA SOURCES

ORGANIZATION	CONTACT	WATER TYPE ⁽¹⁾	DATA TYPE ⁽²⁾	# OF SAMPLE PTS	AREA COVERED	DATE RANGE	OUTPUT FORMAT(S)
Tucson Water - Water Quality	Stuart Schillinger (520) 791-5256x201 Fax 791-5260	D,G,C, R	MI, TM, VOC, SOC, PEST, MB, RAD, NUT	-700	Metro Tucson and eastern Pima County	mid 1980s - 1996	hardcopy
Tucson Water - Research and Technical Services	Bruce Johnson 791-2689 x414	G	PAR, WC, WL, Q	>100	Metro Tucson and eastern Pima County		
City of Tucson Office of Environmental Management (OEM)	Karen Van Rijn 791-5414	G	MI, TM, VOC, SOC, NUT, PAR, WL, WC, RAD, PEST, OTH	100	Properties owned by the City of Tucson	1984 to present	hardcopy, ASCII
Pima County Wastewater Management	John H. Schieffer (520) 740-6556 Fax 620-0135	G	MI, TM, VOC, NUT, WL, PAR	22	Areas near WWTFs and the Santa Cruz River	1986 - 1996	DBF, ASCII, hardcopy
Pima County Solid Waste Management	Dave Eaker (520) 740-6650 Fax (520) 628-7963	G	MI, VOC, TM, NUT, PAR, WC, WL, Q	61	7 landfills in eastern Pima County	1987 - 1996	hardcopy
Pima County Department of Environmental Quality (PDEQ)	<i>Most PDEQ data are available from EPA or ADEQ</i>						
Pima County Flood Control District - ALERT Flood Warning System	Andrew Wigg (520) 740-6350 Fax 740-6749	S	Q, OTH	24	eastern Pima County	1983 - 1996	ASCII

⁽¹⁾ G = GROUNDWATER; S = SURFACE WATER; C = CAP WATER; D = DRINKING WATER; W = WASTEWATER/TREATED EFFLUENT; R = RECLAIMED WATER

⁽²⁾ MI = MAJOR INORGANICS; TM = TRACE METALS; VOC = VOLATILE ORGANIC COMPOUNDS; SOC = SYNTHETIC ORGANIC COMPOUNDS; PEST = PESTICIDES; RAD = RADIONUCLIDES; NUT = NUTRIENTS; PAR = PHYSICAL PARAMETERS; MB = MICROBIOLOGICAL; WC = WELL CONSTRUCTION; WL = WATER LEVELS; Q = FLOW RATES; OTH = OTHER (see next section)

NOTE: Data types, frequency of sampling, and date range typically vary between sample points; values listed in the matrix represent the combined maximum.

ORGANIZATION	CONTACT	WATER TYPE ⁽¹⁾	DATA TYPE ⁽²⁾	# OF SAMPLE PTS	AREA COVERED	DATE RANGE	OUTPUT FORMAT(S)
Pima County Technical Services GIS Data Sets	Claire Logue (520) 740-6670 Fax 798-3429	N/A	OTH		eastern Pima County		hardcopy, DWG, ArcInfo Export
Pima Association of Governments	Greg Hess (520) 792-1093 Fax 620-6981	G,C	MI, TM, VOC, SOC, PEST, NUT, PAR, WC, WL, OTH	~ 1800	Pima County	pre 1970 - 1996	hardcopy
Metropolitan Domestic Water Improvement District (Metro Water District)	Michael Block or Theresa Lutz (520) 575-8100 Fax 575-8454	G,D	MI, NUT, PAR, TM, VOC, SOC, PEST, RAD, MB, WL, WC, Q, OTH	36	Northwest Tucson metro area	1990 - 1996	ASCII, QuattroPro, DWG, hardcopy
Arizona Department of Environmental Quality (ADEQ) - Safe Drinking Water	Mary Simmerer (602) 207-4644 Fax (602) 207-4634	D	MI, TM, VOC, SOC, MB, RAD,	2700	Statewide	1990 - 1996	hardcopy, ASCII
ADEQ - Hydrologic Analysis - Groundwater Database	Marianne Gilbert (602) 207-4563 Fax (602) 207-4528	G	MI, TM, VOC, SOC, MB, RAD, NUT, PAR	>50,000	Statewide	1988 - 1996	hardcopy
ADEQ - Biocriteria Program	Patti Spindler or Richard Meyerhoff (602) 207-4543 Fax (602) 207-4528	S	MI, TM, NUT, PAR, Q, OTH	150	Statewide	1992 - 1996	hardcopy, ASCII, QuattroPro
ADEQ - Fixed Station Network Surface Water Database	Lin Lawson (520) 628-6739 Fax 628-6745	S,W	MI, TM, NUT, PAR, MB, Q	37	Statewide	1986 - 1996	ASCII

⁽¹⁾ G = GROUNDWATER; S = SURFACE WATER; C = CAP WATER; D = DRINKING WATER; W = WASTEWATER/TREATED EFFLUENT; R = RECLAIMED WATER

⁽²⁾ MI = MAJOR INORGANICS; TM = TRACE METALS; VOC = VOLATILE ORGANIC COMPOUNDS; SOC = SYNTHETIC ORGANIC COMPOUNDS; PEST = PESTICIDES; RAD = RADIONUCLIDES; NUT = NUTRIENTS; PAR = PHYSICAL PARAMETERS; MB = MICROBIOLOGICAL; WC = WELL CONSTRUCTION; WL = WATER LEVELS; Q = FLOW RATES; OTH = OTHER (see next section)

NOTE: Data types, frequency of sampling, and date range typically vary between sample points; values listed in the matrix represent the combined maximum.

ORGANIZATION	CONTACT	WATER TYPE ⁽¹⁾	DATA TYPE ⁽²⁾	# OF SAMPLE PTS	AREA COVERED	DATE RANGE	OUTPUT FORMAT(S)
Arizona Department of Water Resources (ADWR) - GWSI	Jeff Tannler (520) 770-3800 Fax 628-6759	G	PAR, WC, WL	-20,000	Statewide	~1930 - 1995	Hardcopy, ASCII, QuattroPro, DBF
Arizona Geological Survey	Tom McGarvin (520) 770-3500 Fax 770-3505	G	OTH	2,000 - 3,000	Statewide	pre 1980s	DBF, ASCII, hardcopy
Arizona Game and Fish Department	Marc Dahlberg (602) 942-3000 Fax (602) 789-3920	S	MI, TM, NUT, PAR	50 - 100	Statewide	1980 to 1996	Hardcopy
United States Geological Survey (USGS)	Cheryl Partin (602) 379-3087 x237 Fax (602) 379-3138	G,S,W, C	MI, TM, VOC, PEST, MB, RAD, NUT, PAR, WC, WL, Q	>100	Statewide	Historical to current	Hardcopy, ASCII
U. S. Environmental Protection Agency (EPA) - STORET	1-800-424-9067	G, W	see text	>800,000	Nationwide	early 1960s to 1996	DBF, hardcopy

⁽¹⁾ G = GROUNDWATER; S = SURFACE WATER; C = CAP WATER; D = DRINKING WATER; W = WASTEWATER/TREATED EFFLUENT; R = RECLAIMED WATER

⁽²⁾ MI = MAJOR INORGANICS; TM = TRACE METALS; VOC = VOLATILE ORGANIC COMPOUNDS; SOC = SYNTHETIC ORGANIC COMPOUNDS; PEST = PESTICIDES; RAD = RADIONUCLIDES; NUT = NUTRIENTS; PAR = PHYSICAL PARAMETERS; MB = MICROBIOLOGICAL; WC = WELL CONSTRUCTION; WL = WATER LEVELS; Q = FLOW RATES; OTH = OTHER (see next section)

NOTE: Data types, frequency of sampling, and date range typically vary between sample points; values listed in the matrix represent the combined maximum.

III. AGENCIES WITH WATER QUALITY DATA FOR PIMA COUNTY

TUCSON WATER

Tucson Water Department
P. O. Box 27210
Tucson, AZ 85726-7210
(520) 791-2666
Fax (520) 791-3293

The City of Tucson Water Department is the major water service provider for the Tucson metropolitan area. Tucson Water serves more than 550,000 people, or 85% of municipal and industrial users in the Tucson metropolitan area. Tucson Water activities include water service provision, water supply planning, engineering, and public education (PAG, 1994). Tucson Water, like all drinking water suppliers, is responsible for water quality monitoring and compliance under the Safe Drinking Water Act, and much of the water quality data that Tucson Water has collected has been for Safe Drinking Water Act compliance. Tucson Water has also participated in various projects related to monitoring and remediating groundwater contamination in the Tucson basin. As a result, Tucson Water's water quality database includes extensive data from monitor wells. Tucson Water's water supply planning efforts include artificial recharge projects, underground storage and recovery projects, and effluent reuse programs. Additional water quality data has been collected as part of these efforts, both for research and planning purposes, as well as for permit compliance.

Tucson Water provided the following information for this data directory:

Database: Water quality database

Contact: Stuart Schillinger

Telephone: (520) 791-5256 ext. 201

Fax: (520) 791-5260

Data storage: IBM mainframe, VSAM format

Available output formats: hardcopy

Water types: groundwater, drinking water, CAP water, reclaimed water

Sample points: approximately 700

Date range: mid 1980s - present

Sampling frequency: variable

Area of coverage: Metropolitan Tucson area and eastern Pima County

Data types: major inorganics, trace metals, VOCs, SOCs, pesticides, microbiological, radionuclides, nutrients*

A data request form is included in Appendix A.

Tucson Water will be converting to a Laboratory Information Management System (LIMS) program in the spring of 1997. This will be a fully relational system that will make a variety of output formats available.

*For physical parameters, well construction, water levels, flow rates and related information, Bruce Johnson in Research and Technical Services should be contacted at 791-2689 ext 414.

CITY OF TUCSON OFFICE OF ENVIRONMENTAL MANAGEMENT

Office of the City Manager
Office of Environmental Management
P. O. Box 27210
Tucson, AZ 85726-7210
(520) 791-5414
Fax (520) 791-5417

The City of Tucson's Office of Environmental Management (OEM) is responsible for the removal and replacement of all City-owned underground storage tanks (USTs) in conjunction with the investigation and remediation of leaking underground storage tanks (LUSTs). Other responsibilities include soil and groundwater investigation and remediation of City-owned properties and City landfills. OEM is responsible for the investigation of dross within the Olive Grove Neighborhood, and provides technical support for the Tucson Airport Soils Remedial Investigation/Feasibility Study, and Pioneer Paints property remediation. OEM manages the majority of the Environmental Site Assessments for City property acquisition as requested by the Environmental Review Committee. OEM also conducts groundwater sampling at various City landfills. OEM uses the Tucson Water Mainframe Database for storing groundwater quality data. Requests for water quality data at Landfill Remediation Sites within the City may be directed to OEM.

The information available from OEM is summarized below.

Contact: Karen Van Rijn

Telephone: (520) 791-5414

Fax: (520) 791-5417

Data storage: hardcopy on file at OEM; also on City of Tucson mainframe database

Available output formats: hardcopy, ASCII

Water types: groundwater

Number of sample points: 100

Date range: 1984 to present

Sampling frequency: variable, mostly quarterly or semiannually

Area of coverage: City of Tucson-owned properties

Data types: major inorganics, trace metals, VOCs, SOCs, nutrients, physical parameters, WL, WC, radionuclides, pesticides, Phase I site assessments,

PIMA COUNTY WASTEWATER MANAGEMENT

Pima County Wastewater Management
201 N. Stone Ave., 8th Floor
Tucson, AZ 85701
(520) 740-6500
Fax (520) 620-0135

Pima County Wastewater Management Department (PCWMD) is the designated wastewater management agency for Pima County. PCWMD is responsible for the collection, treatment, and disposal of wastewater in the 600-square mile Tucson Wastewater Planning Area, which includes Tucson, South Tucson, Marana, Oro Valley, and developed unincorporated areas. The wastewater system includes more than 2,700 miles of sewers, 34 pumping stations, two regional wastewater treatment facilities, a water reclamation facility and several smaller treatment facilities in outlying areas (PAG, 1996). The wastewater treatment plants operate under various permits, and much of the water quality data collected by PCWMD is for permit compliance purposes.

PCWMD provided the following information for this data directory:

Database: Monitor Well Water Quality Database

Contact: John H. Schieffer

Telephone: (520) 740-6556

Fax: (520) 620-0135

Data storage: paper files, MS-Access

Available output formats: DBF, TXT, hardcopy, xerox

Water types: groundwater

Sample points: *See following table*

Date range: *See following table*

Sampling frequency: *See following table*

Area of coverage: *See following table*

Data types: *See following table*

Pima County Monitor Wells

FACILITY	WELL	LOCATION	FREQUENCY	ANALYSES	PERIOD
AVRA VALLEY WWTF	AV-01	D(14-11)36cda	NOT SAMPLED	MI, VOC, N, PP, WL, TM	88-93
AVRA VALLEY WWTF	AV-02	D(14-11)36cac	NOT SAMPLED	MI, VOC, N, PP, WL, TM	88-93
AVRA VALLEY WWTF	AV-03	D(14-11)36cab	MONTHLY	MI, VOC, N, PP, WL, TM	88-P
AVRA VALLEY WWTF	AV-04	D(14-11)36dcc	MONTHLY	MI, VOC, N, PP, WL, TM	93-P
CORONA DE TUCSON	CT-01	D(17-15)10bad1	NOT SAMPLED	MI, VOC, N, PP, WL, TM	88-94
CORONA DE TUCSON	CT-02	D(17-15)10bad2	NOT SAMPLED	MI, VOC, N, PP, WL, TM	88-94
DESERT MUSEUM	DM-01	D(14-11)01daa	QUARTERLY	MI, VOC, N, PP, WL, TM	88-P
GREEN VALLEY	GV-01	D(17-13)36caa	QUARTERLY	MI, VOC, N, PP, WL, TM	86-P
GREEN VALLEY	GV-02	D(17-13)36bdc	QUARTERLY	MI, VOC, N, PP, WL, TM	86-P
MARANA WWTF	M-01	D(11-10)14dda	QUARTERLY	MI, VOC, N, PP, WL, TM	88-P
SC@ CMO DEL CERRO	SC-01	D(13-13)20adb	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ SUNSET RD	SC-02	D(13-13)07ddc	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ INA RD	SC-03	D(12-12)35ddd	QUARTERLY	MI, VOC, N, PP, WL, TM	88-P
SC@ CORTARO RD	SC-04	D(12-12)27dac	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ TWIN PEAKS RD	SC-05	D(12-12)22ccb	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ LINDA VISTA RD	SC-06	D(12-12)16ddb	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ AVRA VALLEY RD	SC-07	D(12-12)08cba	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ DAVID AVE	SC-08	D(12-12)06cdc	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ SANDARIO RD	SC-09	D(11-11)34cbc	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ SANDERS RD	SC-10	D(11-11)33bcb	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P
SC@ TRICO MARANA	SC-11	D(11-10)24cad	NOT SAMPLED	MI, VOC, N, PP, WL, TM	88-89
SC@ TRICO RD	SC-12	D(11-10)14cbc	BI-ANNUALLY	MI, VOC, N, PP, WL, TM	88-P

PIMA COUNTY SOLID WASTE MANAGEMENT

Pima County Solid Waste Management
Public Works Center
201 N. Stone Ave., Sixth floor
Tucson, AZ 85701-1207
(520) 740-6650
Fax (520) 628-7963

Pima County Solid Waste Management Department (PCSWMD) is responsible for landfill and transfer station siting and operation in areas of Pima County outside the incorporated limits of the City of Tucson. Presently, the County operates the Tangerine, Sahuarita, and Ajo municipal solid waste landfills, as well as the Ina Road Construction Debris Landfill. Various permitting programs regulate the operation of landfills, and much of the water quality data that PCSWMD collects is for permit compliance. PCSWMD is also involved in groundwater investigation and/or remediation projects near closed landfills, and additional data are collected for these projects.

PCSWMD provided the following information, including the attached table.

Contact: Dave Eaker, Chief Hydrologist

Telephone: (520) 740-6650

Fax: (520) 628-7963

Data storage: Hardcopy, with limited data stored in DBase

Available output formats: Hardcopy

Water types: Groundwater

Sample points: *See following table*

Date range: *See following table*

Sampling frequency: *See following table*

Area of coverage: *See following table*

Data types: *See following table*

Pima County Solid Waste Management Department Data¹

Landfill	Location			Number of Wells ^{2,5}	Sampling Frequency ²	Data Type ³	Date Range ⁴	Comments
	Township	Range	Section					
Catalina #2	11	14	17	3	Semi-annually	MI,VOC's, M,N,PP,W C,WL,FR	1990-present	
El Camino del Cerro	13	13	17	35	Quarterly	MI,VOC's, M,N,PP,W C,WL,FR	1987-present	Number of wells sampled varies with sampling round.
Ina Road	13	12	1	9	Semi-annually	MI,VOC's, M,N,PP,W C,WL,FR	1990-present	Currently sampling 7 wells.
Old Nogales	15	14	31	4	Semi-annually	MI,VOC's, M,N,PP,W C,WL,FR	1990-present	
Rita Road	16	15	3	3	Semi-annually	MI,VOC's, M,N,PP,W C,WL,FR	1990-present	
Sahuarita #2	17	13	14	3	Quarterly	MI,VOC's, M,N,PP,W C,WL,FR	1995-present	
Tangerine Road	12	11	2	4	Semi-annually	MI,VOC's, M,N,PP,W C,WL,FR	1990-present	Currently sampling 3 wells.

¹ For more information on data availability for a specific date, please contact Pima County Solid Waste Management Department.

² Field conditions or modifications to sampling plans may cause deviations in the number of wells sampled or the sampling frequency.

³ Constituents/parameters analyzed may vary for individual sampling rounds; MI = major inorganics, M = metals, VOC = volatile organics, N = nutrients, PP = physical parameters, WC = well construction, WL = water levels, FR = flow rates

⁴ Dates listed are approximate and may vary slightly for some of the landfills. Data for the dates listed are generally available in hardcopy format. Limited data are available digitally or in hardcopy prior to the date listed.

⁵ The well's status (operable vs. inoperable) may vary by date. The number of wells may include both production and monitor wells.

PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY

Pima County Department of Environmental Quality
130 W. Congress St.
Tucson, AZ 85701-1317
(520) 740-3340
Fax (520) 882-7709

Pima County's Department of Environmental Quality (PDEQ) enforces various water quality regulations in Pima County. Much of PDEQ's authority comes from a delegation agreement with the Arizona Department of Environmental Quality (ADEQ).

In response to PAG's questionnaire, PDEQ indicated that most of the water quality data maintained at PDEQ comes from other sources, and that it would be inappropriate to list this information as a PDEQ database. PDEQ noted that the Department has collected drinking water quality data in relation to the Tucson International Airport Area Superfund Site, as a consultant to EPA Region 9; requests for this data should be directed to EPA Region 9. PDEQ also receives drinking water quality data from ADEQ for private water companies under PDEQ's jurisdiction; requests for these data should be directed to ADEQ. In addition, PDEQ collects stormwater quality data. These data have not been fully validated, and PDEQ requests that anyone interested in receiving the data submit a request in writing.

PIMA COUNTY FLOOD CONTROL DISTRICT

Pima County Flood Control District
201 N. Stone Ave., Fourth floor
Tucson, AZ 85701
(520) 740-6350
Fax (520) 740-6749

Pima County Flood Control District (PCFCD) oversees the county flood plain ordinances. In addition, PCFCD has participated in artificial groundwater recharge projects along ephemeral streams in the Tucson area, and has played a key role in protecting riparian areas such as Cienega Creek, which has been designated as a Unique Water. One of PCFCD's many programs is the Pima County Flood Warning Program, which includes the ALERT Flood Warning System (Automated Local Evaluation in Real Time). In response to PAG's questionnaire, PCFCD provided the following information about the ALERT system:

Database: ALERT Flood Warning System

Contact: Andrew Wigg

Telephone: (520) 740-6350

Fax: (520) 740-6749

Data storage: on disk in QNX (operating system) format

Available output formats: ASCII

Water types: Surface water

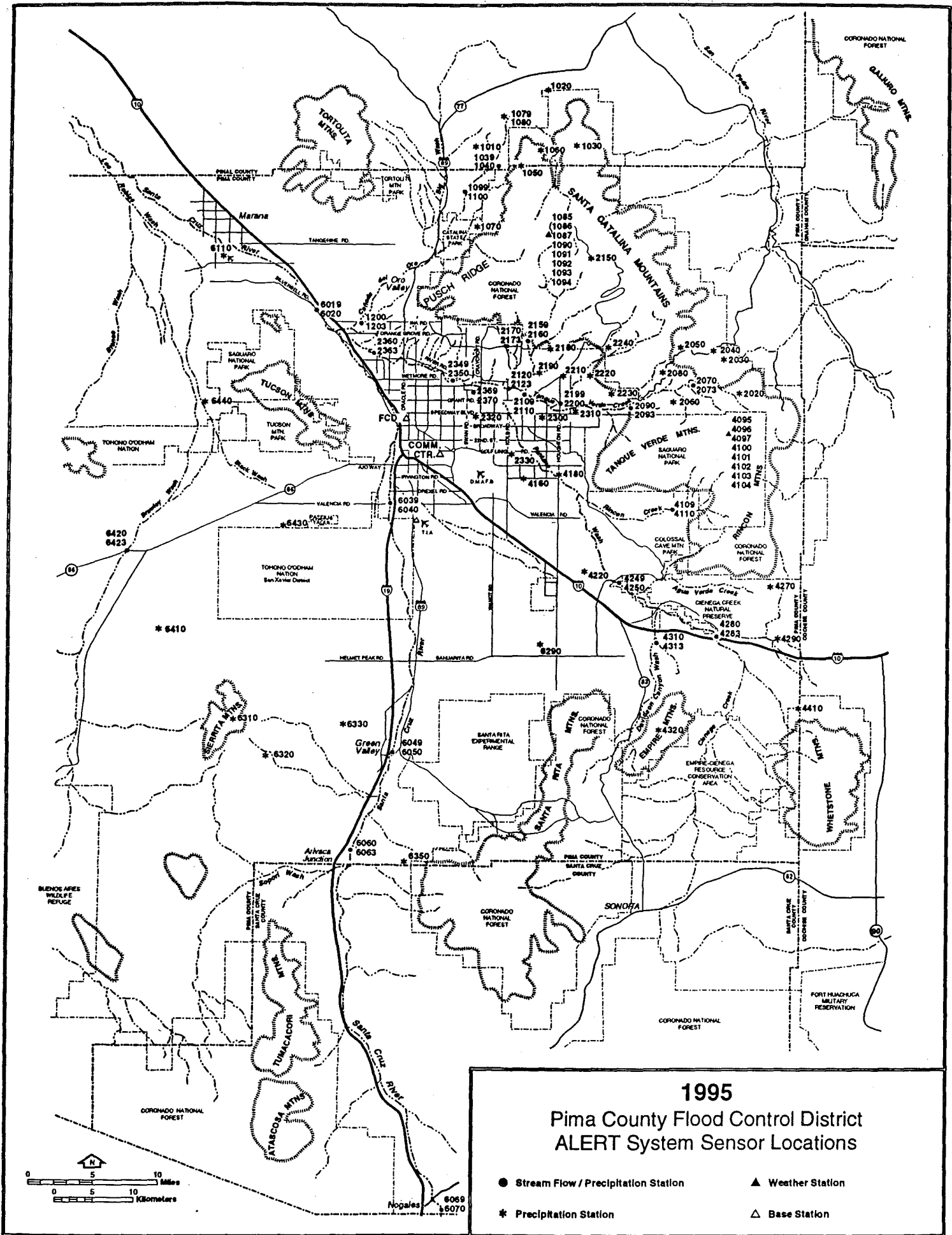
Monitoring points: 24

Date range: 1983 to 1996

Monitoring frequency: daily

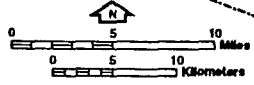
Area of coverage: *see attached map provided by PCFCD*

Data types: Flow rates, flow stage



1995
Pima County Flood Control District
ALERT System Sensor Locations

<ul style="list-style-type: none"> ● Stream Flow / Precipitation Station * Precipitation Station 	<ul style="list-style-type: none"> ▲ Weather Station △ Base Station
--	---



Base Map © Pima County Illustration Division 1995

PIMA COUNTY TECHNICAL SERVICES

Pima County Department of Transportation and Flood Control District
Technical Services Division
201 N. Stone, 9th floor
Tucson, AZ 85701
(520) 740-6670
Fax (520) 798-3429

Pima County Technical Services is a division of the Pima County Department of Transportation and Flood Control District. The division's mission is to provide products and services in a cost-effective, timely and accurate manner to customers. These services and products include geographic information systems (GIS), computer and software technologies, property record management, and information graphics (PCTS, 1996).

The Technical Services Division provided the following information about the GIS data sets. A data request form is included in Appendix A.

Database: GIS Data Sets

Contact: Claire Logue

Telephone: (520) 740-6670

Fax: (520) 798-3429

Data storage: ArcInfo coverages and some AutoCAD (.DWG) drawings

Available output formats: ArcInfo export, DWG, text data

Area of coverage: eastern Pima County

Data types:

The data sets include the following coverages:

- water service boundaries
- riparian areas
- CAP canal location
- well locations
- name, status, and depth of wells
- FEMA floodways and flood plains
- drainage improvements and bank protection

PIMA ASSOCIATION OF GOVERNMENTS

Pima Association of Governments
177 N. Church Suite 405
Tucson, AZ 85701
(520) 792-1093
Fax (520) 620-6981

Pima Association of Governments (PAG) serves six local governments: Pima County, the cities of Tucson and South Tucson, and the towns of Marana, Oro Valley, and Sahuarita. Under Section 208 of the Clean Water Act, PAG has been designated by the Governor of Arizona and the United States Environmental Protection Agency (EPA) as the lead agency for water quality planning in Pima County. PAG is also responsible for air quality, transportation, population, and other regional planning programs.

PAG's Water Quality Planning program has collected water quality, hydrologic, and land use information for various research and planning projects, including several studies of the effects of land use (particularly mines and landfills) on water quality. The data from these studies are available in documents that are housed in PAG's library, as well as in paper files and in electronic databases.

PAG collects original field data, but the majority of the data on file at PAG has been collected by other organizations. PAG typically refers requests for these data to the agencies that originally collected them, if the data have not already been published in a public document.

In addition to water quality data files, PAG maintains a Regional Environmental Assessment Database which summarizes documents containing information useful for environmental assessments, and a Permits Database, which contains information about facilities with water quality permits.

The Water Quality Data Files, Regional Environmental Assessment Database, and Permits Database are described below.

A PAG publications list is included as Appendix B.

Databases: Water Quality Data Files, Regional Environmental Assessment Database, Permits Database

Contact: Greg Hess

Telephone: (520) 792-1093

Fax: (520) 620-6981

Water Quality Data Files

Data storage: paper files; limited data in DBase III, QuattroPro

Available output formats: hardcopy

Water types: groundwater, surface water, drinking water, CAP water, treated effluent

Sample points: approximately 1800

Date range: historical through 1990s

Sampling frequency: variable

Area of coverage: eastern Pima County (Townships 11 South through 19 South; Ranges 10 East through 17 East)

Data types: major inorganics, trace metals, VOCs, SOCs, pesticides, microbiological, radionuclides, nutrients, physical parameters, well construction, water levels, flow rates, isotopes, land use

Regional Environmental Assessment Database

Data storage: DBase III

Available output formats: hardcopy

Number of records: 185

Date range: 1970s through present

Area of coverage: Pima County

Data types: Summaries and outlines of documents that contain information that might be useful for environmental assessments. The database identifies the types of data the various documents contain, but it does not include the actual data.

Permits Database

Data storage: DBase III, MapInfo, WordPerfect

Available output formats: hardcopy

Area of Coverage: eastern Pima County

Data types: Locations and descriptions of facilities with water quality-related permits (NPDES, APP, Groundwater Protection, Reuse, RCRA, 404 permits)

METROPOLITAN DOMESTIC WATER IMPROVEMENT DISTRICT

Metropolitan Domestic Water Improvement District
P. O. Box 36870
Tucson, AZ 85740
(520) 575-8100
Fax (520) 575-8454

Metropolitan Domestic Water Improvement District (Metro Water District) is the second-largest drinking water supplier in the Tucson area, with a service area population of more than 40,000 people (PAG, 1996). Metro Water District primarily serves residents in the northwest part of the Tucson metropolitan area. Like Tucson Water, Metro Water District is responsible for water quality monitoring and compliance under the Safe Drinking Water Act, and much of the water quality data that Metro Water District has collected has been for Safe Drinking Water Act compliance. Metro Water District has also participated in artificial recharge projects, and other water quality and water resource planning programs in the metropolitan area.

Metro Water District provided information on five databases in response to PAG's questionnaire. The information is summarized below. Data request forms are included in Appendix A.

Databases: Water Quality, Water Levels, Well Construction, Specific Capacity, Well Flow Rates

Contact: Michael Block, District Hydrologist
Theresa Lutz, Hydrogeologist

Telephone: (520) 575-8100

Fax: (520) 575-8454

Data storage: Quattro Pro, paper files

Available output formats: ASCII, QuattroPro, hardcopy

Area of coverage: *see map and table*

Water Quality database

Water types: groundwater, drinking water

Sample points: 36

Date range: 1990 - 1996

Sampling frequency: varies per constituent group

Data types: major inorganics, nutrients, physical parameters, trace metals, asbestos, VOCs, SOCs, pesticides, radionuclides, and microbiological

Water Levels database

Data points: 40

Date range: 1994 - 1996

Frequency: annually (monthly at 12 points from 1995-1996)

Well Construction database

Data points: 40

Specific Capacity database

Data points: 13

Date range: 1995 - 1996

Frequency: varies according to well maintenance schedule

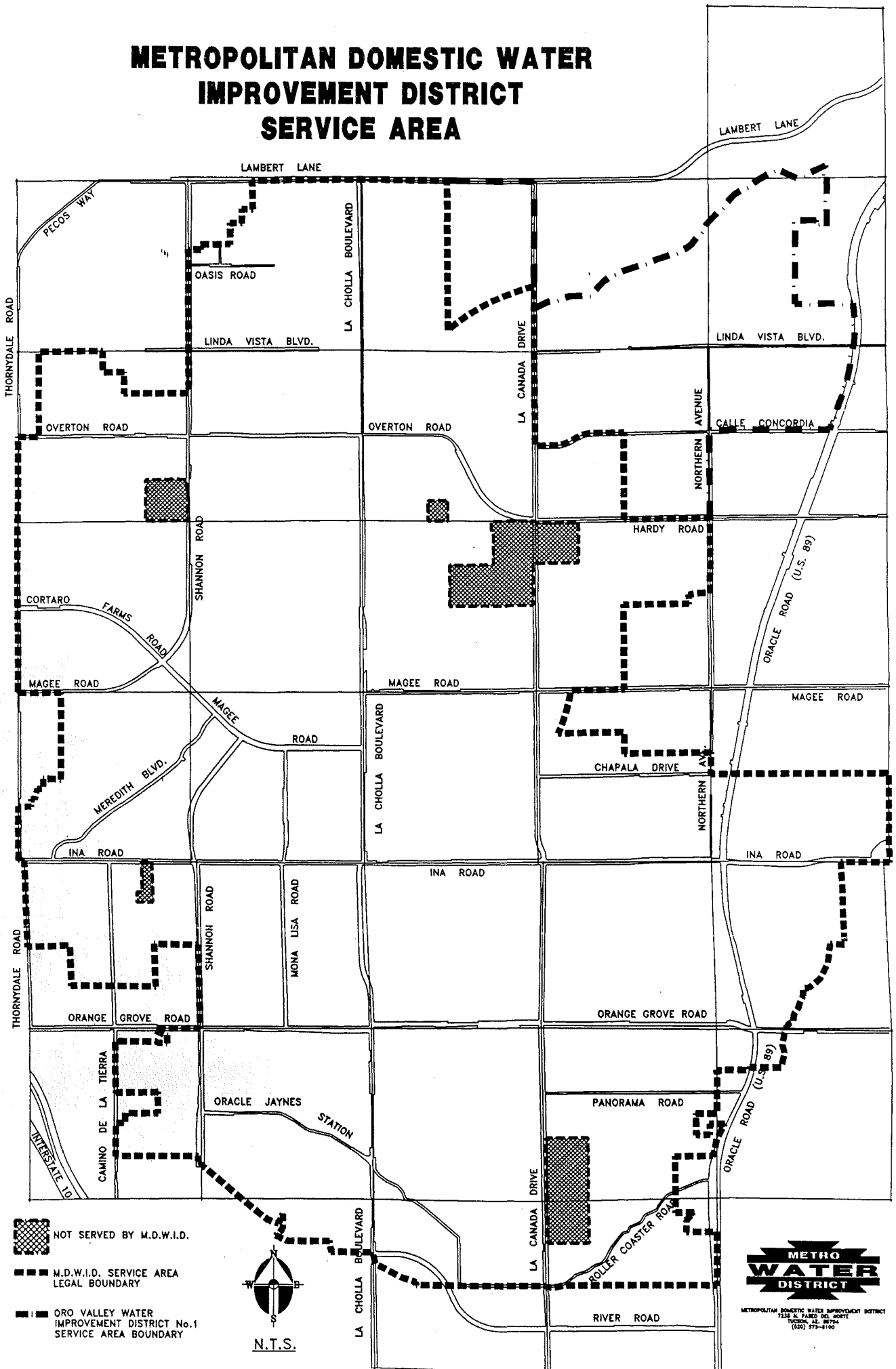
Well Flow Rates database




Data points: 36

Date range: 1994 - 1996

Frequency: monthly

METROPOLITAN DOMESTIC WATER IMPROVEMENT DISTRICT SERVICE AREA



-  NOT SERVED BY M.D.W.I.D.
-  M.D.W.I.D. SERVICE AREA LEGAL BOUNDARY
-  ORO VALLEY WATER IMPROVEMENT DISTRICT No.1 SERVICE AREA BOUNDARY



**METRO
WATER
DISTRICT**

METROPOLITAN DOMESTIC WATER IMPROVEMENT DISTRICT
7126 N. PARKER DR. NORTH
TUCSON, AZ 85704
(520) 977-8100

MDWID WELL LOCATIONS

Well Name	ADWR Regis. 55#	Legal Description (T. R. S.)	Latitude (Deg, Min, Sec.)	Longitude (Deg, Min, Sec.)	Street Address
Stiller	626751	12-13-15CCA	322258	1110030	1902 Lucero Road
Tucson Nat'l North	626752	12-13-21DDD	322202	1110045	8875 N. La Cholla Blvd.
New Linda Vista	626761	12-13-22AAA	322249	1105946	9601 N. La Cañada Drive
Old Linda Vista	626749	12-13-23BAA	322250	1105921	1201 W. Linda Vista Blvd.
Hardy	626732	12-13-23CCC	322201	1105939	8801 N. Myrtle Place
Campo Bello East	805397	12-13-23DAD	322212	1105848	8855 N. Calle Buena Vista
Campo Bello West	805399	12-13-23DBC	322212	1105908	9015 N. Camino De Anza
Tucson Nat'l East	509074	12-13-27BBB	322158	1110044	8798 N. La Cholla Blvd.
Tucson Nat'l West	626730	12-13-28AAB	322158	1110059	8791 N. La Cholla Blvd.
Matter	626755	12-13-28DDA	322117	1110046	8150 N. La Cholla Blvd.
Magee & La Cholla	626737	12-13-28DDD	322108	1110045	8001 N. La Cholla Blvd.
Magee & Jensen	626746	12-13-32AAA	322103	1110146	2841 W. Magee Road
Rasmussen	626753	12-13-32BDA	322048	1110218	7703 N. Rasmussen Avenue
Marlene	626745	12-13-32CAC	322032	1110225	3420 W. Marlene Street
Thornsdale	626748	12-13-32CCB	322026	1110245	7390 N. Thornsdale Road
Ina/CDO Wash	626754	12-13-32CDD	322015	1110218	3320 W. Ina Road
Alcott	626760	12-13-32DAD	322033	1110146	7411 N. Shannon Road
Meredith	501604	12-13-33BCC	322047	1110145	2797 W. Magee Road
Chapala	626733	12-13-35CBB	322040	1105941	7566 N. La Cañada Drive
Bell	626744	13-13-35DCD	322015	1105859	810 W. Ina Road
Ina/Oracle	626742	13-13-01BBB	322013	1105840	551 W. Ina Road
Giaconda	626741	13-13-01BBC	322002	1105839	7015 N. Oracle Road
Ina/LaCanada	626740	13-13-02BBB	322011	1105940	7180 N. La Cañada Drive
San Nicolas	805398	13-13-02CAA	321942	1105920	1065 W. San Nicolas Circle
Horizon Hills	626759	13-13-05BCB	322000	1110243	6924 N. Thornsdale Road
Wildwood	626758	13-13-08ADA	321907	1110144	6245 N. Shannon Road
Latamore North	626738	13-13-08BDC1	321858	1110221	6001 N. Camino De La Tierra
Latamore South	626762	13-13-08BDC2	321857	1110220	6001 N. Camino De La Tierra
South Shannon	626757	13-13-08DDA	321843	1110143	5781 N. Shannon Road
Deconcini	626739	13-13-09BCC	321901	1110140	6020 N. Shannon Road
Estes	801842	13-13-09CAD	321844	1110113	2509 Dolbrook Way
Moore	680988	13-14-09CDD	321833	1110113	2505 W. Firebrook Road
Oracle Jaynes Stat	626734	13-13-09DAD	321845	1110049	2221 W. Roller Coaster Road
Las Palmas East	626736	13-13-11CAC	321846	1105924	1130 W. Las Palmas Drive
Las Palmas West	626750	13-13-11CBD	321846	1105931	5825 N. Escondido Lane
Cresta Loma	626747	13-13-14ADC	321804	1105853	709 W. Cresta Loma
Escondido	626735	13-13-14BAC	321818	1105924	5412 N. Escondido Lane

ARIZONA DEPARTMENT OF WATER RESOURCES

Arizona Department of Water Resources
Tucson Active Management Area
400 W. Congress St. Suite #518
Tucson, AZ 85701
(520) 628-6758
Fax (520) 628-6759

Established by the 1980 Groundwater Management Act, the Arizona Department of Water Resources' (ADWR's) mission is to manage the water resources of Arizona, and to reduce the overdraft of groundwater within the five active management areas (AMAs) in the state (ADWR, 1996). The Department also has responsibilities related to surface water rights and permits, management of the state's Colorado River allocation, and well drilling and construction. ADWR also maintains a database of all registered wells in the state. This is known as the "Well Registry" or "55 database."

In response to PAG's questionnaire, ADWR indicated that the department has several databases that deal with wells, groundwater rights, surface water rights, adjudication filings, etc., but only one, the Ground Water Site Inventory (GWSI), that contains water quality data. The information that ADWR provided about the GWSI database is summarized below.

Database: Ground Water Site Inventory

Contact: Jeff Tannler

Telephone: (520) 770-3800

Fax: (520) 628-6759

Data storage: IBM mainframe; extracts available through ORACLE

Available output formats: hardcopy, ASCII, QuattroPro, DBF

Water types: groundwater

Sample points: slightly more than 20,000 records in the GWSI database have water quality data

Date range: approximately 1930 to 1995

Sampling frequency: variable

Area of coverage: statewide

Data types: physical parameters, well construction, water levels, fluoride

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Arizona Department of Environmental Quality
3033 N. Central Ave.
Phoenix, AZ 85012
1-800-234-5677

Arizona Department of Environmental Quality
Southern Regional Office
400 W. Congress, Suite 433
Tucson, AZ 85701
(520) 628-6733
Fax (520) 628-6745

The Arizona Department of Environmental Quality (ADEQ) was established by the 1986 Environmental Quality Act. ADEQ is responsible for a variety of environmental programs designed to protect water quality. These include the Aquifer Protection Permit (APP) program, administration of the Safe Drinking Water Act, the Water Quality Assurance Revolving Fund (WQARF), pollution prevention, solid waste management, underground storage tank remediation, and many others. Several offices at ADEQ collect water quality data. Different offices are typically responsible for different programs, and therefore collect different types of water quality data and maintain different databases.

PAG contacted several sections at ADEQ to obtain information about their databases. The databases maintained by these programs are described separately on the following pages.

In addition to the databases described here, ADEQ has commissioned the Information System Development Office (ISDO) to develop "AZURITE" (Arizona Unified Repository for the Informational Tracking of the Environment), which is a framework of information systems that will allow data to be readily accessed and shared throughout the Department (ADEQ Information Systems Development Office, 1996a, 1996b, 1996c). The time required for AZURITE development is estimated at three to five years (ADEQ Information Systems Development Office, 1996c).

ADEQ also publishes the *Arizona Water Quality Assessment* every two years. This report, which is also known as the "305(b)" report, because it satisfies reporting requirements identified in Section 305(b) of the Clean Water Act, contains information about statewide groundwater and surface water quality.

Surface water quality data collected by ADEQ is also stored in the national STORET database (refer to the EPA section of this report).

ADEQ - HYDROLOGIC ANALYSIS

ADEQ - Hydrologic Analysis
3033 N. Central Ave., Third floor
Phoenix, AZ 85012

Database: Groundwater Database

Contact: Marianne Gilbert

Telephone: (602) 207-4563

Fax: (602) 207-4528

Data storage: ORACLE

Available output formats: hardcopy

Water types: groundwater

Sample points: > 50,000 (approximately 400,000 test results)

Date range: 1988 to 1996

Sampling frequency: variable

Area of coverage: statewide

Data types: major inorganics, trace metals, VOCs, SOCs, pesticides, microbiological, radionuclides, nutrients, physical parameters

A data request form is included in Appendix A.

ADEQ - SAFE DRINKING WATER

ADEQ - Safe Drinking Water
3033 N. Central Ave.
Phoenix, AZ 85012

Database: Safe Drinking Water

Contact: Mary Simmerer

Telephone: (602) 207-4644

Fax: (602) 207-4634

Data storage: ORACLE version 6

Available output formats: ASCII, hardcopy

Water types: drinking water

Sample points: 2,700

Date range: 1990 to 1996

Sampling frequency: varies per contaminant

Area of coverage: statewide

Data types: major inorganics, trace metals, VOCs, SOCs, microbiological, radionuclides

A data request form is included in Appendix A.

ADEQ's Drinking Water Section also publishes an annual report.

ADEQ - BIOCRITERIA

ADEQ - Biocriteria
3033 N. Central Ave.
Phoenix, AZ 85012

Database: Biocriteria Databases

Contact: Patti Spindler or Richard Meyerhoff

Telephone: (602) 207-4543

Fax: (602) 207-4528

Data storage: QuattroPro and paper files

Available output formats: QuattroPro, ASCII, hardcopy

Water types: surface water

Sample points: 150

Date range: 1992 to 1996

Sampling frequency: 1-2 times per year

Area of coverage: statewide (see list of sites on following pages)

Data types: major inorganics, trace metals, nutrients, physical parameters, flow rates; related databases include macroinvertebrate species lists and abundances, algae (diatoms) species lists and abundances, and habitat and physical parameters database

Relevant literature:

ADEQ, 1996. Using ecoregions for explaining macroinvertebrate community distribution among reference sites in Arizona, 1992. ADEQ, Phoenix, AZ. 51 pp.

Meyerhoff, R. C. and P. H. Spindler, 1994. Biological sampling protocols: reference site selection and sampling methods. ADEQ, Phoenix, AZ. 23 pp.

Updated 1995 BIOCRITERIA PROGRAM SITE LIST, sorted by site code

SITE NAME	ADEQ SITE ID	LATITUDE	LONGITUD	MAJOR BASIN	ECO- REGION	WTRSHD AREA(sqk)	ELEV. (feet)	GRADIENT (ft/ft)**	USGS QUADRANGLE	YEAR SAMPLED			
										1992	1993	1994	1995
BURRO CR.	BUR1-00RF	344437	1131422	BW	SBR	438.3	3100	0.013	BOZARTH MESA 7.5'	S	S	S	-
CONGER CR.	CGR1-00RF	344539	1130750	BW	SBR	39.5	4360	0.068	SCRATCH CANYON 7.5'	S	S	-	-
COTTONWOOD CR. (COTTONWOOD)	COT1-00RF	344346	1125348	BW	AZNMM		4740	0.019	SHERIDAN MOUNTAIN 7.5'	-	S	S	-
DATE CR.	DAT1-00RF	341400	1130050	BW	SBR	201.5	2990	0.011	DATE CREEK RANCH 7.5'	X	-	-	-
FRANCIS CR.	FRA1-00RF	344548	1131548	BW	SBR	330.4	3250	0.019	PILOT KNOB 7.5'	S	S	S	-
PEEPLERS CANYON	PEE1-00RF	342235	1131615	BW	SBR	15.0	2480	0.057	ARRASTRA MOUNTAIN NE 7.5'	S	-	-	-
SANTA MARIA R.	SMR1-00RF	342358	1131024	BW	SBR	1995.5	1830	0.011	THORN PEAK 7.5'	S	S	S	-
TROUT CR.	TRT1-00RF	345918	1133114	BW	AZNMP	1330.8	3230	0.027	TOM BROWN CANYON 7.5'	S	-	S	-
BARBERSHOP CANYON (UPPER)	BAR1-00RF	342942	1110951	LCR	AZNMM	19.6	6950	0.013	DANE CANYON 7.5'	S	S	S	-
BARBERSHOP CANYON (LOWER)	BAR2-00RF	343250	1110942	LCR	AZNMM	53.6	6520	0.021	BLUE RIDGE RESERVOIR 7.5'	S	S	S	-
BUCK SPRING (UPPER)	BCK1-00RF	342605	1110832	LCR						-	-	-	S,F
BUCK SPRING (LOWER)	BCK2-00IM	342638	1110820	LCR						-	-	-	S
CHEVELON CANYON (CHEVELON RIDGE)	CHV1-00RF	342400	1105200	LCR	AZNMM		6670	0.009	WEIMER POINT 7.5'	-	S,F	-	-
CHEVELON CANYON (LONG TOM)	CHV2-00RF	342520	1105109	LCR	AZNMM	121.4	6535	0.008	WEIMER POINT 7.5'	S	-	-	-
CHEVELON CANYON (TELEPHONE RIDGE)	CHV3-00RF	342628	1105022	LCR	AZNMM	153.4	6470	0.008	WEIMER POINT 7.5'	S	S,F	S,F	-
CHEVELON CANYON (CHEVELON CROSSING)	CHV4-00IM	343522	1104715	LCR	AZNMM	273.6	6130	0.003	CHEVELON CROSSING 7.5'	S	F	-	-
EAST CLEAR CR. (KINDER CROSSING)	ECL1-00RF	343400	1110848	LCR	AZNMM	289.8	6450	0.004	BLUE RIDGE RESERVOIR 7.5'	S	S	S	-
EAST CLEAR CR. (MACKS CROSSING)	ECL2-00RF	343710	1110534	LCR	AZNMM	343.3	6265	0.006	LEONARD CANYON 7.5'	S	-	-	-
EAST FK LITTLE COLORADO R.	ELC1-00RF	335534	1092948	LCR	AZNMM	4.3	9440	0.023	MOUNT BALDY 7.5'	S	-	-	-
LITTLE COLORADO R. (ABV S. FK.)	LCR1-00RF	340440	1092534	LCR	AZNMM	176.3	7490	0.049	GREER 7.5'	S	S	S	S
LITTLE COLORADO R. (BLW S. FK.)	LCR2-00IM	340511	1092409	LCR	AZNMM	244.9	7305	0.015	GREER 7.5'	S	-	-	-
LITTLE COLORADO R. (BLW NUTRIOSO)	LCR3-00IM	341040	1091808	LCR	AZNMM	915.0	6770	0.025	SPRINGERVILLE 7.5'	S	-	-	-
LITTLE COLORADO R. (MOUTH)	LCR9-00RF	361130	1114730	LCR	AZNMP	56731.4	2760	0.004	VISHNU TEMPLE 15'	S	-	-	-
LILY CR.	LIL1-00RF	335837	1090532	LCR	AZNMM	1.5	8620	0.114	ESCUDELLA MOUNTAIN 7.5'	S	S	S	-
MAMIE CR.	MAM1-00RF	335803	1090456	LCR	AZNMM	5.5	8590	0.061	ESCUDELLA MOUNTAIN 7.5'	S	S	S	-
MINERAL CR.	MIN1-00RF	341050	1093704	LCR	AZNMM	16.3	8070	0.072	WHITING KNOLL 7.5'	S	S	S	-
PADDY CR.	PAD1-00RF	335504	1090903	LCR	AZNMM	11.5	8485	0.047	NUTRIOSO 7.5'	S	S	S	-
RIO DE FLAG	RDF-00EDW	351228	1113433	LCR	AZNMM				FLAGSTAFF EAST 7.5'	-	-	S	-
RUDD CR.	RUD1-00RF	340039	1091651	LCR	AZNMM	13.1	8100	0.049	EAGER 7.5'	S	S	S	-
S. FK. LITTLE COLORADO R.	SLC1-00RF	340415	1092435	LCR	AZNMM	60.1	7620	0.040	GREER 7.5'	S	S	S	S
WEST FK. LITTLE COLORADO R. (UPPER)	WLC1-00RF	335722	1093106	LCR	AZNMM	14.3	9240	0.013	MOUNT BALDY 7.5'	S	S	S	S
WEST FK. LITTLE COLORADO R. (LOWER)	WLC2-00RF	335921	1092804	LCR	AZNMM	28.7	8550	0.027	BIG LAKE NORTH 7.5'	S	S	S	S
AGUA FRIA R.	AGF1-00RF	341850	1120337	MG	AZNMM	1521.5	3445	0.008	CORDES JUNCTION 7.5'	S	S	S	S
ANTELOPE CR.	ANT1-00RF	341146	1124252	MG	SBR	13.4	3850	0.053	YARNELL 7.5'	S	S	S	S
ASH CR.	ASH1-00RF	343818	1120738	MG	AZNMM	8.6	6100	0.053	HICKEY MOUNTAIN 7.5'	S	-	S	-
HASSAYAMPA R. (UPPER)	HAS1-00RF	342515	1123127	MG	AZNMM	106.2	4750	0.023	WILHOIT 7.5'	S	S	S	-
HASSAYAMPA R. (WAGONER)	HAS2-00RF	341114	1123222	MG	SBR		3270	0.005	WAGONER 7.5'	-	S	S	-
HASSAYAMPA R. (LOWER)	HAS3-00RF	335536	1124108	MG	SBR	1969.9	1925	0.006	WICKENBURG 7.5'	X	-	-	-
LITTLE ASH CR.	LAC1-00RF	342301	1120130	MG	AZNMM	113.1	3840	0.017	ESTLER PEAK 7.5'	S	S	S	S
LION CANYON	LIO1-00RF	341016	1124137	MG	SBR	6.0	3850	0.117	YARNELL 7.5'	S	S	-	-
TURKEY CREEK	LTC3-00IM	341505	1121229	MG					CLEATOR 7.5'	-	-	-	S
POLAND CR.	POL1-00RF	341432	1121502	MG	AZNMM	70.1	3080	0.044	CROWN KING 7.5'	S	-	-	-
QUEEN CR. ABV BOYCE-THOMPSON ARBORE	QEN-00ED	331638	1110912	MG	SBR		2440		PICKETPOST MTN/SUPERIOR	-	-	S	-
SALT R. ABV CONFL. W/ GILA R.	SLT-00EDW	332252	1121730	MG	SBR		935		TOLLESON	-	-	S	-
SALT R. @107TH AVE	SLT-01EDW	332255	1121732	MG	SBR		935		TOLLESON	-	-	S	-

Updated 1995 BIOCRITERIA PROGRAM SITE LIST, sorted by site code

SITE NAME	ADEQ SITE ID	LATITUDE	LONGITUD	MAJOR BASIN	ECO-REGION	WTRSHD AREA(sqk)	ELEV. (feet)	GRADIENT (ft/ft)**	USGS QUADRANGLE	YEAR SAMPLED			
										1992	1993	1994	1995
SYCAMORE CR. (DUGAS)	SYD1-00RF	342050	1115654	MG	AZNMM	92.8	4090	0.017	DUGAS 7.5'	S	S	S	S
TULE CR.	TUL1-00RF	340043	1121627	MG	SBR		2230	0.032	COLUMBIA 7.5'	-	S	-	-
CAMPAIGN CR.	CGN1-00RF	333127	1110512	MS	AZNMM	24.9	3355	0.044	TWO BAR MOUNTAIN 7.5'	S	-	S	-
CHRISTOPHER CR (HERMAN SPRING)	CHC1-00RF			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (ABV HWY 260 BRIDGE)	CHC2-00IM			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (MIDDLE REFERENCE SITE)	CHC2-01RF			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (BLW CHRIS. CR. COMMUN)	CHC3-00IM			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (ABV CAMPGROUND)	CHC4-00IM			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (BLW CAMPGROUND)	CHC5-00IM			MS	AZNMM					-	-	-	F
CHRISTOPHER CR (AT R BAR RANCH)	CHC6-00IM			MS	AZNMM					-	-	-	F
CHERRY CR. (UPPER)	CHE1-00RF	335903	1105300	MS	AZNMM	249.8	4390	0.009	MCFADDEN PEAK 7.5'	S	S	S	-
CHERRY CR. (LOWER)	CHE2-00RF	335034	1105136	MS	AZNMM	446.5	3190	0.013	SOMBRERO PEAK 7.5'	S	S	S	-
CANYON CR.	CYN1-00RF	341515	1104742	MS	AZNMM	74.3	6270	0.013	O W POINT 7.5'	S	S	S	-
DEER CR.	DEE1-00RF	340235	1112511	MS	AZNMM	20.9	3630	0.059	MAZATZAL PEAK 7.5'	S	S	S	-
DEVILS CHASM	DEV1-00RF	334923	1105137	MS	AZNMM		3420		SOMBRERO PEAK 7.5'	-	S	S	-
GORDON CR.	GOR1-00RF	341428	1105903	MS	AZNMM		5340	0.061	OXBOW MOUNTAIN 7.5'	-	S	S	-
GREENBACK CR.	GRE1-00RF	335036	1110914	MS	AZNMM	48.1	3640	0.034	GREENBACK MOUNTAIN 7.5'	S	-	-	-
HAIGLER CR.	HAI1-00RF	341212	1110028	MS	AZNMM	91.9	4870	0.044	DIAMOND BUTTE 7.5'	S	S	S	-
PINAL CR.	PNL-00EDW	332645	1104907	MS	AZNMM		3275		GLOBE 7.5'	-	-	S	-
REYNOLDS CR.	REY1-00RF	335232	1105917	MS	AZNMM	37.2	5065	0.028	MCFADDEN PEAK 7.5'	S	S	S	-
SALOME CR.	SAL1-00RF	335430	1110214	MS	AZNMM	49.8	4820	0.021	COPPER MOUNTAIN 7.5'	S	S	S	-
SPRING CR.	SPG1-00RF	340450	1110432	MS	AZNMM	226.9	4260	0.013	BUZZARD ROOST MESA 7.5'	S	S	S	-
TONTO CR. (BEAR FLATS)	TC10-00RF			MS	AZNMM					-	-	-	F
TONTO CR. (GISELA)	TON1-00RF	340739	1111557	MS	AZNMM	1062.2	2950	0.013	PAYSON NORTH 7.5'	S	-	-	-
TONTO CR. (HELLSGATE)	TON1-14RF	341254	1110556	MS	AZNMM		3940	0.027	DIAMOND BUTTE 7.5'	-	S	S	-
WORKMAN CR.	WOR1-00RF	334926	1105818	MS	AZNMM	7.2	6160	0.098	AZTEC PEAK 7.5'	S	S	S	-
BEAVER DAM WASH (@ GOLF COURSE)	BDW5-00IM	365357	1135546	NCOL					Littlefield 15min	-	-	S	-
BEAVER DAM WASH (ABV CONFL. W/ VIRGIN)	BDW7-00IM	365344	1135515	NCOL					Littlefield 15min	-	-	S	-
BEAVER DAM WASH (WELCOME CR)	BDW8-00RF	365822	1135901	NCOL					Littlefield 15min	-	-	S	-
BRIGHT ANGEL CR.	BRA1-00RF	360608	1120550	NCOL	AZNMP	267.5	2520	0.027	BRIGHT ANGEL 15'	S	S	S	-
CRYSTAL CR.	CRY1-00RF	360800	1121400	NCOL						-	S	S	-
HAVASU CR.	HAV1-00RF	361815	1124530	NCOL	AZNMP	7681.7	1840	0.023	TUCKUP CANYON 15'	S	-	-	-
HERMIT CR.	HER1-00RF	360450	1121310	NCOL	AZNMP	25.2	2920	0.246	BRIGHT ANGEL 15'	S	S	S	-
KANAB CR.	KAN0-00RF	365700	1123200	NCOL					FREDONIA 15'	-	-	S	-
KANAB CR.	KAN1-00RF	362335	1123755	NCOL	AZNMP	5987.0	1880	0.011	KANAB POINT 15'	S	S	S	-
MATKATAMIBA CR.	MAT1-00RF	362030	1124015	NCOL	AZNMP	85.4	1900	0.030	KANAB POINT 15'	S	-	-	-
NANKOWEAP CR.	NAN1-00RF	361835	1115135	NCOL	AZNMP	91.5	2800	0.072	NANKOWEAP 15'	S	S	-	-
NATIONAL CR.	NAT1-00RF	361500	1125200	NCOL						-	S	S	-
NORTH CANYON CR.	NCC1-00RF	362427	1120440	NCOL	CP					-	-	S	-
PARIA R.	PAR1-00RF	365148	1113600	NCOL	AZNMP	3260.6	3120	0.008	LEE'S FERRY 15'	S	-	-	-
ROYAL ARCH CR.	ROY1-00RF	361150	1122700	NCOL	AZNMP	39.8	2160	0.250	HAVASU POINT 15'	S	S	S	-
SPRING CANYON	SPC1-00RF	360107	1132109	NCOL	SBR	57.3	1500	0.053	WHITMORE POINT SE 7.5'	S	S	S	-
TAPEATS CR.	TAP1-00RF	362215	1122750	NCOL	AZNMP	217.9	2000	0.042	POWELL PLATEAU 15'	S	S	S	-
THREE SPRINGS CR.	THR1-00RF	355200	1131800	NCOL						-	S	S	-
VIRGIN R. (REST STOP)	VRG1-00RF			NCOL						-	-	S	-

Updated 1995 BIOCRITERIA PROGRAM SITE LIST, sorted by site code

SITE NAME	ADEQ SITE ID	LATITUDE	LONGITUDE	MAJOR BASIN	ECO- REGION	WTRSHD AREA(sqk)	ELEV. (feet)	GRADIENT (ft/ft)**	USGS QUADRANGLE	YEAR SAMPLED			
										1992	1993	1994	1995
VIRGIN R. (LITTLEFIELD)	VRG2-00IM			NCOL						-	-	S	-
EMIGRANT CYN	EMG1-00RF	320720	1092202	SAN SIM	SD					-	-	-	S
AGUA CALIENTE	AGC1-00RF	321757	1104220	SCR						-	-	-	S
CAVE CR.	CAV1-00RF	314254	1104936	SCR	SD	2.4	6340	0.193	MOUNT WRIGHTSON 7.5'	S	-	-	-
CANADA DEL ORO CR.	CDO1-00RF	323100	1104700	SCR	SBR	38.7	4600	0.040	MOUNT LEMMON 7.5'	S	S	S	-
CIENEGA CR.	CIE1-00RF	315306	1103313	SCR	SD	516.3	4050	0.008	THE NARROWS 7.5'	S	S	S	-
GARDNER CR.	GAR1-00RF	314206	1104903	SCR	SD	3.8	6070	0.106	MOUNT WRIGHTSON 7.5'	S	-	-	-
MADERA CR.	MAD1-00RF	314216	1105158	SCR	SD	2.7	6060	0.191	MOUNT WRIGHTSON 7.5'	S	S	S	-
RED ROCK CROSSING	RRC1-00RF			SCR					MT HUGHES 7.5'	-	S	-	-
SABINO CR.	SAB1-00RF	322213	1104703	SCR	SBR	47.1	3720	0.045	SABINO CANYON 7.5'	S	S	S	-
SANTA CRUZ R.	SCR1-00RF	312057	1103524	SCR	SD	252.9	4630	0.004	LOCHIEL 7.5'	S	S	-	-
SANTA CRUZ R. @ RANCHO SANTA CRUZ	SCR2-00ED	323043	1110215	SCR	SD		3280		TUBAC 7.5'	-	-	S	-
SYCAMORE CR. (SONORA)	SYS1-00RF	312440	1111139	SON	SD	29.1	3790	0.021	RUBY 7.5'	S	S	S	-
ARAVAIPA CANYON (UPPER)	ARA1-00RF	325412	1102740	SPR	SD	1036.6	2980	0.006	BOOGER CANYON 7.5'	S	S	S	-
ARAVAIPA CANYON (LOWER)	ARA2-00RF	325436	1103300	SPR	SD	1278.1	2650	0.006	BRANDENBURG MOUNTAIN	S	S	S	-
BASS CANYON	BAS1-00RF	322106	1101405	SPR	SD	87.1	4040	0.021	HOOKERS HOT SPRINGS 7.5'	S	S	S	-
CARR CYN	CAR1-00RF	322537	1101824	SPR	SD					-	-	-	S
GOUDY CR.	GOU1-00RF	323912	1095712	SPR	SD	17.8	5400	0.085	WEBB PEAK 7.5'	S	S	-	-
HOT SPRINGS CANYON	HSC1-00RF	322118	1101616	SPR	SD	246.2	3830	0.009	SOZA MESA 7.5'	S	S	S	-
MILLER CYN	MIL1-00RF	312457	1101631	SPR	SD					-	-	-	S
RAMSEY CANYON	RAM1-00RF	312614	1101907	SPR	SD	7.2	6175	0.114	MILLER PEAK 7.5'	S	S	S	S
REDFIELD CANYON	RED1-00RF	322705	1101854	SPR	SD	95.0	3900	0.025	CHERRY SPRING PEAK 7.5'	S	S	S	-
SAN PEDRO R.	SPR1-00RF	313814	1101030	SPR	SD	3196.0	3920	0.003	FAIRBANK 7.5'	S	S	S	S
WARD CANYON	WAR1-00RF	315154	1091945	SPR	SD	7.7	6260	0.091	CHIRICAHUA PEAK 7.5'	S	S	S	S
BLUE R. (UPPER)	BLU1-00RF	334100	1090456	UG	AZNMM	298.4	6110	0.009	MANESS PEAK 7.5'	S	S	S	-
BLUE R. (LOWER)	BLU4-00RF	331940	1091124	UG	AZNMM	1268.3	4310	0.009	FRITZ CANYON 7.5'	S	S	S	-
BONITA CR.	BON1-00RF	325408	1092854	UG	SD		3180	0.009	GILA BOX 7.5'	-	S	S	-
CAMPBELL BLUE R.	CMB1-00RF	334418	1090600	UG	AZNMM	122.4	6670	0.017	MANESS PEAK 7.5'	S	S	S	-
COLEMAN CR.	COL1-00RF	334820	1091113	UG	AZNMM	24.4	7850	0.038	ALPINE 7.5'	S	S	S	-
EAGLE CR. (HONEYMOON)	EAG1-00RF	332844	1092839	UG	AZNMM	261.9	5435	0.017	ROBINSON MESA 7.5'	S	S	S	-
EAGLE CR. (SHEEP WASH)	EAG3-00RF	331738	1092940	UG	AZNMM	985.3	4645	0.008	BEE CANYON 7.5'	S	S	S	-
EAST TURKEY CR.	ETK1-00RF	315430	1091516	UG	SD	5.2	6520	0.136	RUSTLER PARK 7.5'	S	S	S	S
FRYE CR.	FRY1-00RF	324437	1095018	UG	SD	10.4	5800	0.121	MOUNT GRAHAM 7.5'	S	S	S	-
GRANT CR. (BLUE)	GRB1-00RF	333445	1091119	UG	AZNMM	48.0	5580	0.038	BEAR MOUNTAIN 7.5'	S	S	S	-
GRANT CR. (PINALENO)	GRP1-00RF	323903	1095530	UG	SD	25.0	5600	0.114	WEBB PEAK 7.5'	S	S	S	-
LANPHIER CANYON	LAN1-00RF	333510	1090744	UG	AZNMM	26.8	5725	0.047	BEAR MOUNTAIN 7.5'	S	S	S	-
MARIJILDA CR.	MAR1-00RF	324101	1094842	UG	SD	12.7	5520	0.144	MOUNT GRAHAM 7.5'	S	S	S	-
PIGEON CR.	PIG1-00RF	331634	1091338	UG	AZNMM		4300	0.015	FRITZ CANYON 7.5'	-	S	-	-
SOUTH FK CAVE CR.	SFC1-00RF	315113	1091132	UG	SD	28.8	5510	0.030	PORTAL PEAK 7.5'	S	S	S	S
SAN FRANCISCO R. NEW MEXICO	SFNM-00RF			UG						-	S	-	-
SAN FRANCISCO R.	SFR1-00RF	330814	1091642	UG	AZNMM	7132.9	3595	0.004	MITCHELL PEAK 7.5'	S	-	-	-
CONKLIN CR.	CKN1-00RF	334054	1092642	US	AZNMM	18.9	7200	0.049	HOODOO KNOLL 7.5'	S	S	-	-
EAST FORK BLACK R.	EFB1-00RF	334926	1091746	US	AZNMM	264.3	7920	0.015	BUFFALO CROSSING 7.5'	S	S	S	S
HORTON CR.	HOR1-00RF	334209	1091855	US	AZNMM	9.8	7995	0.047	HANNAGAN MEADOW 7.5'	S	S	-	X
N. FK. BEAR WALLOW CR.	NBW1-00RF	333547	1092559	US	AZNMM	16.1	7740	0.045	BALDY BILL POINT 7.5'	S	S	S	S

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SITE NAME	ADEQ SITE ID	LATITUDE	LONGITUD	MAJOR BASIN	ECO- REGION	WTRSHD AREA(sqk)	ELEV. (feet)	GRADIENT (ft/ft)**	USGS QUADRANGLE	YEAR SAMPLED			
										1992	1993	1994	1995
RESERVATION CR.	RES1-00RF	334157	1092836	US	AZNMM	58.9	6790	0.042	HOODOO KNOLL 7.5'	S	S	S	S
WEST FORK BLACK R.	WFB1-00RF	334739	1092522	US	AZNMM	90.1	7800	0.015	BIG LAKE SOUTH 7.5'	S	S	S	S
AMERICAN GULCH EDW	AMG-00ED	341404	1112159	VER	AZNMM				PAYSON SOUTH 7.5'	-	-	S	-
APACHE CREEK	APA1-00RF	345331	1125259	VER						-	-	-	S,F
BLACK CANYON	BLC1-00RF	343915	1120810	VER	AZNMM	11.9	6000	0.042	COTTONWOOD 7.5'	S,F	S,F	F	S,F
BITTER CREEK EDW	BTC1-00ED	344526	1120619	VER						-	-	-	S,F
BEAVER CR. (CAMP VERDE)	BVR4-00IM	343625	1114955	VER	AZNMM		3180		CAMP VERDE 7.5'	-	F	-	S,F
DRY BEAVER CREEK BLW JACKS CYN	DBC2-00IM	344422	1114616	VER						-	-	-	S,X
ELLISON CR. (HEADWATER)	ELL1-00RF	342244	1111029	VER						-	-	-	S,F
ELLISON CR. (ABV CONFL. WITH E. VERDE R)	ELL3-00IM	342107	1111640	VER						-	-	-	S,F
EAST VERDE R. (WASHINGTON PARK)	EVD1-00RF	342516	1111546	VER						-	-	-	S,F
EAST VERDE R. (ELLISON)	EVD2-00IM	342104	1111704	VER	AZNMM	135.6	5165	0.013	PAYSON NORTH 7.5'	S,F	-	-	S,F
EAST VERDE R. (BRUSHY CANYON)	EVD3-00IM	341710	1112200	VER	AZNMM	388.9	4325	0.011	BUCKBOARD MESA 7.5'	S,F	F	F	S,F
EAST VERDE R. (PINE CREEK)	EVD4-00IM	341319	1112929	VER						-	-	-	S,F
EAST VERDE R. (JUST ABV CONFLUENCE WIT	EVD9-00IM	341708	1113938	VER	AZNMM					-	-	-	S
GAP CREEK	GAP1-00RF	342452	1114740	VER						-	-	-	S,F
HOUSTON CREEK	HOU1-00RF	341903	1114302	VER	AZNMM					-	-	-	S,F
LIME CREEK	LIM1-00RF	335918	1114519	VER						-	-	-	S,F
OAK CR. (PINE FLAT)	OAK1-00RF	350054	1114413	VER	AZNMM	222.8	5550	0.027	MOUNTAINEIRE 7.5'	S,F	S,F	F	-
OAK CR. (BLW CAVE SPRINGS CAMPGROUND	OAK2-00RF	350012	1114408	VER	AZNMM		5400		Munds Park	-	-	S	S,F
OAK CR AT SLIDE ROCK S.P.	OAK3-00IM	345647	1114509	VER	AZNMM					-	-	-	S,F
OAK CR. (GRASSHOPPER POINT)	OAK4-00IM	345310	1114353	VER	AZNMM					-	-	-	S,F
OAK CR. (CHAVEZ CROSSING)	OAK6-00IM	345033	1114638	VER	AZNMM					-	-	-	S,F
OAK CR. (RED ROCK STATE PARK)	OAK7-00IM	344846	1114950	VER	AZNMM				Sedona	-	F	-	S,F
OAK CR. (ABV PAGE SPRING FISH HATCHERY	OAK9-00IM	344532	1115335	VER	AZNMM					-	-	-	S,F
OAK CR. (BLW PAGE SPRING FISH HATCHERY	OAK9-02RF	344605	1115334	VER	AZNMM					-	-	-	S,F
PINE CR. (NEAR CONFL. WITH E VERDE)	PIN1-00RF	341327	1112916	VER	AZNMM	119.2	3360	0.021	NORTH PEAK 7.5'	S,F	S,F	S,F	S,F
PINE CR. (HEADWATER)	PIN1-12RF	342516	1112625	VER						-	-	-	S,F
RED CREEK	RDC1-00RF	341012	1114609	VER	AZNMM					-	-	-	S,F
ROUNDTREE CR.	ROU1-00RF	340821	1115047	VER	AZNMM	28.6	3300	0.030	BLOODY BASIN 7.5'	S,F	S,F	F	S,F
SPRING CREEK (OAK CREEK)	SPE1-00RF	344549	1115459	VER						-	-	-	S,F
SYCAMORE CR. (HORSESHOE)	SYH1-00RF	340447	1114204	VER	AZNMM	75.9	2080	0.023	CHALK MOUNTAIN 7.5'	S,F	S,F	F	S,F
SYCAMORE CR. (MAZATZAL)	SYM1-00RF	334454	1113026	VER	AZNMM	291.1	2060	0.008	ADAMS MESA 7.5'	S,F	-	S,F	S,F
SYCAMORE CR. (WILDERNESS)	SYW1-00RF	345256	1120359	VER	AZNMM		3625	0.008	SYCAMORE BASIN 7.5'	-	S,F	S,F	S,F
TANGLE CREEK	TGL1-00RF	340515	1114300	VER						-	-	-	S,F
VERDE R. (PERKINSVILLE)	VER1-00RF	345337	1121241	VER	AZNMM	6614.2	3820	0.003	PERKINSVILLE 7.5'	S,F	S,F	S,F	S,F
VERDE R (JUST EAST OF PAULDEN)	VER1-12RF	345203	1122404	VER						-	-	-	S,F
VERDE R. (COTTONWOOD)	VER3-00IM	344504	1120051	VER	AZNMM		3200		CORNVILLE 7.5'	-	F	-	S,F
VERDE R. (OAK CR)	VER4-00IM	344032	1115621	VER						-	-	-	S,F
VERDE R. (CAMP VERDE)	VER6-00IM	343022	1115006	VER	AZNMM		3000		CAMP VERDE 7.5'	-	F	-	S,F
VERDE R. (BEASLEY FLAT)	VER7-00IM	342848	1114755	VER					HORNER MTN 7.5'	-	-	-	S,F
VERDE R. (SHEEP BRIDGE)	VER8-00IM	340433	1114230	VER	AZNMM		2040		CHALK MTN 7.5'	-	F	-	S,F
WALNUT CREEK	WAL1-00IM	345512	1125052	VER						-	-	-	S,F
WET BEAVER CR.	WBV1-00RF	344024	1114006	VER	AZNMM	286.9	4025	0.025	CASNER BUTTE 7.5'	S,F	S,F	S,F	S,F
WET BEAVER CR. (CAMPGROUND)	WBV2-00IM	344002	1114255	VER					CASNER BUTTE 7.5'	-	-	-	S,F

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SITE NAME	ADEQ SITE ID	LATITUDE	LONGITUD	MAJOR BASIN	ECO- REGION	WTRSHD AREA(sqk)	ELEV. (feet)	GRADIENT (ft/ft)**	USGS QUADRANGLE	YEAR SAMPLED			
										1992	1993	1994	1995
WET BEAVER CR. (MONTEZUMA WELL)	WBV3-00IM	343856	1114500	VER					LAKE MONTEZUMA 7.5'	-	-	-	S,F
WEST CLEAR CR. (UPPER)	WCC1-00RF	343320	1112432	VER	AZNMM	350.4	5985	0.009	CALLOWAY BUTTE 7.5'	S,F	S,F	S,F	S,F
WEST CLEAR CR. (MIDDLE)	WCC2-00R	323340	1112830	VER					CALLOWAY BUTTE 7.5'	-	-	-	S,F
WEST CLEAR CR. (LOWER)	WCC3-00RF	343220	1114100	VER	AZNMM	579.1	3660	0.011	WALKER MOUNTAIN 7.5'	S,F	S,F	S,F	-
WEST CLEAR CR. (CLEAR CR. CAMPGROUND)	WCC4-00IM	343051	1114521	VER	AZNMM		3260		CAMP VERDE 7.5'	-	F	-	S,F
WEBBER CR.	WEB1-00RF	342354	1112151	VER	AZNMM	26.7	5380	0.025	KEHL RIDGE 7.5'	S,F	S,F	S,F	S,F
WEST FORK OAK CR.	WFO1-00RF	345937	1114456	VER	AZNMM	111.5	5310	0.027	WILSON MOUNTAIN 7.5'	S,F	S,F	S,F	S,F
WHITETAIL CR	WHT1-00RF	320002	1091629	WILLCOX	SD					-	-	-	S
RUCKER CR.	RUC1-00RF	314707	1091734	YAQ	SD	18.7	6220	0.030	CHIRICAHUA PEAK 7.5'	S	S	S	S

* - Letter code assigned if no stream segment number currently assigned

** - Measured from sample site to 0.5 miles above site.

S1 - Sample collection and family level analysis performed at ADEQ

X - SITE RECONN. BUT NO SAMPLES COLLECTED

S, F, W = SPRING, FALL, WINTER SEASONAL SAMPLE COLLECTIONS

MAJOR BASIN CODES

BW - Bill Williams River
 LCR - Little Colorado River
 MG - Middle Gila River
 MS - Middle Salt River
 NCOL - Northern Colorado River Mainstem
 SCR - Santa Cruz River
 SON - Sonora Basin
 SPR - San Pedro River
 UG - Upper Gila River
 US - Upper Salt River
 VER - Verde River
 YAQ - Yaqui Basin

ECOREGION CODES

AZNMM - Arizona-New Mexico Mountains
 AZNMP - Arizona-New-Mexico Plateau
 CP - Colorado Plateau
 SBR - Southern Basin and Range
 SD - Southern Deserts

ADEQ - FIXED STATION NETWORK

ADEQ - Fixed Station Network
Southern Regional Office
400 W. Congress, Suite 433
Tucson, AZ 85701
(520) 628-6733

Database: Fixed Station Network Surface Water Database

Contact: Lin Lawson

Telephone: (520) 628-6739

Fax: (520) 628-6745

Data storage: paper files and QuattroPro

Available output formats: ASCII

Water types: surface water, treated effluent

Sample points: 37

Area of coverage: Statewide. Monitoring stations in the local area are listed below. The data available for each of these stations are summarized on the following pages.

D-12-12-35bba, D-15-13-26bbb, D-18-13-23aaa, D-21-10-28bcd, D-21-9-13bdd, D-20-14-11aac, D-19-14-35cdd, D-22-13 (Lat 313037.0 Long 1110058.0), D-13-14-28dba, D-21-10-28dac, D-23-14-22cdb, D-21-13 (Lat 313344.0 Long 1110244.0), D-22-13 (Lat 313854.2 Long 1110255.3), D-22-13 (Lat 313245.0 Long 1110224.0), D-11-16-31bdc, D-21-13-8ccd, D-24-17-11cdc, D-18-17-14dda, D-14-13-11ddc, D-13-15-9dbd, D-13-15-29ccc, D-16-17-34add, D-16-16-24bbc, D-22-15 (Lat 313057.0, Long 1104732.0), D-16-17-19dcc, D-22-15 (Lat 313133.0 Long 1104643.0), D-22-15 (Lat 313054.0 Long 1104704.0), D-22-15-12aad, D-22-15 (Lat 313150.0 Long 1104646.0), D-22-15-12dbb, D-22-15-12aad, D-24-15-18dcc, D-24-15-6aad, D-24-14-17aac, D-24-14-20bbb, D-22-13 (@ Calabasas Rd. Bridge), D-23-14-30caa.

Location: D-12-12-35bba

Water type: treated effluent

Date range: 1986 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-15-13-26bbb

Water type: surface water

Date range: 1986

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients

Location: D-18-13-23aaa

Water type: surface water

Date range: 1986

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients

Location: D-21-10-28bcd

Water type: surface water

Date range: 1990 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-21-9-13-bdd

Water type: surface water

Date range: 1990 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-20-14-11aac

Water type: surface water

Date range: 1991

Sampling frequency: 1

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-19-14-35cdd

Water type: surface water

Date range: 1991

Sampling frequency: 1

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-13 (Lat 313037.0, Long 1110058.0)

Water type: surface water

Date range: 1990

Sampling frequency: 1

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-13-14-28dba

Water type: surface water

Date range: 1990

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients

Location: D-21-10-28dac

Water type: surface water

Date range: 1990 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-23-14-22cdb

Water type: surface water

Date range: 1993

Sampling frequency: 12 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-21-13 (Lat 313344.0, Long 1110244.0)

Water type: treated effluent

Date range: 1993 to 1995

Sampling frequency: 12 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-13 (Lat 313854.2, Long 1110255.3)

Water type: treated effluent

Date range: 1992 to 1993

Sampling frequency: 12 per year

Data types: major inorganic, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-13 (Lat 313245.0, Long 1110224.0)

Water type: treated effluent

Date range: 1993

Sampling frequency: 4

Data types: major inorganic, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-11-16-31bdc

Water type: surface water

Date range: 1991 to 1993

Sampling frequency: 6 per year

Data types: major inorganic, trace metals, microbiological, nutrients

Location: D-21-13-8ccd

Water type: treated effluent

Water type: treated effluent

Date range: 1992

Sampling frequency: 6 per year

Data types: major inorganic, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-24-17-11cdc

Water type: surface water

Date range: 1990 to 1994

Sampling frequency: 4 per year

Data types: major inorganic, trace metals, nutrients, physical parameters, streamflow

Location: D-18-17-14dda

Water type: surface water

Date range: 1992 to 1994

Sampling frequency: 4 per year

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-14-13-11ddc

Water type: surface water

Date range: 1990

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients

Location: D-13-15-9dbd

Water type: surface water

Date range: 1989 and 1991

Sampling frequency: 3

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-13-15-29ccc

Water type: surface water

Date range: 1989

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-16-17-34add

Water type: surface water

Date range: 1989 to 1990 and 1993

Sampling frequency: 11

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-16-16-24bbc

Water type: surface water

Date range: 1989 to 1990

Sampling frequency: 6

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-15 (Lat 313057.0, Long 1104732.0)

Water type: surface water

Date range: 1992 to 1993

Sampling frequency: 2

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-16-17-19dcc

Water type: surface water

Date range: 187 to 1995

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-15 (Lat 313133.0, Long 1104643.0)

Water type: surface water

Date range: 1992

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-22-15 (Lat 313054.0, Long 1104704.0)

Water type: surface water

Date range: 1992

Sampling frequency: 1

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-22-15-12aad

Water type: treated effluent

Date range: 1991 to 1993

Sampling frequency: 6

Data types: major inorganics, trace metals, nutrients, physical parameters

Location: D-22-15 (Lat 313150.0, Long 1104646.0)

Water type: surface water

Date range: 1991 to 1993

Sampling frequency: 6

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-22-15-12dbb

Water type: treated effluent

Date range: 1988 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-22-15-12aad

Water type: surface water

Date range: 1991 to 1993

Sampling frequency: N/A

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-24-15-18dcc

Water type: surface water

Date range: 1987 to 1996

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-24-15-6aad

Water type: surface water

Date range: 1986 to 1987

Sampling frequency: 3

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

Location: D-24-14-17aac

Water type: surface water

Date range: 1987 to 1996

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-24-14-20bbb

Water Type: surface water

Date range: 1986 to 1987

Sampling frequency: 3

Data types: major inorganics, trace metals, nutrients

Location: D-22-13 (@ Calabasas Rd. Bridge)

Water Type: treated effluent

Date range: 1986 to 1993

Sampling frequency: 6 per year

Data types: major inorganics, trace metals, microbiological, nutrients, physical parameters, streamflow

Location: D-23-14-30caa

Water Type: surface water

Date range: 1986 to 1987

Sampling frequency: 12 per year

Data types: major inorganics, trace metals, nutrients, physical parameters, streamflow

ARIZONA GAME AND FISH DEPARTMENT

Arizona Game and Fish Department
Fisheries Branch
2222 W. Greenway Rd
Phoenix, AZ 85023
(602) 942-3000
Fax (602) 789-3920

The Arizona Game and Fish Department is responsible for managing Arizona's fish and wildlife resources and habitats. The Department's mission is to "conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations" (Arizona Game and Fish Department, 1995).

Information about the Game and Fish Department's water quality data, which PAG obtained by interviewing a Department representative, is summarized below. The Department typically asks that requests for water quality data be made in writing.

Database: Fisheries Branch Water Quality Data

Contact: Marc Dahlberg

Telephone: (602) 942-3000

Fax: (602) 789-3920

Data storage: paper files, DBase

Available output formats: hardcopy

Water types: surface water

Sample points: 50 to 100

Date range: 1980 to 1996

Sampling frequency: variable; possibly 3 to 4 times per year for a given area

Area of coverage: public waterways statewide, excluding Reservations

Data types: major inorganics, trace metals, nutrients, physical parameters

ARIZONA GEOLOGICAL SURVEY

Arizona Geological Survey
416 W. Congress St. Suite 100
Tucson, AZ 85701
(520) 770-3500
Fax (520) 770-3505

The mission of the Arizona Geological Survey (AGS) is to "provide unbiased earth-science information to the public, businesses, and governmental agencies to facilitate development of relevant policies and courses of action for prudently managing and using Arizona's land, water, mineral, and energy resources" (AZGS, 1996). The AGS has a wide variety of programs and functions. Among those listed at the Survey's web site are: answering requests for information and assistance; operating the Center for Land-Subsidence and Earth-Fissure Information; maintaining a library of geologic reports, maps, and data files; mapping geologic features; investigating geologic resources; preparing and publishing geologic maps and reports; monitoring oil, gas, geothermal, and helium drilling activities; providing administrative and staff support for the Oil and Gas Conservation Commission; and publishing *Arizona Geology*, which informs constituents about AGS activities.

PAG contacted the AGS and was provided with the following information for the data directory:

Database: Wells Database (AZWELL)

Contact: Tom McGarvin

Telephone: (520) 770-3500

Fax: (520) 770-3505

Data storage: DBase

Available output formats: DBF, ACSII, hardcopy

Sample points: 2,000 to 3,000 wells

Date range: mostly pre-1980

Area of coverage: statewide

Data types: cuttings and drillers logs

UNITED STATES GEOLOGICAL SURVEY

United States Geological Survey
MS804 National Center
Reston, VA 20192

United States Geological Survey
375 S. Euclid Ave.
Tucson, AZ 85719
(520) 670-6671

According to the United States Geological Survey (USGS) Home Page on the World Wide Web (http://www.usgs.gov/reports/yearbooks/1992/pp_mission.html), the mission of the USGS is "to provide geologic, topographic, and hydrologic information that contributes to the wise management of the Nation's natural resources and that promotes the health, safety, and well-being of the people. This information consists of maps, databases, and descriptions and analyses of the water, energy, and mineral resources, land surface, underlying geologic structure, natural hazards, and dynamic processes of the earth." As part of this mission, the USGS has conducted numerous hydrologic studies throughout the United States, and these studies are published in *Circulars*, *Professional Papers*, and *Water Supply Papers*.

Among other programs, the USGS maintains the National Water Information Center, the Water Data Storage and Retrieval System (WATSTORE), and the National Water Data Exchange (NAWDEX).

The National Water Information Center is designed to "serve as a focus for the dissemination of water-resources information to all levels of government, academia, the private sector, and the general public." Requests for information can be made by telephone (1-800-h2o-9000) or by e-mail (h2oinfo@usgs.gov) (USGS, 1996a).

According to Todd (1980), "WATSTORE was established in 1971 to provide a large-scale computerized system for the storage and retrieval of water data." WATSTORE consists of several files in which water data are grouped according to common characteristics and collection frequencies. The files contain: (1) surface water, water quality, and groundwater data measured daily or more frequently; (2) peak values for streamflow stations; (3) chemical analyses for surface water and groundwater sites; (4) geologic and inventory data for groundwater sites; and (5) water use summary data (USGS, 1996b).

Three files are generally used in retrieving data from WATSTORE. The "Daily Values File" contains daily values data for more than 32,000 sites; the data include streamflow, gage height, water temperature, specific conductance, sediment discharges, and groundwater levels. The "Water-Quality File" contains more than 1.8 million sampling results collected at more than 300,000 sites nationwide. Data for up to 185 different constituents are included. The "Peak Flow File" contains annual peak streamflow data, annual maximum gage height data, and data for peaks above a baseflow for more than 23,000 surface water sites nationwide (USGS, 1996b).

The National Water Data Exchange (NAWDEX) is a "national confederation of water-oriented organizations working together to improve access to water data." The goal of the program is to assist users of water data in locating and acquiring the data they need (Blackwell, 1996).

In order to find out what types of water quality data were available for Arizona, PAG contacted a representative from the USGS' Phoenix office. The following information was obtained.

Contact: Cheryl Partin or Shirley Francisco

Telephone: (602) 379-3087 ext 237 (C.P.) or (602) 379-3087 ext 241 (S. F.)

Fax: (602) 379-3138

Data storage: electronic database

Available output formats: ASCII, hardcopy

Water types: groundwater, surface water, wastewater, CAP water

Sample points: currently about 50, historically several hundred

Area of coverage: statewide

Data types: major inorganics, trace metals, VOCs, pesticides, microbiological, radionuclides, nutrients, physical parameters, well construction, water levels, flow rates

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

U.S. Environmental Protection Agency
401 M St., S.W.
Washington, DC 20460

U.S. Environmental Protection Agency - Region 9 Office
75 Hawthorne St.
San Francisco, CA 94105
(415) 744-1500

The United States Environmental Protection Agency (EPA) was created in 1970 to address environmental problems and to ensure public health and safety. EPA has nine regional offices nationwide; EPA headquarters are located in Washington, D.C. Arizona is included in Region 9, which also includes California, Nevada, Hawaii, and the Pacific Islands subject to U.S. law, as well as 140 Tribal Nations. The Region 9 office is located in San Francisco, CA. Each regional office works with the appropriate state, local, and/or tribal government to implement the nation's environmental laws. The Water Management Division for each region is responsible for implementing programs which protect the environment and public health by regulating surface and groundwater quality. The 1986 amendments to the Safe Drinking Water Act (SDWA) and the 1987 amendments to the Clean Water Act (CWA) provide the primary authority for most EPA water quality programs.

PAG referred to EPA's World Wide Web Home Page to gather information on databases related to water quality. This Home Page can be accessed through the World Wide Web at the following address: <http://www.epa.gov>. Additional Home Pages created specifically for the EPA's Office of Water can also be selected from the EPA main Home Page.

EPA's Office of Water maintains a computerized database utility entitled "STORET." It is used for the storage and retrieval of parametric data associated with water quality for the entire nation. Federal, state, interstate, and local governments, as well as private contractors, provide data to STORET. The STORET database includes several separately accessed, yet interrelated groups of information covering:

- 1) Geographical, political, and descriptive information for all monitoring sites;
- 2) Measurements of physical characteristics as well as the chemical composition of water, fish tissue, or sediment;
- 3) Biological Field Surveys (includes descriptions and counts of living organisms found at monitoring locations); and
- 4) United States Geological Survey stream flow data taken from the "Daily Values" system.

In addition, the data base can perform a variety of helpful, time-saving functions including data

availability summaries, tabular data reports, statistical data analyses, graphics and maps, and data preparation for down-load to other systems. A beginner's toolkit for using STORET is available on-line through the EPA's Home Page at <http://www.epa.gov/OW/STORET/Docs/toolkit>.

Anyone with a personal computer can access STORET by using one of the two free software packages provided by EPA's National Computer Center (EPA/NCC): either KERMIT version 2.30, a nationally known communications software package, or ARBITER, which has been licensed for unlimited distribution through the EPA/NCC. Once the necessary software has been obtained, there are several methods for retrieving STORET data.

- 1) Through the Freedom of Information Act (FOIA), one can request STORET data through the appropriate EPA Regional office. A nominal cost-plus charge to cover computer charges is involved.
- 2) The National Water Data Exchange (NAWDEX), which is maintained by the United States Geological Survey, in Reston, Virginia, will locate information for a nominal cost-plus rate. NAWDEX can be reached at (703) 648-5663. NAWDEX can often provide data more quickly than FOIA, which frequently experiences backlogs of requests.
- 3) The National Technical Information Service (NTIS) processes high volume data requests. This service involves becoming trained in direct, hands-on terminal use. However, NTIS does not directly provide any type of training or documentation. All computer use charges are billed directly to a private account set up by NTIS. Costs include a monthly base rate, as well as a charge-back of computer time on a cost-plus basis. NTIS can be contacted at (703) 487-4807.
- 4) Temporary access for contractors employed by the EPA to investigate subjects in which use of STORET data is necessary may obtain a user-ID and account number from their EPA Project Officer. STORET access is revoked upon project completion.
- 5) EPA employees may obtain access to STORET by receiving a user-ID number.
- 6) All federal and state agencies may access STORET directly by establishing accounts with the appropriate office. Federal agency accounts must be established by the Chief, STORET User Assistance, EPA Headquarters, Washington D.C. Non-EPA federal users typically employ an inter-agency transfer of funds to cover computer costs. Accounts for state, inter-state, and local governments are established by the appropriate EPA regional office. In most cases, funding is shared by the user-agency and the EPA. Users with this type of access must have training in the use of STORET which can be obtained through the STORET User Assistance Group.

Database: STORET

Contact: Eric Wilson (Region 9 STORET contact)

Telephone: (415) 744-1964

Fax: N/A

Data storage: EPA Mainframe

Available output formats: DBF, hardcopy

Water types: Groundwater and surface water

Samples points: 800,000 + (as of 1993)

Date range: early 1960's to 1996

Sampling frequency: varies

Area of coverage: nationwide

Data types: Measurement of physical and chemical characteristics of water, fish tissue, or sediment; descriptive, political, and geographical information pertaining to monitoring locations; biological field studies; and stream flow data from U.S.G.S.

For further information contact:

STORET User Assistance
MailStop 4503F
U.S. Environmental Protection Agency
401 M St., S.W.
Washington, DC, 20460
1-800-424-9067

or through Internet access at:

<http://www.epa.gov.OW/STORET/Docs/toolkit>

IV. REFERENCES

Arizona Department of Environmental Quality Information Systems Development Office, 1996a. *The Azurite System - Frequently Asked Questions*.

Arizona Department of Environmental Quality Information Systems Development Office, 1996b. *The Problem, The Mission, the Goals and Objectives*.

Arizona Department of Environmental Quality Information Systems Development Office, 1996c. *Design, Development, and Implementation of AZURITE*.

Arizona Department of Water Resources, 1996. *State of the AMA, Tucson Active Management Area*. DRAFT April 1996.

Arizona Game and Fish Department, 1995. *Wildlife 2000 Strategic Plan*, Public Review Draft, September - October 1995.

Arizona Geological Survey, 1996. Information from World Wide Web, <http://www.state.az.us/gis/index.htm>.

Blackwell, C. D., 1996. *Directory of Member Organizations of the NAWDEX*. USGS Website <http://h2o.usgs.gov/public/nawdex/memrep.html>

Pima Association of Governments, 1996. *Tucson Metropolitan Community Information Database*. Fifth Edition.

Pima Association of Governments, 1994. *Integrating Land Use Planning and Water Quality Planning - A Guide for Planners and Local Officials*.

Pima County Technical Services, 1996. Information from World Wide Web, <http://www.gis.pima.gov>.

Todd, D. K., 1980. *Groundwater Hydrology*.

United States Environmental Protection Agency, 1996. EPA Home Page on the World Wide Web (<http://www.epa.gov>)

United States Geological Survey, 1996a. Information from World Wide Web (<http://h2o.usgs.gov/public/nawdex/wats/intro.html>)

United States Geological Survey, 1996b. Information from World Wide Web (<http://h2o.usgs.gov/public/wrd005.html>)

APPENDIX A. DATA REQUEST FORMS

WATER QUALITY DATA REQUEST FORM
TUCSON WATER

Date Requested: _____

Date Required: _____

Requested by

Name: _____

Company: _____

Address: _____

Phone Number: _____

Purpose of Request: _____

Information Requested:

Source of water (points, wells, TRS, potable, sample ID #...)

Date range or list of dates:

Circle types of data:

Organic

Inorganic

Microbiology

Radiological

All

Specific analytes, tests, or methods:

Data to be sorted by sample points, date, or other:

Other important information:

Type of Report:

Averaged Data (ACHEM)* _____

All Data (PCHEM A) _____

Selected Data (PCHEM B)* _____

* must specify selected data for ACHEM and PCHEM B:

Report Title (up to two lines):

Output Options: Laser Jet _____

3.5" disk (ASCII) _____

Wide Computer Paper _____

5.25" disk (ASCII) _____

Other (specify): _____

PIMA COUNTY TECHNICAL SERVICES
PROJECT LOG

SECURED BY: _____ DATE SECURED: _____ PROJECT NO.: _____

APPROVED BY: _____ DATE APPROVED: _____ DATE ISSUED: _____

PROJECT MANAGER: _____

STAFF ASSIGNED: _____

ESTIMATED START: _____ REQUESTED COMPLETION: _____

PROJECT TITLE: _____

REQUESTOR: [LAST NAME] _____ [FIRST NAME] _____

FIRM: _____

TELEPHONE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

WORK AUTHORIZATION ASSOCIATED: YES [] NO []

WORK REQUIRED: _____

REMARKS: _____

ASSIGNED TASKS: SELECT FROM LIST ON REVERSE SIDE

TSD:DO:090994



HYDROGEOLOGIC DATA REQUEST FORM

Request Date: _____

Requested by:

Name of Person or Firm/Agency _____

Address _____

Phone Number _____ Fax Number _____

Request Category (check appropriate box or describe under "Other"):

Customer _____

Consultant _____

Governmental _____

University/Non-Profit _____

Other _____

Short Description of Use and Purpose of Data Requested: _____

Information Needed (check appropriate boxes):

Legal Description/Location of Water Source(s) of Interest _____

Well Construction Parameters of Interest

Depth _____ Diameter _____ Perforation Interval _____

Date Drilled _____ Ground Surface Elevation _____

Depth to Water (check appropriate box)

Most recent measurement _____

Specific month and year _____

Specific year _____

All available measurements _____

Pumpage Records (check appropriate box)

Most recent measurement _____

Specific month and year _____

Specific year _____

All available measurements _____

Data Format Needed (check one box only):

Computer Database Printout _____

Diskette Copy of Database _____, 3.5" _____ 5.5" _____

Date Required: _____

General Manager's Approval: _____ Approval Date: _____

MDWID Staff Person completing Data Request: _____

Date completed: _____



GROUNDWATER QUALITY DATA REQUEST FORM

Request Date: _____

Requested by:

Name of Person or Firm/Agency _____

Address _____

Phone Number _____ Fax Number _____

Request Category (check appropriate box or describe under "Other"):

Customer _____

Consultant _____

Governmental Agency _____

University/Non-Profit _____

Other _____

Short Description of Use and Purpose of Data Requested: _____

Information Needed (check appropriate boxes):

Legal Description/Location of Water Source(s) of Interest _____

Water Quality Parameters of Interest

Hardness _____ pH _____ Lead _____ Copper _____ Fluoride _____

Total dissolved solids (salinity) _____ Microbiological _____

VOCs (TCE, PCE, etc..) _____ Chlorine Residual _____

Metals (iron, zinc, etc..) _____ Nutrients (nitrates, TOC, etc..) _____

Major inorganics (calcium, sodium, chloride, etc..) _____

SOCs (pesticides, herbicides) _____ Radiochemicals _____

Sample Dates (check appropriate box)

Most recent sample _____

Specific year _____

All available years _____

Data Format Needed (check one box only):

Computer Database Printout _____

Diskette Copy of Database _____, 3.5" _____ 5.5" _____

Date Required: _____

General Manager's Approval: _____ Approval Date: _____

MDWID Staff Person completing Data Request: _____

Date completed: _____

Arizona Department of Environmental Quality

Hydrologic Support and Assessment Section

REQUEST FOR GROUNDWATER INFORMATION

1. PERSON REQUESTING INFORMATION

Name:	Date requested:
Representing:	Purpose of request:
Address:	
Telephone number:	

2. REQUEST RECEIVED BY

Name:	By phone []	In person []
-------	----------------	-----------------

3. LOCATION / TYPE OF REQUEST - BY CADASTRAL [] BY LATITUDE/LONGITUDE []

Township:	Range:	Section(s):	
Quadrant A = N.E.	Quadrant B = N.W.	Quadrant C = S.W.	Quadrant D = S.E.
Latitude:	Longitude:	Basin:	County:
Search sections surrounding above cadastral by [] sections.			
Search [] mile radius of latitude/longitude.			
Other:			

4. LOCATIONS SEARCHED, NUMBER OF RESULTS FOUND AND PAGES IN PRINTED REPORT

5. COMMENTS

6. RESOLUTION

Pages in report: [] @ 25¢ each = [] (+ \$5.00 processing fee)	Total:
Person responding to request:	
Method: Telephone [] In person [] Mail []	Date:

SPECIALIZED DATA REPORT REQUEST

ADEQ SAFE DRINKING WATER

Requested by: _____

Date: _____

Address: _____

Phone: _____

Due Date: _____

Begin Query Date: _____

End Query Date: _____

Search Criteria: _____

SYSTEM ID #	
SYSTEM NAME	
OWNER ADDRESS	
PHONE #	
ACTIVE SYSTEMS	
INACTIVE SYSTEMS	
PWSs ONLY	
ALL TYPES IN DATABASE	
SINGLE CONTAMINANT SEARCH	
SOME CONTAMINANTS: (LIST CODES)	_____ _____
ALL CONTAMINANTS	
SAMPLE DATE ORDER	
CONTAM CODE ORDER	
OTHER:	

STANDARD REPORT REQUEST:

QUICK LOOK: _____

ANNUAL REPORT: _____

OTHER: _____

APPENDIX B. PAG PUBLICATIONS LIST



Pima Association of Governments

September 1996

The following publications are available from Pima Association of Governments. The cost is indicated for each document, however if the documents are mailed out, the cost of postage will be added. Contact PAG at 792-1093 for the following documents:

GENERAL INFORMATION REPORTS AND PUBLICATIONS

Pima Association of Governments Brochure - August 1996	Free
Regional Vision Statement	Free
1995 Population Handbook - August 1996	\$ 10.00
Tucson Metropolitan Community Information Database - June 1996	\$ 10.00
Sources for Economic Development Information - July 1996	Free
Annual Social Services (Title XX) Plan 1993-1994	Free

WATER QUALITY REPORTS AND PUBLICATIONS

Water Quality Documents: Summaries and Information Index - December 1995	Free
---	------

●Planning Reports

1978 Areawide Wastewater Management Plan (208 Plan)	\$ 4.00
208 Areawide Wastewater Plan Point Source Update - 1985	For Review Only
Guide to Areawide Water Quality Management Planning as Required Under Section 208 of the Clean Water Act - April 1990	\$ 10.00
Review of Pima County Interim Dry Well Policy, Final Report - August 1993	\$ 20.00
Integrating Land Use Planning & Water Quality Planning: A Guide for Planners & Local Officials - April 1994	\$ 10.00
Water Quality State of the Region Report - December 1994	\$ 20.00
CAP Water Salinity Impacts on Water Resources of the Tucson Basin - October 1994	\$ 4.00
Water Quality Permits in Pima County - July 1996	\$ 8.00

●Regional Water Quality Reports

DRASTIC Maps of Pima and Santa Cruz Counties (Set of 6 Maps)	Free
Application of Historic Well Closure Information for Protection of Existing Wells - December 1992	\$ 25.00
Incorporation of Wellhead Protection Strategies Into Planning Operations of a Southwestern Water Utility - April 1994	\$ 25.00
An Assessment of Impacts from Septic Systems on Groundwater Quality in Hydrogeologically Sensitive Areas within the Tucson Basin Final Report - May 1993	\$ 25.00

•Landfill Reports

Identification & Analysis of Residuals Disposal System - July 1977	\$ 10.00
Landfill Leachate and Groundwater Quality Analysis: Ina Road Landfill - October 1980	\$ 5.50
Landfill Leachate and Groundwater Quality Analysis: El Camino del Cerro Landfill - October 1980	\$ 4.75
Feasibility of Using Electromagnetic Geophysical Methods to Investigate Landfills and Disturbed Areas in Pima County, Arizona - September 1989	\$ 13.00
An Assessment of Groundwater Quality near the Sahuarita Landfills, Sahuarita, Arizona, Phase I - November 1992	\$ 15.00
An Assessment of Groundwater Quality near the Sahuarita Landfills, Sahuarita, Arizona, Phase II - Final Report May 1993	\$ 7.50
Environmental Assessment of Ten City Operated Landfills - November 1993	\$ 25.00
Landfills and Waste Disposal Sites Along the Upper Santa Cruz River - February 1995	\$ 5.00
Landfills and Waste Disposal Sites Along the Lower Santa Cruz River - February 1995	\$ 5.00
Landfills Along the Santa Cruz River in Tucson and Avra Valley, Arizona - May 1995	\$ 5.00
Identified Public Landfills (Excluding State and Federal Facilities) and Permanent Transfer Stations in Eastern Pima County and Ajo Draft Map - January 1996	color \$ 30.00 blue line \$ 2.00
Landfills and Waste Disposal Sites Along the Santa Cruz River from Grant Road to Pima Mine Road - July 1996	\$ 5.00

•Green Valley Area Reports

Upper Santa Cruz Basin Baseline Report - December 1979	\$ 3.75
Upper Santa Cruz Mines Task Force Detailed Work Program - November 1980	Free
Groundwater Monitoring in the Tucson Copper Mining District - September 1983	
Report Text Only	\$ 8.25
Appendix	\$ 11.50
Complete Report	\$ 18.25
Assessment of Nitrate in Groundwater of the Upper Santa Cruz Basin - September 1983	
Report Text Only	\$ 10.75
Appendix	\$ 6.00
Complete Report	\$ 15.50
Region Wide Groundwater Quality in the Upper Santa Cruz Basin Mines Task Force Study Area - September 1983	
Report Text Only	\$ 7.25
Appendix	\$ 6.50
Complete Report	\$ 11.50
Impacts of the Green Valley Wastewater Treatment Facility Upon Groundwater of the Upper Santa Cruz Basin - March 1986	\$ 9.00
Green Valley - Cortaro Area Management Plans - July 1986	\$ 17.25

•Cortaro Area Reports

Cortaro Area Preliminary Study - October 1981	\$ 2.75
Historical Perspective on Potential Pollution Sources in the Cortaro Area - October 1981	\$ 4.25
Cortaro Area Pollution Source Assessment Recommendations for Water Quality Monitoring - September 1981	Free
Cortaro Area Pollution Source Assessment - June 1984	\$ 30.00
Green Valley - Cortaro Area Management Plans - July 1986	\$ 17.25

•Metro Area Reports

Santa Cruz River Alignment Recharge Study -July 1986 \$ 20.00

Metropolitan Tucson Basin Water Quality and Pollution
Source Assessment, Volumes I, II, and III -
March 1989 \$ 60.00

•Avra Valley Area Reports

Avra Valley Water Quality and Pollution Source
Assessment, Volumes I, II, and III - May 1993 \$100.00

•Miscellaneous Water Quality Reports

Mt. Lemmon NonPoint Water Pollution Abatement Plan -
October 1977 \$ 1.00

Urban Runoff - March 1980 \$ 2.25

Unique Waters Final Nomination Report for Cienega
Creek Natural Preserve, Pima County, Arizona -
November 1990 \$ 10.00

Metropolitan Water District Well Vulnerability
Assessment - November 1995 \$ 10.00

Potential Dioxin Sources in Eastern Pima County -
April 1995 \$ 5.00

Water Quality Assessment for the Tucson AMA Northwest
Replenishment Program Feasibility Study -
June 1996 \$ 12.00

AIR QUALITY REPORTS AND PUBLICATIONS

1978 Nonattainment Area Plan for Total Suspended
Particulate \$ 25.00

1978 Nonattainment Area Plan for Carbon Monoxide \$ 25.00

1982 Updated Nonattainment Area Plan for Carbon Monoxide \$ 17.75