Section 3.7
Duncan Valley Basin

3.7.1 Geography of the Duncan Valley Basin

The Duncan Valley Basin is a relatively small, 550 square mile basin on the eastern edge of the planning area. Geographic features and principal communities are shown on Figure 3.7-1. The basin is characterized by mid-elevation mountain ranges and Chihuahuan desertscrub, semi-desert grassland and madrean evergreen woodland vegetation. (see Figure 3.0-10) Riparian vegetation includes tamarisk and mesquite on the Gila River.

- Principal geographic features shown on Figure 3.7-1 are:
    - Gila River, flowing north from New Mexico in the vicinity of Duncan and exiting the basin west of Guthrie
    - Cold Creek, Linden Creek, Apache Creek and Bitter Creek northeast of Duncan
    - The Peloncillo Mountains west of Duncan along the basin boundary
    - Summit Mountains along the northeastern boundary with New Mexico
    - Big Lue Mountains along the northern boundary, which include the highest point in the basin at 7,022 feet
    - The lowest point at approximately 3,400 feet where the Gila River exits the basin.

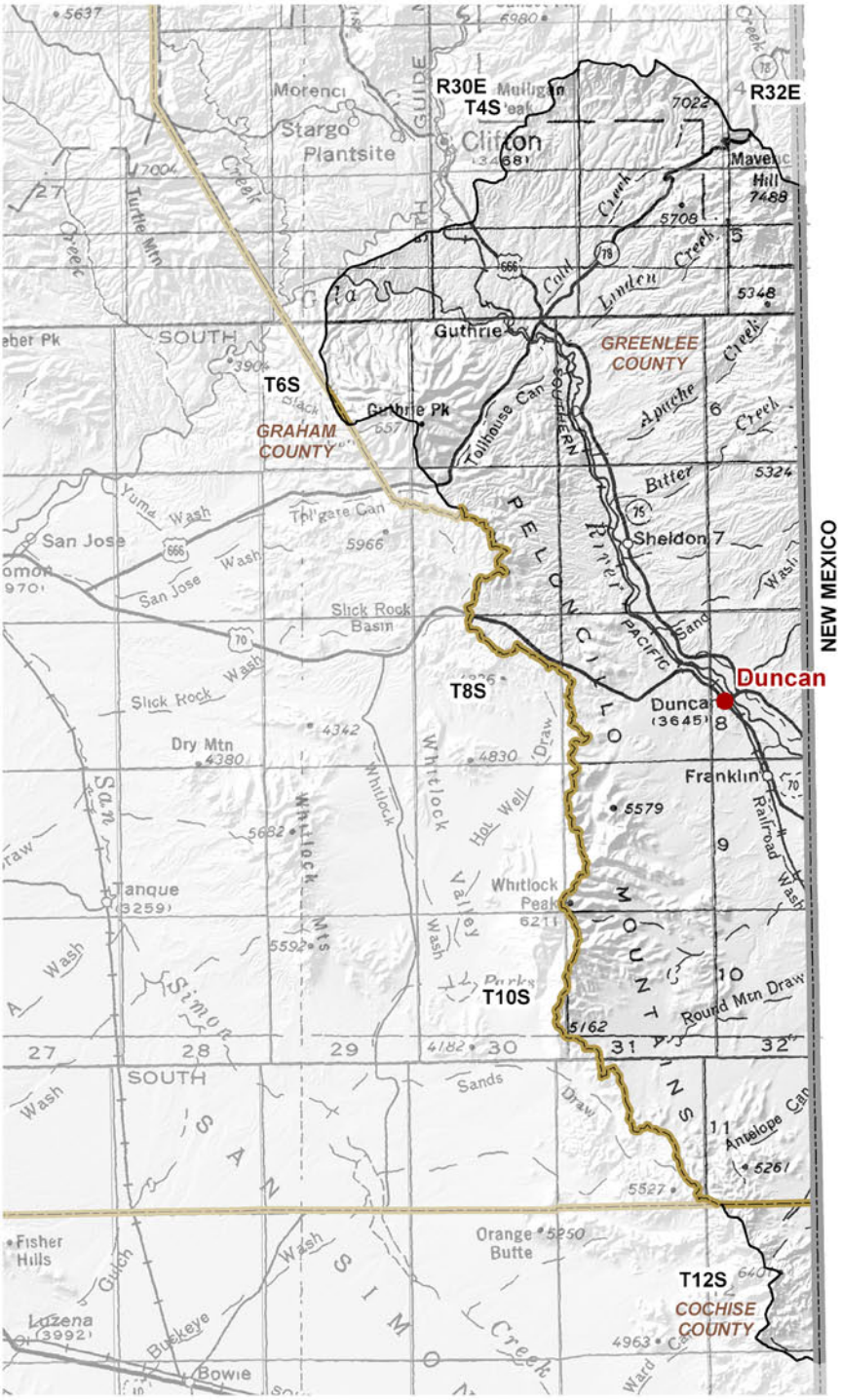


Figure 3.7-1
Duncan Valley Basin
Geographic Features

3.7.2 Land Ownership in the Duncan Valley Basin

Land ownership, including the percentage of ownership in each category, is shown for the Duncan Valley Basin in Figure 3.7-2. Principal features of land ownership in this basin are the two contiguous sections of State Trust Lands and a significant amount of Bureau of Land Management lands. A description of land ownership data sources and methods is found in Volume 1, Appendix A. More detailed information on National Parks, Monuments, Riparian, Conservation, Wildlife and Wilderness Areas is found in Section 3.0.3. Land ownership categories are discussed below in the order of percentage from largest to smallest in the basin.

State Trust

- 44.5% of land in this basin is held in trust for public schools and to a lesser extent the University of Arizona and the hospital for disabled miners.
- State land ownership in this basin consists of two largely contiguous parcels, north and south of Duncan.
- Primary land use is grazing.

U.S. Bureau of Land Management (BLM)

- 37.8% of land is federally owned and managed by the Safford Office of the Bureau of Land Management.
- There are two conservation areas in the basin. The Gila Box National Conservation Area in the northwest corner of the basin and the Peloncillo Mountains Wilderness area in T12S, R32E. (See Figure 3.0-13)
- Primary land uses are grazing and recreation.

Private

- 11.9% of land ownership is private.
- The majority of private land in this basin is around the town of Duncan and along State Highway 75.
- There are a few private land in-holdings within BLM and national forest lands.
- Primary land uses are domestic, commercial and ranching.

National Forest

- 5.8% of land is federally owned and managed by the United States Forest Service (USFS).
- All national forest land in this basin is in the Apache-Sitgreaves National Forest, Clifton Ranger District.
- Primary land uses are timber production and recreation.

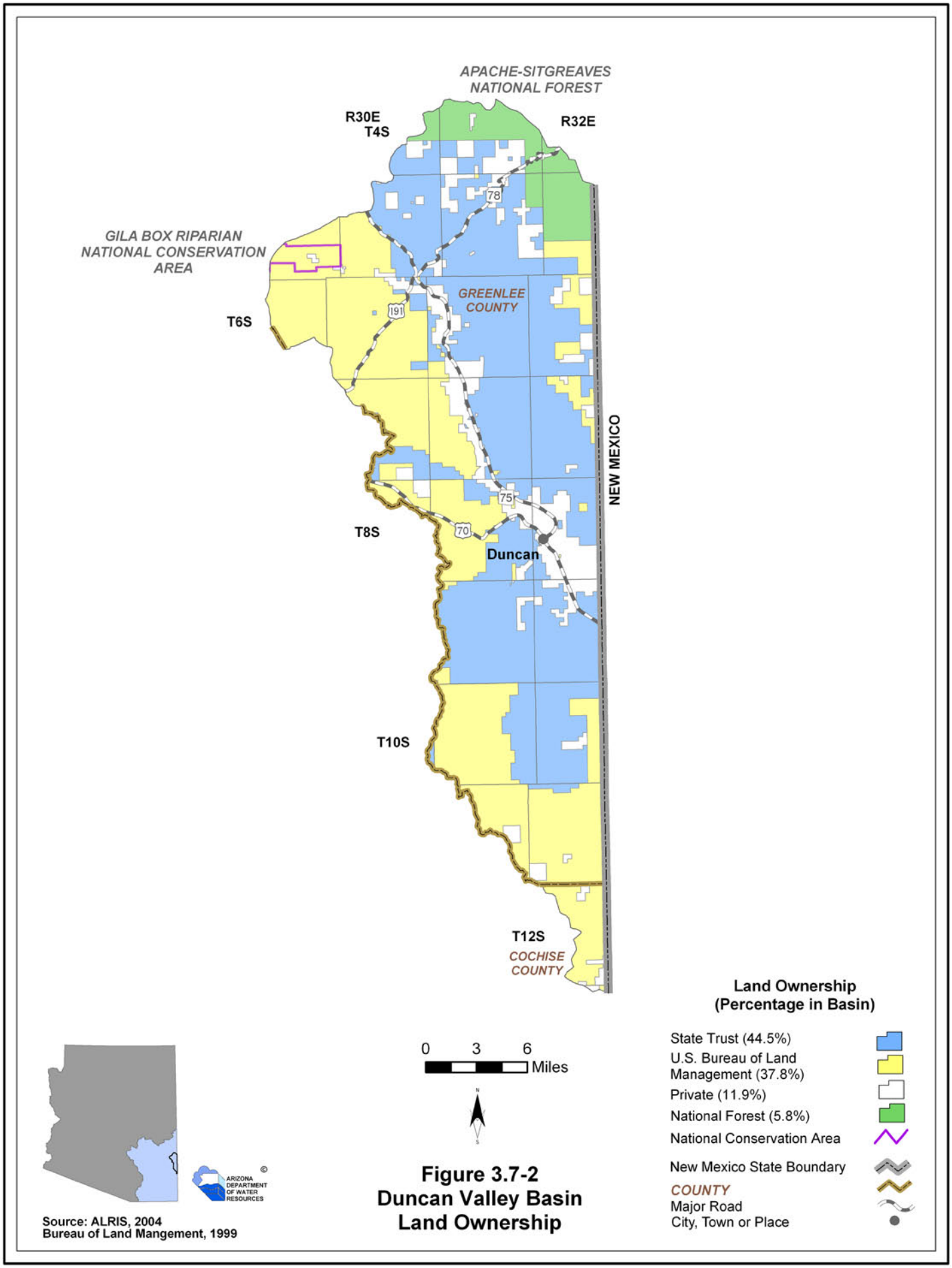


Figure 3.7-2
Duncan Valley Basin
Land Ownership

3.7.3 Climate of the Duncan Valley Basin

Climate data from a NOAA/NWS Coop Network station is complied in Table 3.7-1 and the location is shown on Figure 3.7-3. Figure 3.7-3 also shows precipitation contour data from the Spatial Climate Analysis Service (SCAS) at Oregon State University. The Duncan Valley Basin does not contain Evaporation Pan, AZMET and SNOTEL/Snowcourse stations. More detailed information on climate is found in Section 3.0.4. A description of the climate data sources and methods is found in Volume 1, Appendix A.

NOAA/NWS Coop Network

- Refer to Table 3.7-1A.
- There is one NOAA/NWS Coop network station in the basin at Duncan located at 3,660 feet. The average maximum temperature at the station is 80.2°F and average minimum temperature is 41.3°F.
- The highest seasonal precipitation at this station, 5.50 inches, occurs in the summer (July-September) and the lowest, 1.00 inches, occurs in the spring (April-June).

SCAS Precipitation Data

- See Figure 3.7-3
- Other precipitation data shows rainfall as high as 20 inches in the Peloncillo Mountains and the Big Lue Mountains and as low as 12 inches in the vicinity of Duncan.
- This basin contains the smallest variation in precipitation in the planning area, only 10 inches separates the areas of highest average annual precipitation from the lowest.

Table 3.7-1 Climate Data for the Duncan Valley Basin

A. NOAA/NWS Co-op Network:

Station Name	Elevation (in feet)	Period of Record Used for Averages	Average Temperature Range (in F)		Average Total Precipitation (in inches)				
			Max/Month	Min/Month	Winter	Spring	Summer	Fall	Annual
Duncan	3,660	1971-2000	80.2/Jul	41.3/Dec	2.52	1.00	5.50	3.26	12.28

Source: WRCC, 2005.

B. Evaporation Pan:

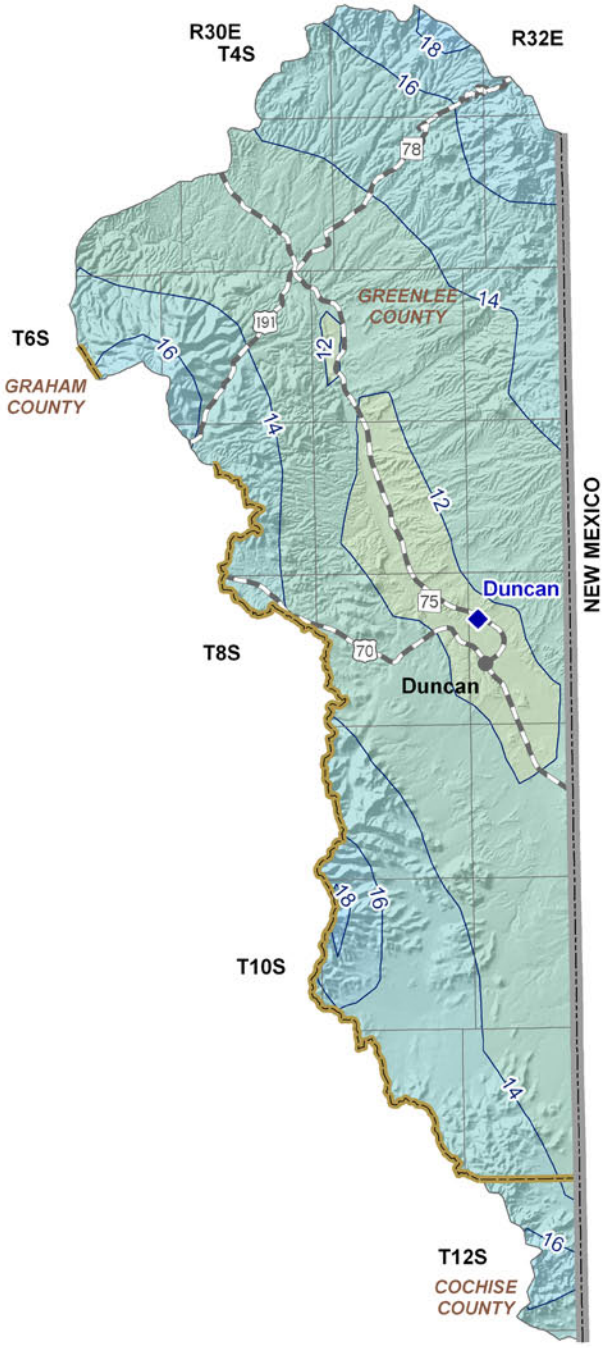
Station Name	Elevation (in feet)	Period of Record Used for Averages	Avg. Annual Evap (in inches)
None			

C. AZMET:

Station Name	Elevation (in feet)	Period of Record	Average Annual Reference Evaportranspiration, in inches (*Number of years to calculate averages*)
None			

D. SNOTEL/Snowcourse:

Station Name	Elevation (in feet)	Period of Record	Average Snowpack, at Beginning of the Month, as Inches Snow Water Content *(Number of measurements to calculate average)*					
			Jan.	Feb.	March	April	May	June
None								



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Precipitation Data Source:
Oregon State University, 1998

Figure 3.7-5
Duncan Valley Basin
Meteorological Stations and
Annual Precipitation

3.7.4 Surface Water Conditions in the Duncan Valley Basin

Streamflow data, including average seasonal flow, average annual flow and other information is shown in Table 3.7-2. Flood ALERT equipment in the basin is shown on Table 3.7-3. Reservoir and stockpond data, including maximum storage or maximum surface area of large reservoirs and type of use of the stored water, are shown in Table 3.7-4. The location of streamflow gages identified by USGS number, flood ALERT equipment, USGS runoff contours and large reservoirs are shown on Figure 3.7-4. Descriptions of stream, reservoir and stockpond data sources and methods are found in Volume 1, Appendix A.

Streamflow Data

- Refer to Table 3.7-2.
- Data from two real-time stations located at the Gila River are shown on the table and on Figure 3.7-4.
- The average seasonal flow is highest in the Winter (January-March) and lowest in the Spring (April-June).
- Only the Gila River near Clifton station has more than three years of annual flow record. At this station, maximum annual flow was 480,118 acre-feet in 1915 and minimum annual flow was 17,670 acre-feet in 1956.

Flood ALERT Equipment

- Refer to Table 3.7-3.
- There is one station in the basin as of October 2005.

Reservoirs and Stockponds

- Refer to Table 3.7-4.
- There is one large reservoir and two small reservoirs in this basin.
- The large reservoir has a maximum surface area of 124 acres. This reservoir is used for fire protection or is a stock/farm pond.
- There are an estimated 373 stockponds in this basin.

Runoff Contour

- Refer to Figure 3.7-4.
- Average annual runoff varies from 0.5 inches, or 26.65 acre-feet per square mile, at the northern tip of the basin to 0.2 inches, or 10.66 acre-feet per square mile, in the southern portion of the basin.

Table 3.7-2 Streamflow Data for the Duncan Valley Basin

Station Number	USGS Station Name	Drainage Area (in mi^2)	Gage Elevation (in feet)	Period of Record	Average Seasonal Flow (% of annual flow)				Annual Flow (in acre-feet/year)				Years of Annual Flow Record
					Winter	Spring	Summer	Fall	Minimum	Median	Mean	Maximum	
9439000	Gila River at Duncan	NA	3,663	11/2002-current (real time)	No statistics run, less than 3 years data								1[1]
9442000	Gila River near Clifton	4,010	3,336	11/1910-current (real time)	39	16	23	22	17,670 (1956)	114,417	147,837	480,118 (1915)	69

Source: USGS (NWIS) 2005 & 2008

Notes:
NA=Not available
Statistics based on Calendar Year
Annual Flow statistics based on monthly values
Summation of Average Annual Flows may not equal 100 due to rounding
Period of record may not equal Year of Record used for annual Flow/Year statistics due to only using years with a 12 month record
In Period of Record, current equals November 2008
Seasonal and annual flow data used for the statistics was retreived in 2005
[1]Year 2003 was the only year with 12 months of data

Table 3.7-3 Flood ALERT Equipment in the Duncan Valley Basin

Station ID	Station Name	Station Type	Install Date	Responsibility
595	Duncan City Hall	Precipitation	12/3/1996	Town of Clifton

Source: ADWR 2005a

Table 3.7-4 Reservoirs and Stockponds in the Duncan Valley Basin

A. Large Reservoirs (500 acre-feet capacity and greater)

MAP KEY	RESERVOIR/LAKE NAME (Name of dam, if different)	OWNER/OPERATOR	MAXIMUM STORAGE (AF)	USE	JURISDICTION
None identified by ADWR at this time					

B. Other Large Reservoirs (50 acre surface area or greater)[1]

MAP KEY	RESERVOIR/LAKE NAME (Name of dam, if different)	OWNER/OPERATOR	MAXIMUM SURFACE AREA (acres)	USE[2]	JURISDICTION
1	Lost	AZ Land Dept.	124	P	Landowner

Source: Compilation of databases from ADWR & others

C. Small Reservoirs (greater than 15 acre-feet and less than 500 acre-feet capacity)

Total number: 0
Total maximum storage: 0 acre-feet

D. Other Small Reservoirs (between 5 and 50 acres surface area)[1]

Total number: 2
Total surface area: 38 acres

E. Stockponds (up to 15 acre-feet capacity)

Total number: 373 (from water right filings)

Notes:
[1]Capacity data not available to ADWR
[2]P=fire protection, stock or farm pond

Stream Data Source: ALRIS, 2005

Figure 3.7-4
Duncan Valley Basin
Surface Water Conditions

3.7.5 Perennial/Intermittent Streams and Major Springs in the Duncan Valley Basin

Major and minor springs with discharge rates and date of measurement, and the total number of springs in the basin are shown in Table 3.7-5. The locations of major springs as well as perennial and intermittent streams are shown on Figure 3.7-5. Descriptions of data sources and methods for intermittent and perennial reaches and springs are found in Volume 1, Appendix A.

- There is one perennial stream, the Gila River, in the northern portion of the basin.
- Several intermittent streams are located in the northeastern portion and along the western boundary of the basin. The Gila River is also an intermittent stream through a portion of the basin.
- There are two major springs with a measured discharge of 10 gallons per minute (gpm) or greater at any time. The largest discharge rate was 30 gpm at Gillard Hot Spring.
- Springs with measured discharge of 1 to 10 gpm are not mapped but coordinates are given in Table 3.7-5. There is one minor spring identified in this basin.
- Listed discharge rates may not be indicative of current conditions. Most of the measurements were taken prior to 1983. Only the minor spring measurement post-dates 1983.
- The total number of springs identified by the USGS varies from 30 to 36, depending on the database reference.

Table 3.7-5 Springs in the Duncan Valley Basin

A. Major Springs (10 gpm or greater):

Map Key	Name	Location		Discharge (in gpm)[1]	Date Discharge Measured
		Latitude	Longitude		
1	Gillard Hot	325823	1092059	30	03/1981
2	Bert's Shack	325654	1090347	15	04/1981

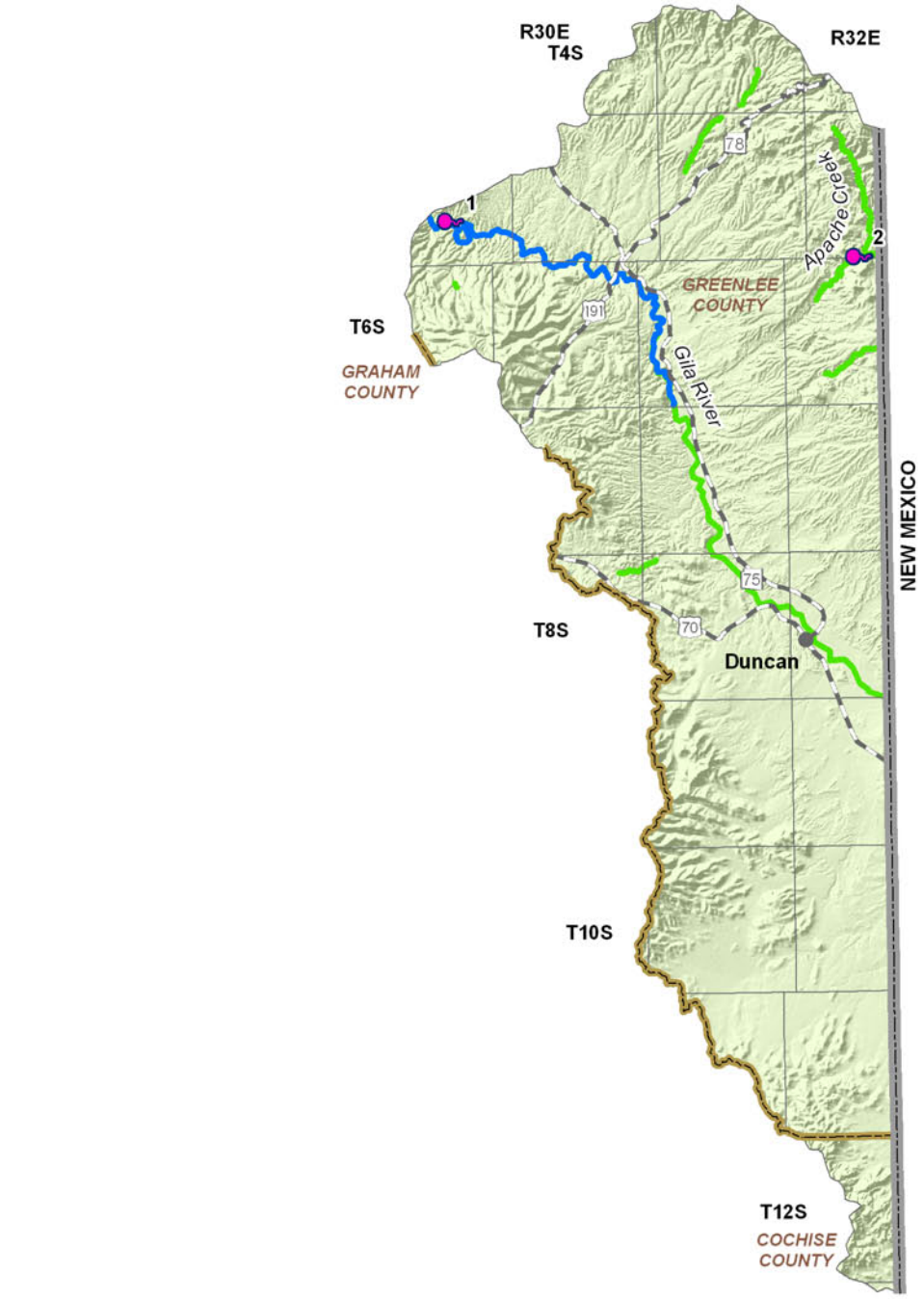
B. Minor Springs (1 to 10 gpm):

Name	Location		Discharge (in gpm)[1]	Date Discharge Measured
	Latitude	Longitude		
Zwan[2]	325708	1091655	6	07/1992

Source: Compilation of databases from ADWR & others

C. Total number of springs, regardless of discharge, identified by USGS (see ALRIS, 2005a and USGS, 2006a): 30 to 36

Notes:
[1]Most recent measurement identified by ADWR
[2]Location approximated by ADWR



Stream Data Source: AGFD, 1993 & 1997; Brown and Carmony, 1981

0 3 6 Miles

Figure 3.7-5
Duncan Valley Basin
Perennial/Intermittent Streams and Major (>10 gpm) Springs

Springs 1
Intermittent Streams
Perennial Streams
New Mexico State Boundary
COUNTY
Major Road
City, Town or Place

3.7.6 Groundwater Conditions of the Duncan Valley Basin

Major aquifers, well yields, estimated natural recharge, estimated water in storage, number of index wells and date of last water-level sweep are shown in Table 3.7-6. Figure 3.7-6 shows aquifer flow direction and water-level change between 1990-1991 and 2003-2004. Figure 3.7-7 contains hydrographs for selected wells shown on Figure 3.7-6. Figure 3.7-8 shows well yields in five yield categories. A description of aquifer data sources and methods as well as well data sources and methods, including water-level changes and well yields are found in Volume 1, Appendix A.

Major Aquifers

- Refer to Table 3.7-6 and Figure 3.7-6.
- The major aquifers in the basin are recent stream alluvium, consisting of gravel and sand underlain by clay, and Gila Formation sedimentary rock, consisting of poorly consolidated sand, silt and gravel.
- The principal source of groundwater is the recent stream alluvium.
- Flow direction is generally from the south to the northwest.

Well Yields

- Refer to Table 3.7-6 and Figure 3.7-8.
- As shown on Figure 3.7-8 well yields in this basin range from less than 100 gallons per minute (gpm) to more than 2,000 gpm.
- One source of well yield information, based on 160 reported wells, indicates that the median well yield in this basin is 850 gpm.

Natural Recharge

- Refer to Table 3.7-6.
- Natural recharge estimates range from 6,000 acre-feet per year to 14,200 acre-feet per year.

Water in Storage

- Refer to Table 3.7-6.
- Storage estimates for this basin range from nine million acre-feet to 19 million acre-feet to a depth of 1,200 feet.

Water Level

- Refer to Figure 3.7-6. Water levels are shown for wells measured in 2003-2004.
- The Department annually measures 11 index wells in this basin. Hydrographs for three of these wells are shown in Figure 3.7-7.
- Depth to water varies in this basin with the deepest recorded water level measured during 2003-2004 at 504 feet at the northwestern basin boundary and the shallowest at 21 feet in the vicinity of Duncan.
- All recorded wells in this basin have declined between 1 and 15 feet between 1990-1991 and 2003-2004.

Table 3.7-6 Groundwater Data for the Duncan Valley Basin

Basin Area, in square miles:	550	
Major Aquifer(s):	**Name and/or Geologic Units**	
	Recent Stream Alluvium	
	Sedimentary Rock (Gila Formation)	
Well Yields, in gal/min:	Range 4 - 4,000 Median 850 (165 wells reported)	Reported on registration forms for large (> 10-inch) diameter wells
	Range few - 2,350	ADWR (1994b)
	Range 0 - 2,500	Anning and Duet, USGS (1994)
Estimated Natural Recharge, in acre-feet/year:	14,200	ADWR (1994b)
	6,000	Freethey and Anderson (1986)
	8,000	Arizona Water Commission (1975)
Estimated Water Currently in Storage, in acre-feet:	19,000,000 (to 1,200 ft)	ADWR (1994b)
	9,000,000[1] (to 1,200 ft)	Freethey and Anderson (1986)
	19,000,000 (to 1,200 ft)	Arizona Water Commission (1975)
Current Number of Index Wells:	11	
Date of Last Water-level Sweep:	1987 (182 wells measured)	

Notes:
[1]Predevelopment Estimate

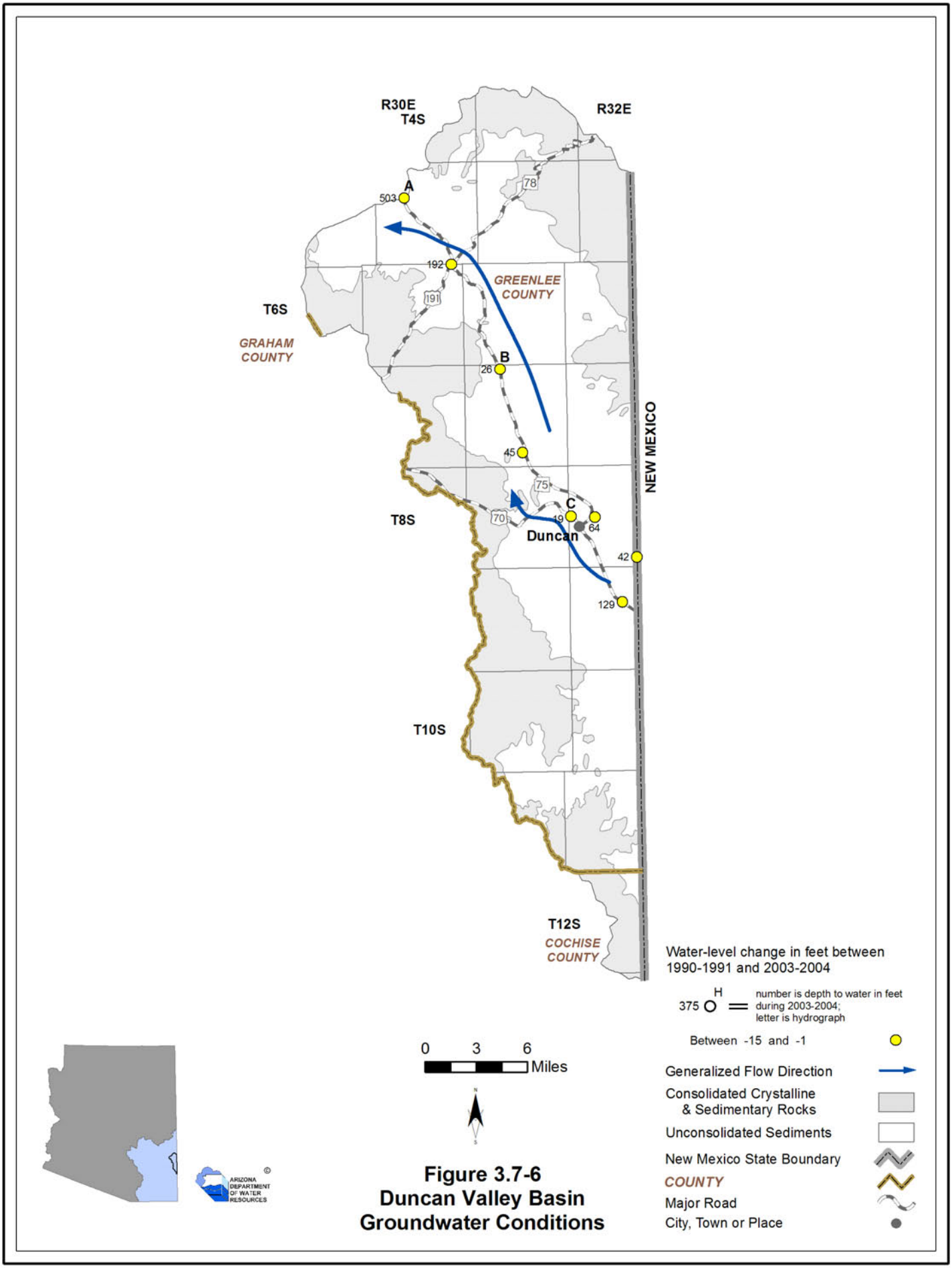
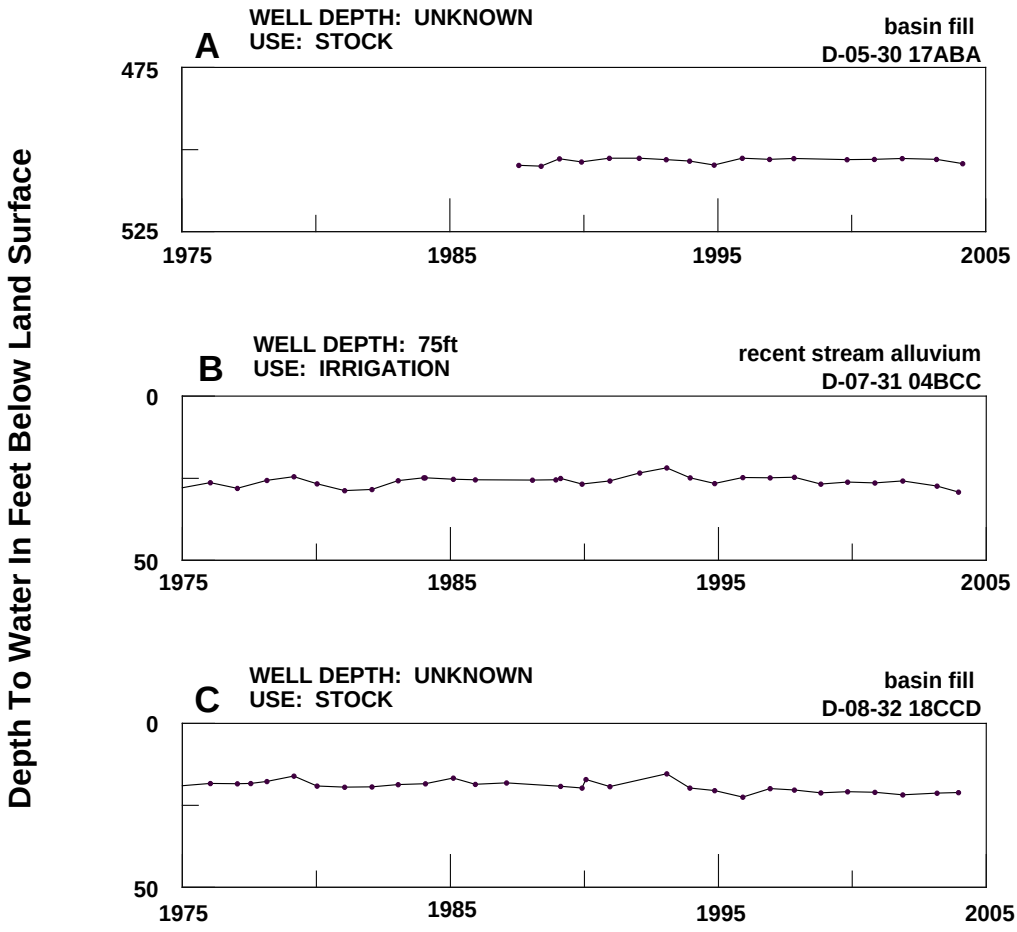
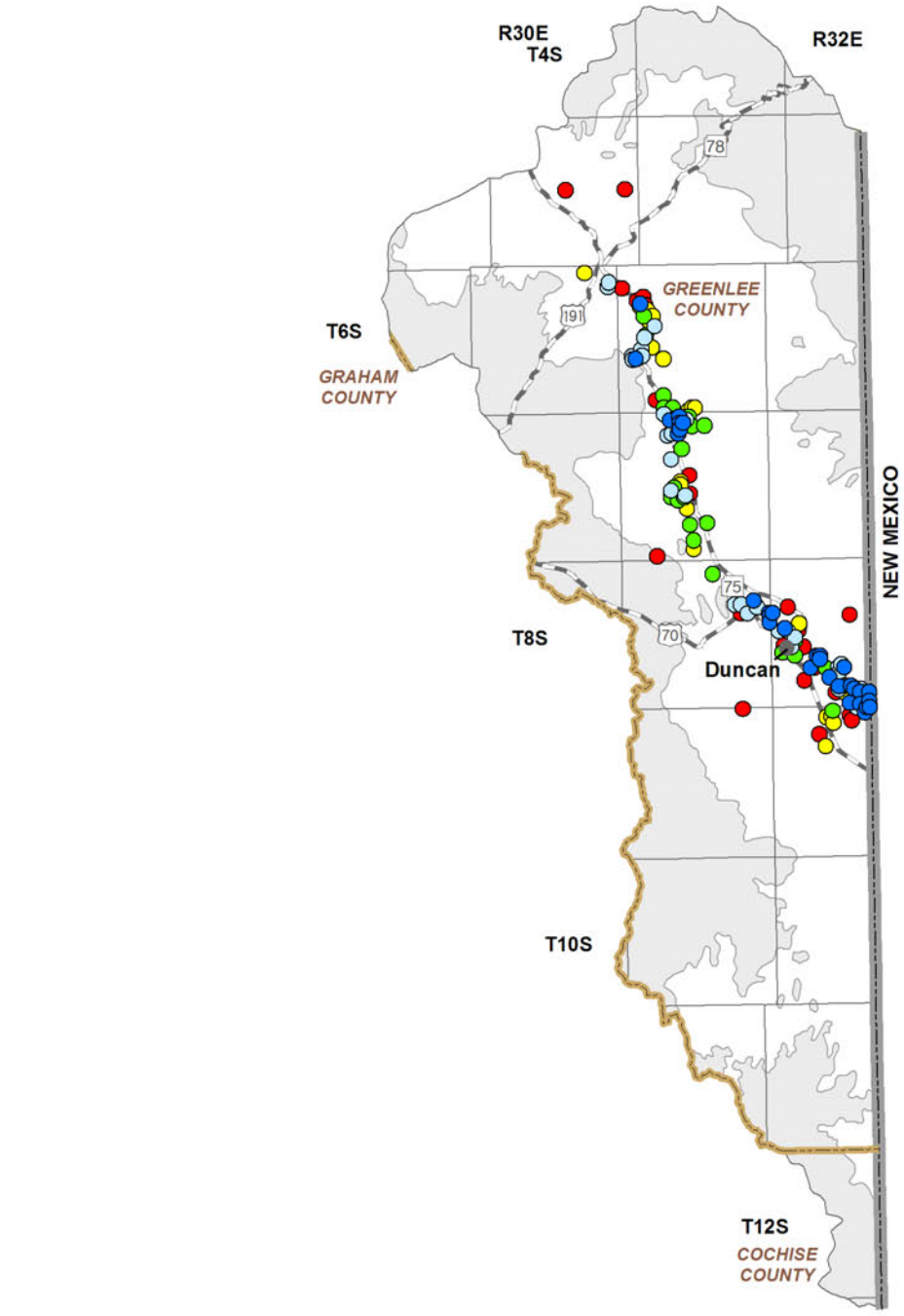
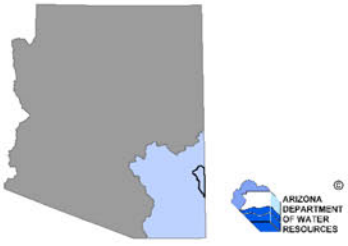


Figure 3.7-6
Duncan Valley Basin
Groundwater Conditions

Figure 3.7-7
Duncan Valley Basin
Hydrographs Showing Depth to Water in Selected Wells







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0 3 6
Miles

Figure 3.7-8
Duncan Valley Basin
Well Yields

Well Yields
- Greater than 2000 gals/min
- Between 1000 and 2000 gals/min
- Between 500 and 1000 gals/min
- Between 100 and 500 gals/min
- Less than 100 gals/min

Consolidated Crystalline & Sedimentary Rocks
Unconsolidated Sediments
New Mexico State Boundary
COUNTY
Major Road
City, Town or Place

3.7.7 Water Quality of the Duncan Valley Basin

Sites with parameter concentrations that have equaled or exceeded drinking water standard(s) (DWS), including location and parameter(s) are shown in Table 3.7-7A. Impaired lakes and streams with site type, name, length of impaired stream reach, area of impaired lake, designated use standard and parameter(s) exceeded is shown in Table 3.7-7B. Figure 3.7-9 shows the location of exceedences and impairment keyed to Table 3.7-7. Not all parameters were measured at all sites; selective sampling for particular constituents is common. A description of water quality data sources and methods is found in Volume 1, Appendix A.

Well, Mine or Spring sites that have equaled or exceeded drinking water standards (DWS)

- Refer to Table 3.7-7A.
- Thirty-seven sites have parameter concentrations that have equaled or exceeded DWS.
- The most frequently equaled or exceeded parameter was arsenic
- Other parameters commonly equaled or exceeded in the sites measured in this basin were nitrate, total dissolved solids, mercury, cadmium and radionuclides.

Lakes and Streams with impaired waters

- Refer to Table 3.7-7B.
- Water quality standards were exceeded in one 15 mile reach of the Gila River.
- The parameter exceeded in this reach was selenium.
- This reach is part of the ADEQ water quality improvement effort called the Total Maximum Daily Load (TMDL) program. The draft TMDL report is underway.

Table 3.7-7 Water Quality Exceedences in the Duncan Valley Basin[1]

A. Wells, Springs and Mines

Map Key	Site Type	Site Location			Parameter(s) Concentration has Equaled or Exceeded Drinking Water Standard (DWS)[2]
		Township	Range	Section	
1	Well	5 South	29 East	27	F
2	Well	5 South	30 East	10	As
3	Well	5 South	30 East	10	As
4	Well	5 South	30 East	10	As
5	Well	5 South	30 East	10	As
6	Well	5 South	30 East	24	Hg
7	Well	6 South	30 East	1	As
8	Well	6 South	30 East	2	F
9	Well	6 South	31 East	19	As
10	Well	6 South	32 East	8	As
11	Well	7 South	31 East	28	Cd
12	Well	8 South	32 East	8	As
13	Well	8 South	32 East	17	As
14	Well	8 South	32 East	17	As
15	Well	8 South	32 East	18	F
16	Well	8 South	32 East	19	As
17	Well	8 South	32 East	19	As
18	Well	8 South	32 East	21	As, NO3
19	Well	8 South	32 East	29	F
20	Well	9 South	31 East	2	As, F
21	Well	9 South	32 East	3	As, TDS
22	Well	9 South	32 East	4	As
23	Well	9 South	32 East	4	As, F
24	Well	9 South	32 East	5	As, F
25	Well	9 South	32 East	8	F
26	Well	9 South	32 East	9	F
27	Well	9 South	32 East	9	F
28	Well	9 South	32 East	9	As, F
29	Well	9 South	32 East	15	As, F
30	Well	9 South	32 East	19	F
31	Well	9 South	32 East	28	F
32	Well	9 South	32 East	28	F
33	Well	9 South	32 East	34	F
34	Well	10 South	31 East	35	As, NO3
35	Well	10 South	32 East	21	F
36	Well	10 South	32 East	21	As, F
37	Well	12 South	32 East	14	Rad

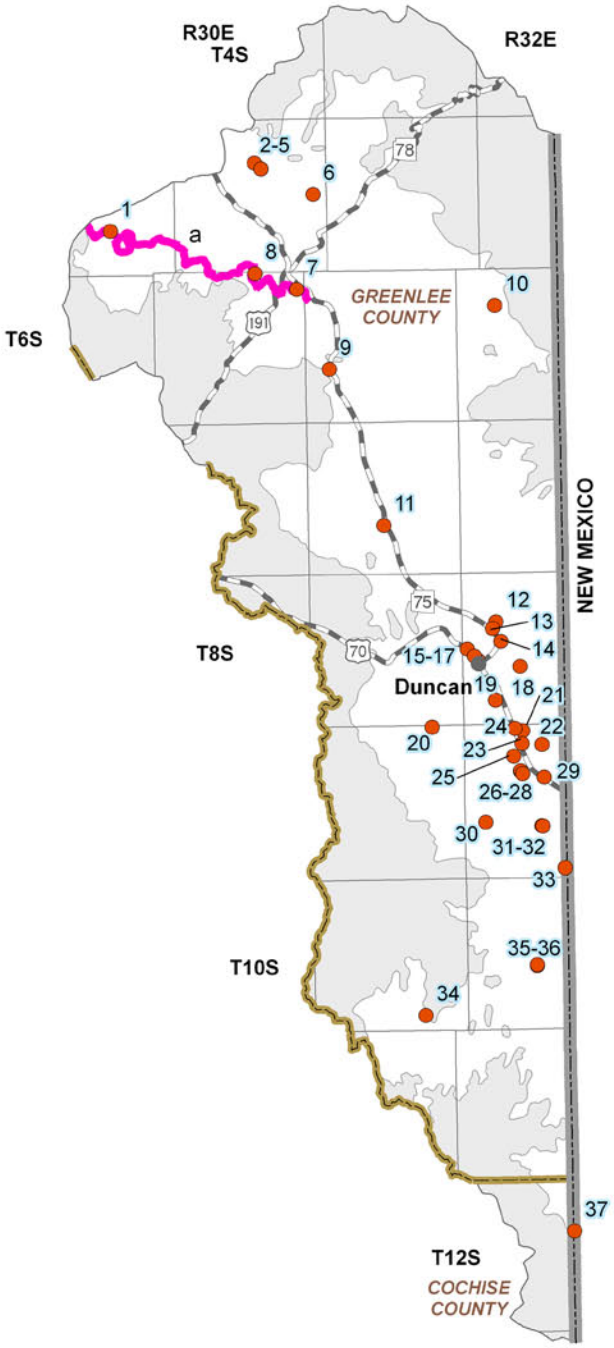
Source: Compilation of databases from ADWR & others

B. Lakes and Streams

Map Key	Site Type	Site Name	Length of Impaired Stream Reach (in miles)	Area of Impaired Lake (in acres)	Designated Use Standard[3]	Parameter(s) Exceeding Use Standard[2]
a	Stream	Gila River (Skully Creek-San Francisco River)	15	NA	A&W	Se

Source: ADEQ 2005d

Notes:
Because of map scale feature locations may appear different than the location indicated on the table
NA = Not applicable
[1] Water quality samples collected between 1986 and 2004.
[2] As = Arsenic
Cd = Cadmium
F= Fluoride
Pb = Lead
Hg = Mercury
NO3 = Nitrate
Rad = One or more of the following radionuclides - Gross Alpha, Gross Beta, Radium, and Uranium
Se = Selenium



0 3 6 Miles

Well, Spring or Mine Site that has equaled or exceeded DWS 1
Impaired Stream or Lake a
Consolidated Crystalline & Sedimentary Rocks
Unconsolidated Sediments
New Mexico State Boundary
COUNTY
Major Road
City, Town or Place

Figure 3.7-9
Duncan Valley Basin
Water Quality Conditions

3.7.8 Cultural Water Demands in the Duncan Valley Basin

Cultural water demand data including population, number of wells and the average well pumpage and surface water diversions by the municipal, industrial and agricultural sectors are shown in Table 3.7-8. Effluent generation including facility ownership, location, population served and not served, volume treated, disposal method and treatment level is shown on Table 3.7-9. Figure 3.7-10 shows the location of demand centers. A description of cultural water demand data sources and methods is found in Volume 1, Appendix A. More detailed information on cultural water demands is found in Section 3.0.7.

Cultural Water Demands

- Refer to Table 3.7-8 and Figure 3.7-10.
- Population increased only minimally between 1980 and 2000.
- Total groundwater use has fluctuated between 1971 and 2005. The highest average annual groundwater use in this basin was from 1976 to 1980 at 24,000 acre-feet per year.
- Surface water diversions have also fluctuated between 1971 and 2005. The highest average annual surface-water diversions were from 1981 to 1985 at 22,000 acre-feet per year.
- Years with lower surface-water diversions coincide with years of increased groundwater use.
- All surface water demand between 1991 and 2003 has been for agriculture.
- The majority of agricultural demand is in the vicinity of Duncan with other small blocks of agricultural demand along Highway 75.
- The highest concentration of municipal and industrial demand, including a golf course, is along Highway 75 near the small town of York.
- Industrial demand in this basin is comparable to historic levels with an average of 300 acre-feet per year for the period from 1991-2005.
- Municipal demand has remained relatively constant as well, with an average of 600 acre-feet per year for the period from 2001-2005.
- As of 2005 there were 866 registered wells with a pumping capacity of less than or equal to 35 gallons per minute and 325 wells with a pumping capacity of more than 35 gallons per minute.

Effluent Generation

- Refer to Table 3.7-9.
- There is one wastewater treatment facility, the Duncan Wastewater Treatment Facility, located at Duncan.
- 600 people are served by the facility.
- 45 acre-feet of effluent per year is generated by the facility and disposed of in an evaporation pond.

Table 3.7-8 Cultural Water Demands in the Duncan Valley Basin[1]

Year	Estimated and Projected Population	Number of Registered Water Supply Wells Drilled		Average Annual Demand (in acre-feet)						Data Source
				Well Pumpage			Surface-Water Diversions			
		Q ≤ 35 gpm	Q > 35 gpm	Municipal	Industrial	Agricultural	Municipal	Industrial	Agricultural	
1971		635[2]	276[2]	21,000			13,000			ADWR (1994a)
1972										
1973										
1974										
1975										
1976				24,000			16,000			
1977										
1978										
1979										
1980	3,225									
1981	3,210	53	11	12,000			22,000			
1982	3,195									
1983	3,181									
1984	3,166									
1985	3,151									
1986	3,136	33	10	7,000			20,000			
1987	3,122									
1988	3,107									
1989	3,092									
1990	3,077									
1991	3,145	49	7	650	300	5,900	NR	NR	21,500	USGS (2007) Gila Water Commis-sioner (2006) ADWR (2008b)
1992	3,213									
1993	3,281									
1994	3,349									
1995	3,417									
1996	3,458	47	12	800	300	8,300	NR	NR	18,500	
1997	3,553									
1998	3,621									
1999	3,689									
2000	3,757									
2001	3,742	3683	9	600	300	10,000	NR	NR	9,900	
2002	3,727									
2003	3,713									
2004	3,698									
2005	3,683									
2010	3,609									
2020	3,610									
2030	3,655									
	WELL TOTALS:	**866**	**325**							

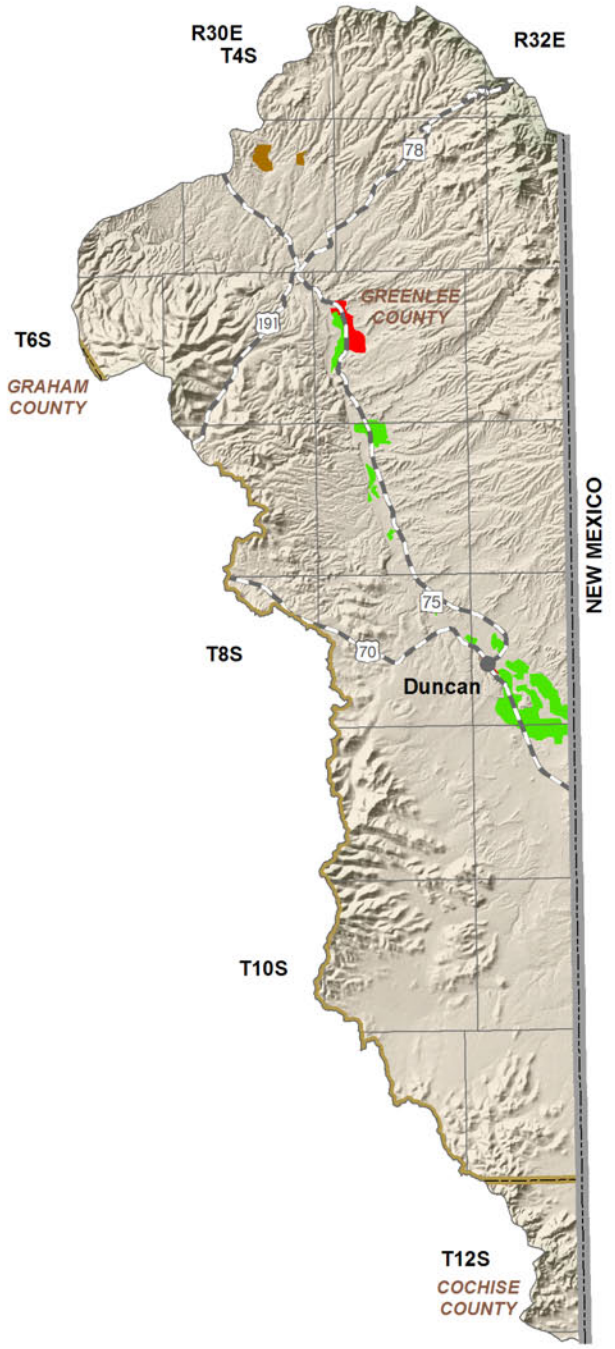
Notes:
NR=Not reported
[1] Does not include evaporation losses from stockponds and reservoirs or effluent.
[2] Includes all wells through June 1980.

Table 3.7-9 Effluent Generation in the Duncan Valley Basin

Facility Name	Ownership	City/Location Served	Population Served	Volume Treated/Generated (acre-feet/year)	Disposal Method								Current Treatment Level	Population Not Served	Year of Record
					Water - course	Evaporation Pond	Irrigation	Golf Course/Turf/ Landscape	Wildlife Area	Industrial Use	Discharge to Another Facility	Infiltration Basins			
Duncan WWTF	Town of Duncan	Duncan	600	45		X							Secondary	NA	2000

Source: Compilation of databases from ADWR & others

Notes:
Year of Record is for the volume of effluent treated/generated
NA: Data not currently available to ADWR
WWTF: Wastewater Treatment Facility



Primary Data Source: USGS National Gap Analysis Program, 2004

0 3 6
Miles

Figure 3.7-10
Duncan Valley Basin
Cultural Water Demand

Demand Centers

- Agriculture
- M&I - High Intensity
- Large Mine
- New Mexico State Boundary
- COUNTY
- Major Road
- City, Town or Place

3.7.9 Water Adequacy Determinations in the Duncan Valley Basin

Water adequacy determination information including the subdivision name, location, number of lots, adequacy determination, reason for the inadequacy determination, date of determination and subdivision water provider are shown in Table 3.7-10. Figure 3.7-11 shows the locations of subdivisions keyed to the Table. A description of the Water Adequacy Program is found in Volume 1, Appendix C. Adequacy determination data sources and methods are found in Volume 1, Appendix A.

- All subdivisions receiving an adequacy determination are in Greenlee County. Three water adequacy determinations for 263 lots have been made in this basin through December 2008. Sixty-one lots, or 23%, were determined to be adequate.
- The one determination of inadequacy was made because the applicant chose not to submit necessary information and/or available hydrologic data was insufficient to make a determination.

Table 3.7-10 Adequacy Determinations in the Duncan Valley Basin[1]

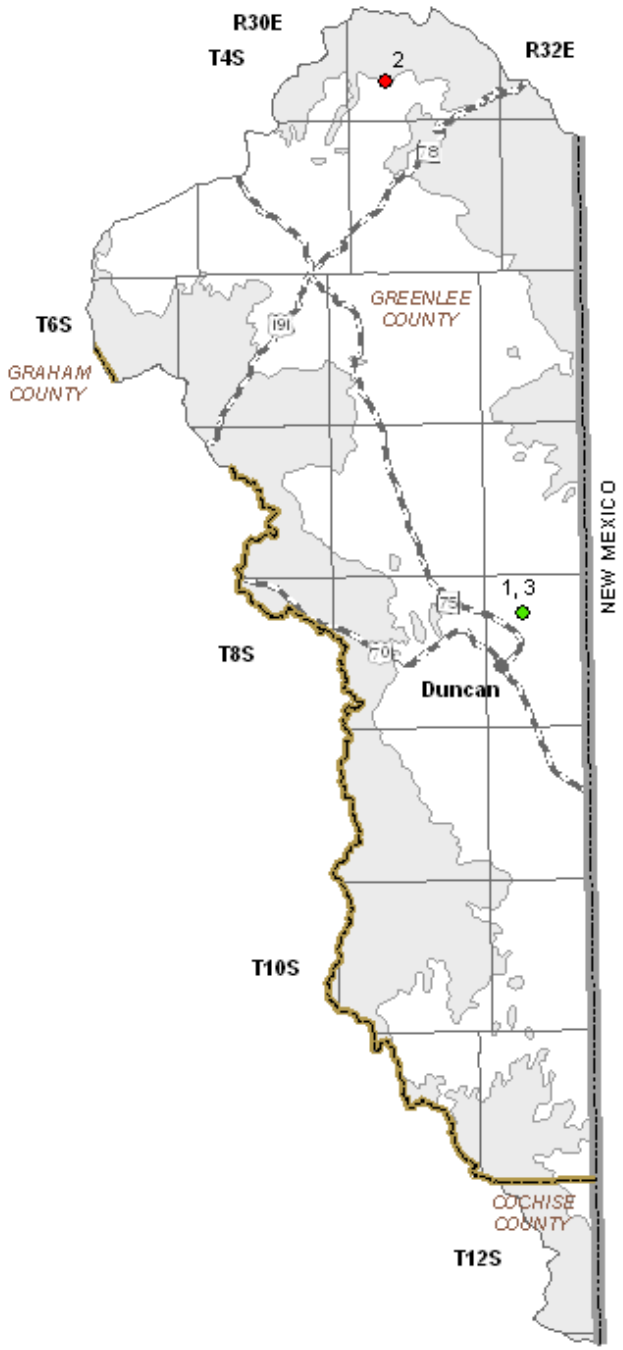
Map Key	Subdivision Name	County	Location			No. of Lots	ADWR File No.[2]	ADWR Adequacy Determination	Reason(s) for Inadequacy Determination[3]	Date of Determination	Water Provider at the Time of Application
			Township	Range	Section						
1	Gila Vista # 1	Greenlee	8 South	32 East	8	29		Adequate		11/07/79	Dry Lot Subdivision
2	Greenlee Mountain Ranchettes	Greenlee	5 South	31 East	6	NA		Inadequate	A1	05/10/84	Dry Lot Subdivision
			4 South	31 East	29, 31	207					
3	Hunter Estates # 2	Greenlee	8 South	32 East	8	32		Adequate		07/18/80	Dry Lot Subdivision

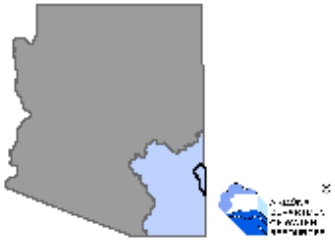
Notes:

[1]Each determination of the adequacy of water supplies available to a subdivision is based on the information available to ADWR and the standards of review and policies in effect at the time the determination was made. In some cases, ADWR might make a different determination if a similar application were submitted today, based on the hydrologic data and other information currently available, as well as current rules and policies.

[2] Prior to February 1995, ADWR did not assign file numbers to applications for adequacy determination.

[3] A. Physical/Continuous
1) Insufficient Data (applicant chose not to submit necessary information, and/or available hydrologic data insufficient to make determination)
2) Insufficient Supply (existing water supply unreliable or physically unavaible;for groundwater, depth-to-water exceeds criteria)
3) Insufficient Infrastructure (distribution system is insufficient to meet demands or applicant proposed water hauling)
B. Legal (applicant failed to demonstrate a legal right to use the water or failed to demonstrate the provider's legal authority to serve the subdivision)
C. Water Quality
D. Unable to locate records
NA= Data not currently available to ADWR





0 3 6
Miles

Adequacy Determinations

- Adequate
- Inadequate

Consolidated Crystalline & Sedimentary Rocks
Unconsolidated Sediments
New Mexico State Boundary
COUNTY
Major Road
City, Town or Place

Figure 3.7-11
Duncan Valley Basin
Adequacy Determinations

DUNCAN VALLEY BASIN
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