NAVIGABILITY ALONG THE NATURAL CHANNEL OF THE VERDE RIVER, AZ

Detailed analysis from Sullivan Lake to the USGS gage near Clarkdale.
and
General analysis from Clarkdale gage to mouth.

An assessment based on history, Federal GLO surveys, hydrology, hydraulics and morphology

By

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October 4, 2014

APPENDICES A THROUGH D

APPENDIX A.—Additional Hydrology of the Verde River

This appendix presents general historic and current information about the Verde River that is related to the assessment of navigability of the Upper Verde River. The information includes many photographs, from my files, of hydrologic conditions of the watershed. Most of the photographs are from reports by the USBR, USFS and USGS with a few by the author and also from the Sharlot Hall collection.

Item 1.-- Basic Hydrology

A gaining stream or reach of a stream receives water from ground water. A losing stream or reach of a stream contributes water to the ground water.

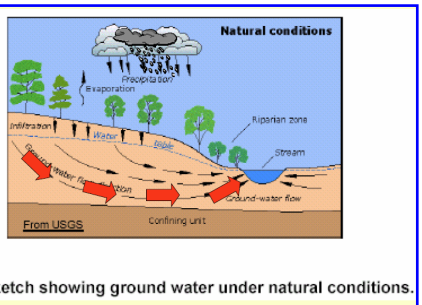
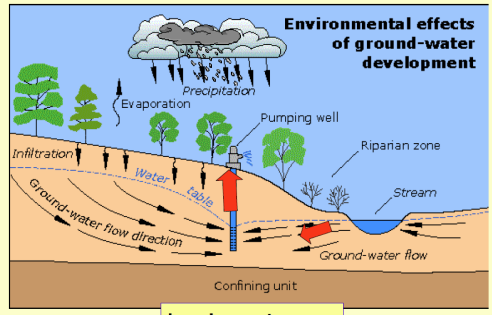


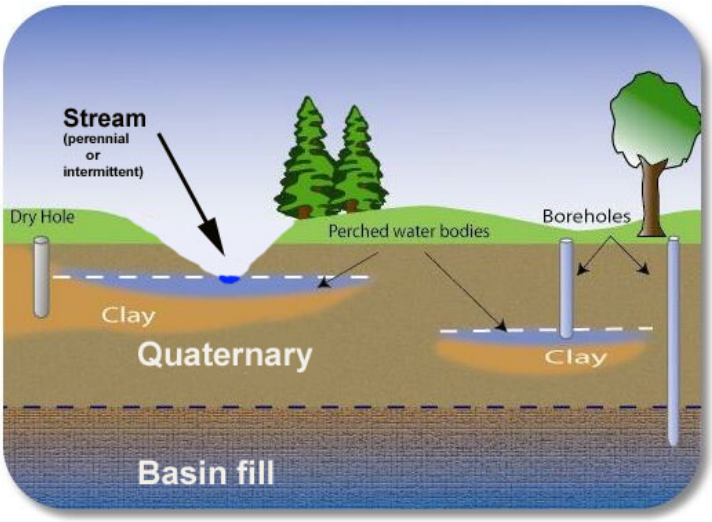
Figure 2.1 Sketch showing ground water under natural conditions.

Gaining stream



Losing stream

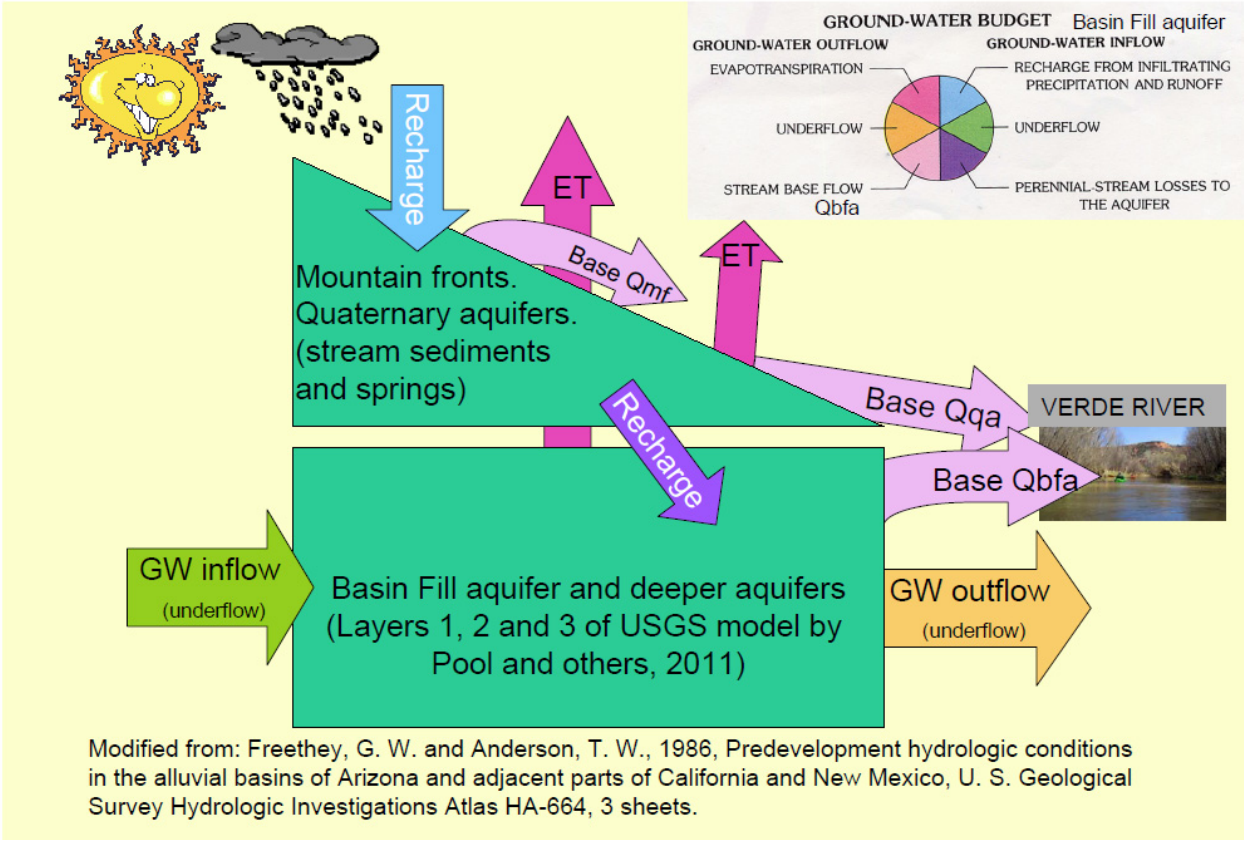
The following simple sketch is for general perched groundwater conditions like those along streams in the Upper Verde River watershed. According to recent USGS reports, tributary streamflow is perched above the water level of the basin fill aquifers of the upper Verde area by as much as 100 ft.



Perched ground water Unconfined ground water separated from an under-lying main body of ground water by an unsaturated zone.

Perched spring A spring whose source of water is a body of perched ground water.

Base runoff is maintained by ground-water discharge to the Verde River and tributary streams. Base flow is comprised of ground-water discharge from mountain front springs and seeps (Base Qmf on following cartoon) and Quaternary aquifers (Base Qqa) and basin fill and deeper aquifers (Base Qbfa). These two general sources of base flow in the upper Verde watershed are shown below.



Modified from: Freethey, G. W. and Anderson, T. W., 1986, Predevelopment hydrologic conditions in the alluvial basins of Arizona and adjacent parts of California and New Mexico, U. S. Geological Survey Hydrologic Investigations Atlas HA-664, 3 sheets.

The post 1935 base flow of the Upper Verde River (mostly Qbfa) has decreased by deep well pumping but relative to Qmf and Qqa the change is smaller throughout a typical year mostly because the basin fill aquifers are very large. Also, annual losses of streamflow to ET along the Verde River upstream of gage 09504000 are not very much (on the order of 3-4 cfs). Most of the base flow from the Quaternary had been diverted and used by humans in the late 1800s and only a small portion (Qmf and Qqa) remained as shown in the following 1935 photograph at Sullivan Dam. By the mid 1960s the amount of base flow from the Quaternary was not significant at the USGS Paulden gage.

Construction of Sullivan Lake Dam in 1935. The base flow that is diverted around the construction area is mostly from tributary streams (Qmf and Qqa). A very rough estimate is 5cfs.

When I was a USGS engineer in the early 1960s a fellow geologist and I selected the site for the USGS gage on the Verde River near Paulden (09503700). Nearly all of the base flow entered the Verde River from the basin fill aquifer at Verde Springs below Granite Creek at that time.

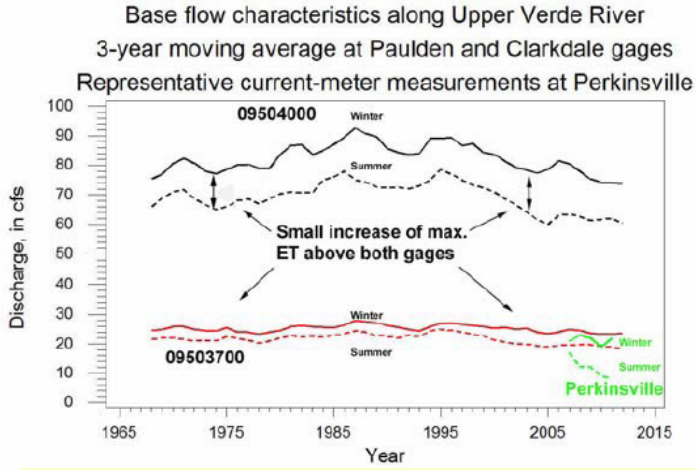
To the left is a view looking north and west at the Verde River of a photo I took in 1999. The site of the USGS Paulden gage (09503700) is shown by the red arrow.

Note that this gage is located in a straight-uniform reach. That is consistent with my decades of experience with the USGS. Earlier testimony provided to ANSAC by Dr. Mussetter that the USGS installed gages at channel constrictions is simply incorrect. The opposite is true and, for example, I went to some length to locate gage 09503700 in a straight-uniform reach. See Appendix H, Item H4 for photos of the six USGS I used for this ANSAC analysis.

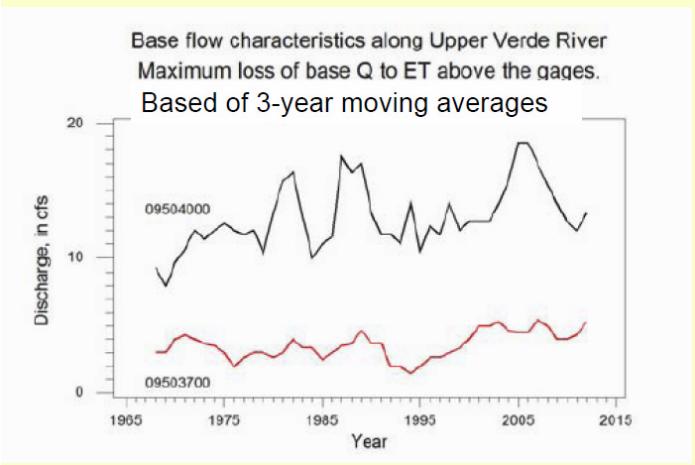
Item 2.—Base flow and evapotranspiration (ET) above the Clarkdale gage (09504000).

The following is an examination of base flow between Verde River gages 09503700 and 09504000. I performed this analysis in May of 2013.

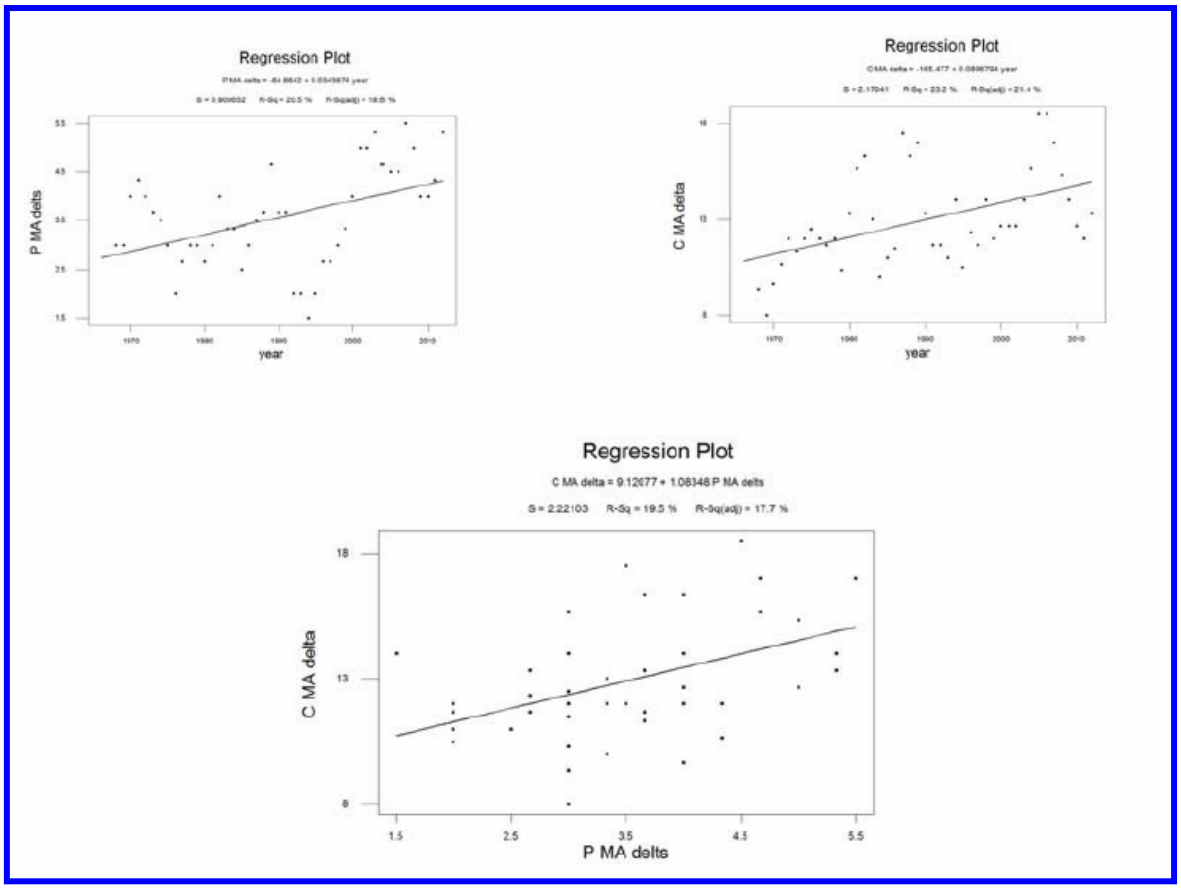
The following relations (3-day moving average used to roughly account for carry-over storage of groundwater that supplies the springs) at the two gages are of maximum base flow (no ET) and minimum base flow (max ET) for the concurrent period of record. A small increase of ET with time is suggested for both of the gages (see next relation). Corresponding relations (individual measurements and not 3-day moving average) also suggest an increasing ET with time.



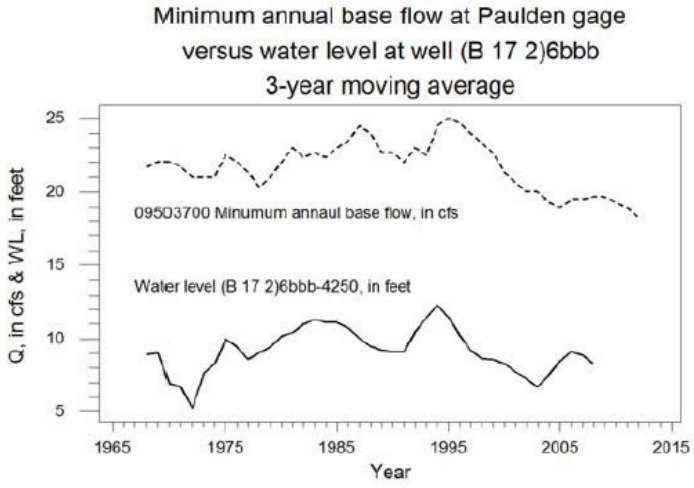
There is an increasing amount of ET along the river for the three sites as would be expected because of the recent drought.



The maximum loss to ET above the two gages is shown on the left.



Trend is examined using linear regression shown above. An increase of maximum ET is suggested but the scatter is great. The relation between max ET for the two USGS gages also is not very significant but is suggested.

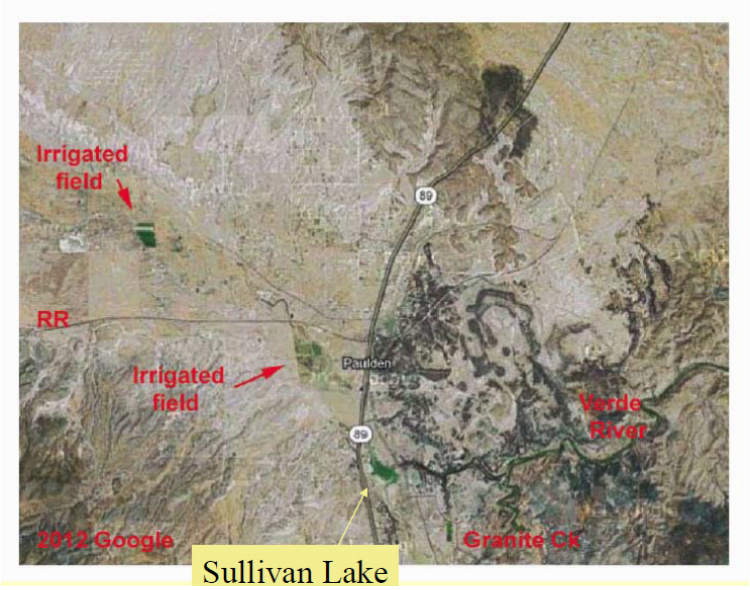


The water level of old USGS observation well at lower end of Big Chino Valley and the minimum annual base flow at the Verde-Paulden gage is shown below. See Wirt and Hjalmarson, USGS Open-File Report 99-0378 (2000) for discussion of this relation.

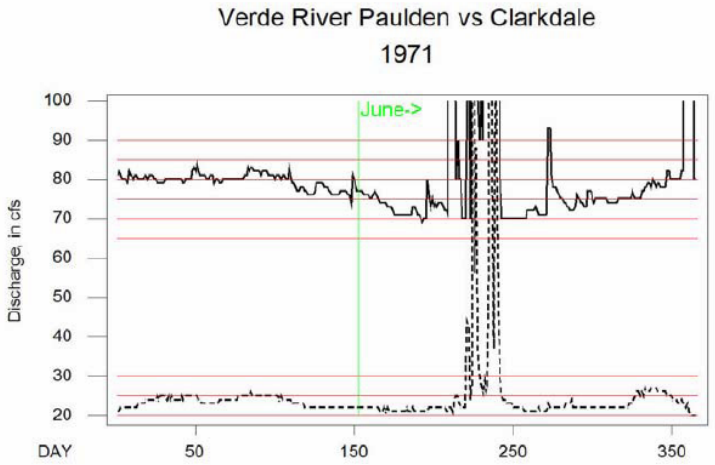
Interesting computations follow:

- The mean of losses to ET above the Clarkdale gage = 12.930 cfs
- The mean of losses to ET above the Paulden gage = 3.6512 cfs
- Above Paulden gage average annual maximum loss to ET? for 8 miles = 0.456250 cfs per mile
- Above Paulden gage average annual loss to ET? for 8 miles = 0.198370 cfs per mile or 1,150 ac-ft.
- From Clarkdale to Paulden gages including 3 miles of Sycamore Creek (total of 34 miles) average annual maximum loss for 34 mile = 0.272941 cfs per mile
- From Clarkdale to Paulden gages including 3 miles of Sycamore Creek (total of 34 miles) average annual loss for 34 mile = 0.118670 cfs per mile or 2,925 ac-ft.

Because the computed ET/mile above the Paulden gage is so much more than the lower reach, the ET above the Paulden gage may include a seasonal effect beyond the river such as irrigation at the lower end of Big Chino Valley (See previous relation above and photo on the right). Or, the effects of ET along Granite Creek and along the Verde River above Granite Creek are influencing the flow at the Paulden gage.



The above analysis is based on established applied river engineering methods using pairs of streamflow hydrographs for each year as shown on the right.



Item 3.—ET along tributary streams

A rough estimate of losses to ET along the approximately 80 miles of the perennial/intermittent tributary headwater streams follows:

Loss rates are assumed to have been ½ those along the Verde River because they were smaller streams.

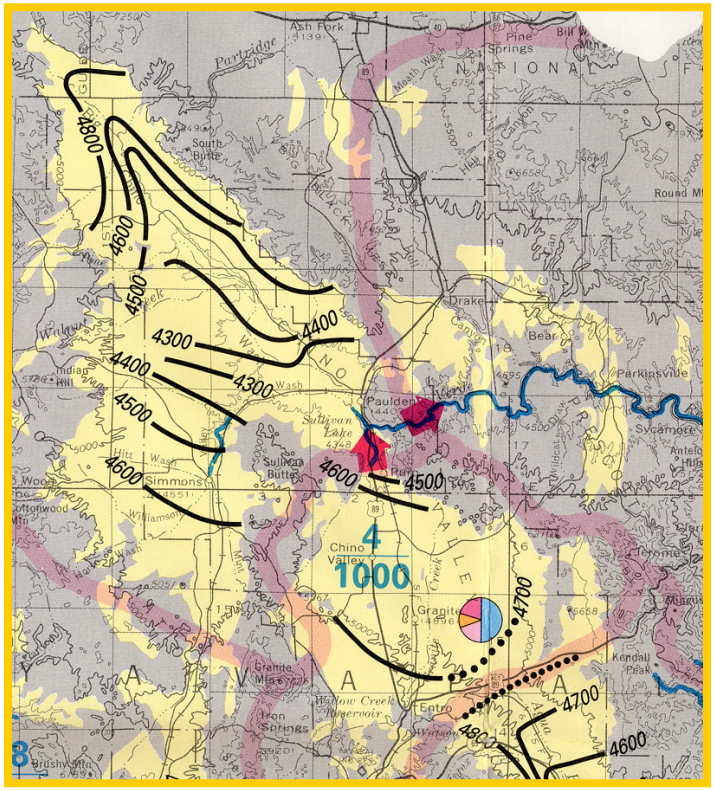
Average annual loss rate to ET = 0.12/2 =.06 cfs per mile.
Maximum loss for ET = 0.27/2 = .135 cfs per mile.

Average annual loss to ET = 80mi x 0.06 cfs/mi= 5 cfs

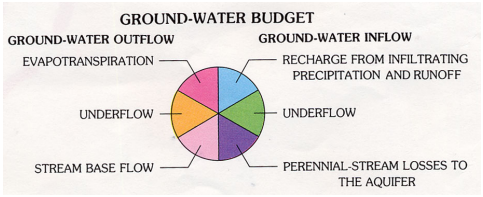
Average maximum (summer months) loss to ET =

80mi x 0.135 cfs/mi= 11cfs

Item 4.—Base flow from basin fill aquifers.



The areal pattern of ground-water hydraulic heads of the Big Chino Valley shows mountain front recharge along much of Big Chino Creek. The V-shaped contours are an indication of basin perimeter recharge and a fairly high rate of ground-water discharge along the Creek.

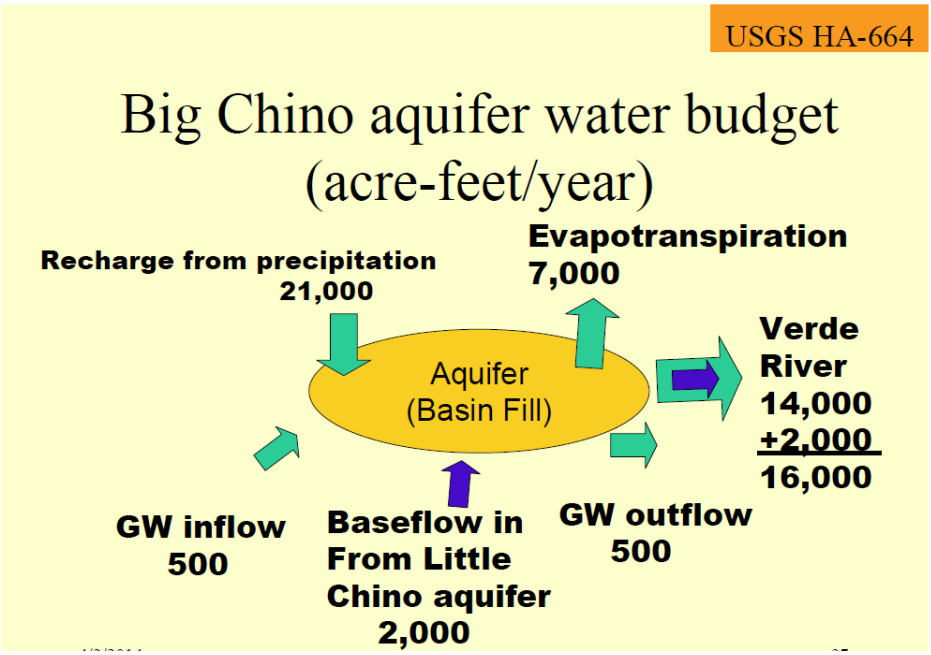


Freethey, G. W. and Anderson, T. W., 1986, Pre-development hydrologic conditions in the alluvial basins of Arizona and adjacent parts of California and New Mexico, U. S. Geological Survey Hydrologic Investigations Atlas HA-664, 3 sheets.

In contrast, the generalized head distribution in the Little Chino and Williamson Valleys are a series of rather parallel contour lines normal to the axis of the basin. Water enters the basin mainly at the upstream end, and any mountain-front recharge appears relatively minimal.

The water budget for base (Q90) runoff is shown below. The Q90 for station 09503700 is:

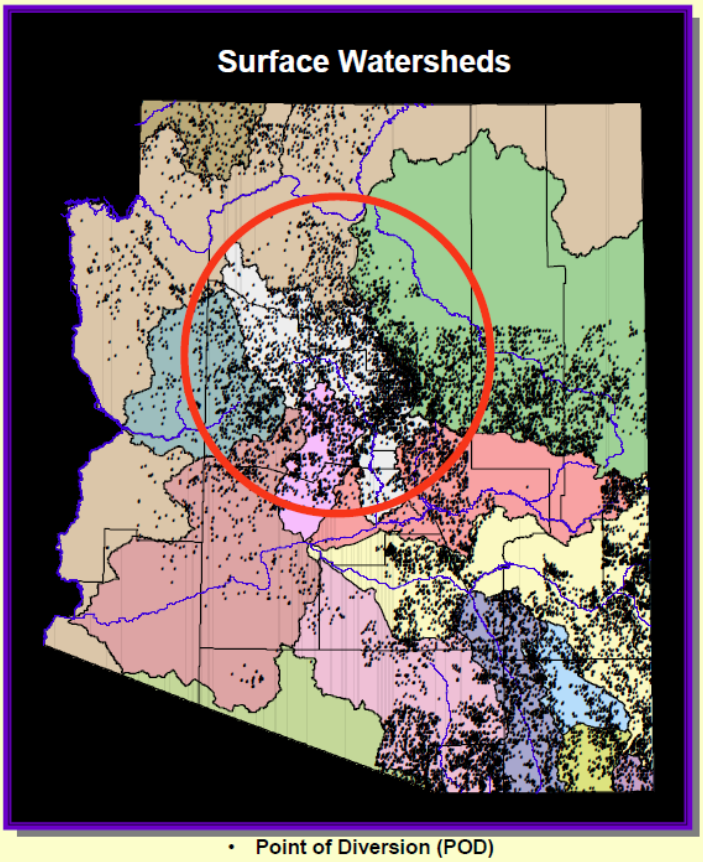
16,000 ac-ft/yr or 22 cfs.



Item 5.—Stock ponds and small reservoirs

It is not the purpose of this discussion of human effects on base runoff of the Verde River to argue or to place blame. Rather, there are obvious and indisputable impacts by humans that in various degrees altered the base runoff. These include excessive cattle and sheep grazing, numerous stock tanks, many diversions of springflow for irrigation, fire suppression and so forth. The fact is that many naturally perennial and intermittent tributary streams have flowed less or ceased flowing altogether since the arrival of settlers.

Many historic stock ponds and reservoirs have impacted both direct and base runoff of the Verde River and tributary streams.



Stockponds

Applications Pending	18444
Certificates Issued	1071

A little bit here and a little bit there and pretty soon the base runoff is gone

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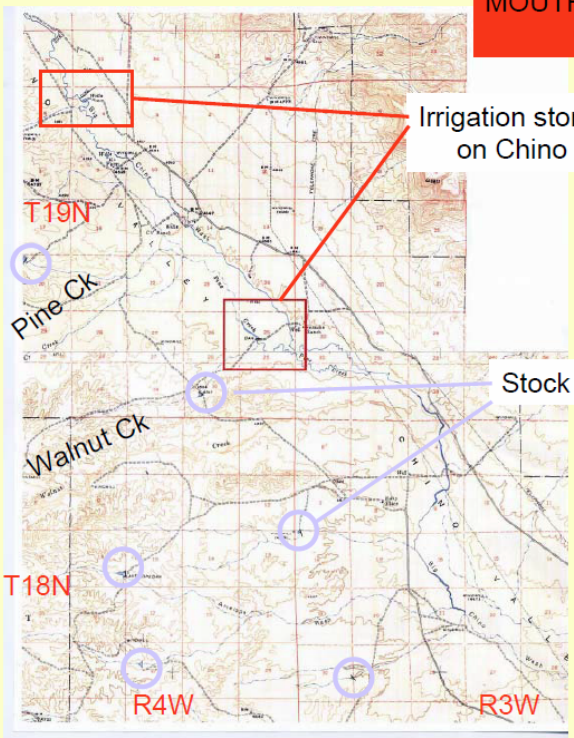
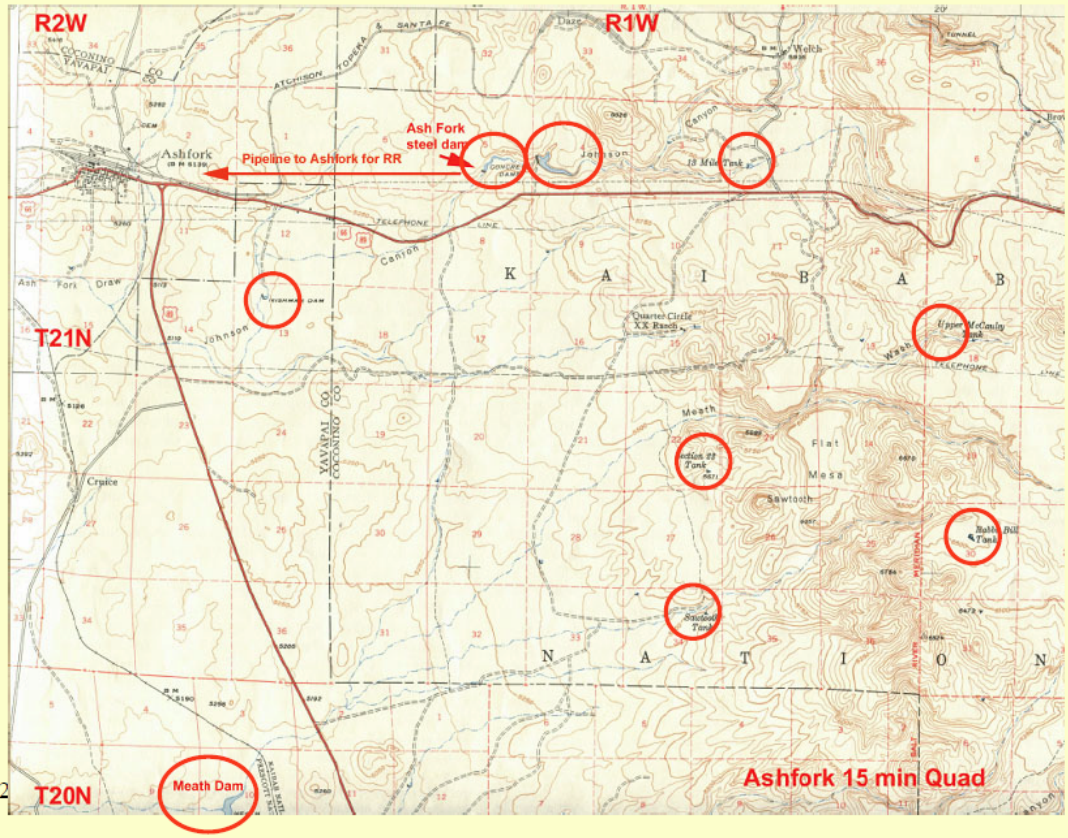
- Point of Diversion (POD)



Sample of larger stock tanks and dams (storage reservoirs) in upper Big Chino Valley



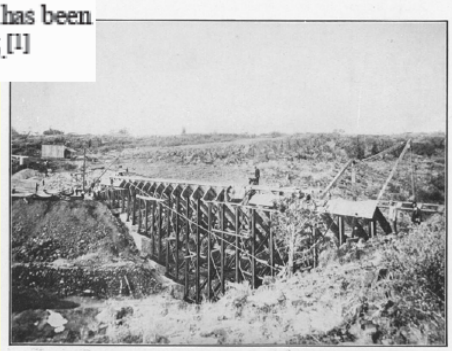
4/2

Ashfork-Bainbridge Steel Dam

From Wikipedia, the free encyclopedia

The **Ashfork Bainbridge Steel Dam**, the first large steel dam in the world, and one of only three ever built in the United States, was constructed in 1898 by the Atchison, Topeka and Santa Fe Railway (ATSF) to supply water for railway operations near Ash Fork, Arizona. It is named for the town of Ash Fork, and for Francis H. Bainbridge, a civil engineer and graduate of Rensselaer Polytechnic Institute (RPI), who was an engineer for ATSF.[3] The dam has been listed on the National Register of Historic Places since 1976.[1]

36000000 gallon capacity



ASH FORK STEEL DAM, SANTA FE, PACIFIC RAILWAY
Designed and Patented by F. H. Bainbridge, '84

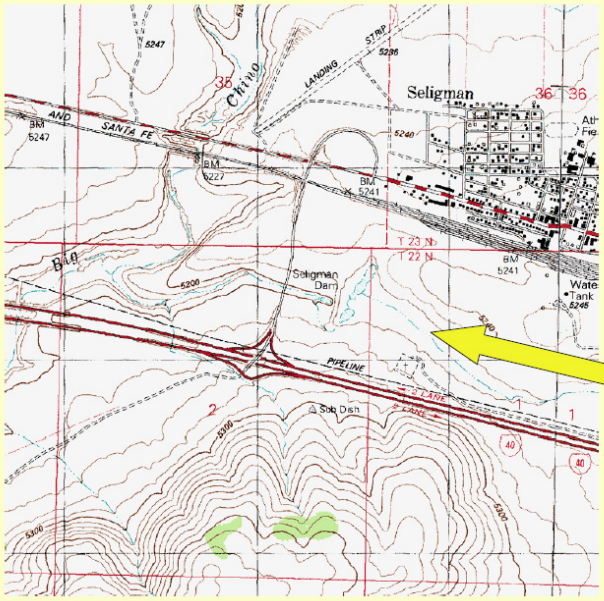
The Flagstaff sun-democrat. (Flagstaff, Ariz.) 1896-1897, September 09, 1897, Image 5

C. J. Lantry, of the big contracting firm of B. Lantry & Sons, was in Prescott yesterday on business, and circulating among his many friends here. The firm of which he is a member are now employing several hundred men in the construction of water storage dams for the Santa Fe Pacific railroad. He states that there is enough water already in the Seligman dam for a four months' supply for the railroad company. This dam will be sixty feet high, and when full will furnish a two years' supply for that station. In addition to the quarry at Rock Butte, which they are operating, and where they have about 100 men at work, they are also operating a quarry near Holbrook. Mr. Lantry's headquarters are at Strong City, Kansas, and he says that the above state is very prosperous at present, more so than it has been for several years.—Journal Miner.

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, June 16, 1897, Image 1

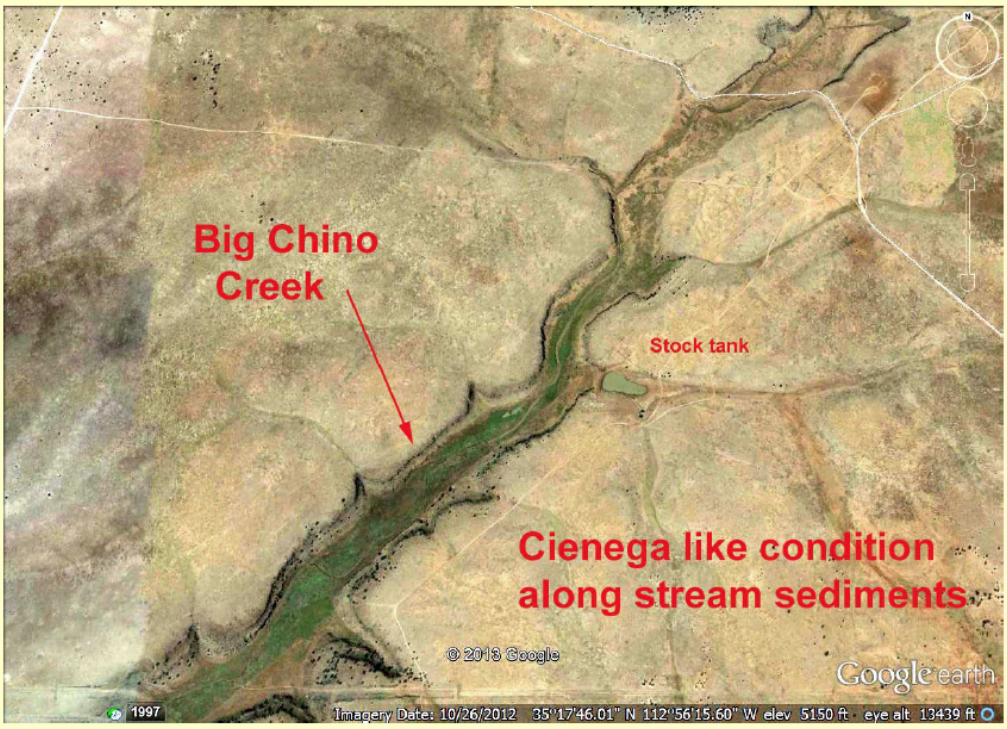
the court asked Thompson if he had an attorney. I replied that I was attorney for Thompson but not for Parker. E. M. Sanford.

Stone for the Seligman dam will be taken from the Rock Butte quarry.

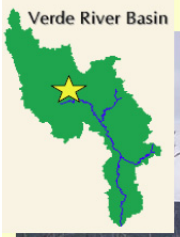


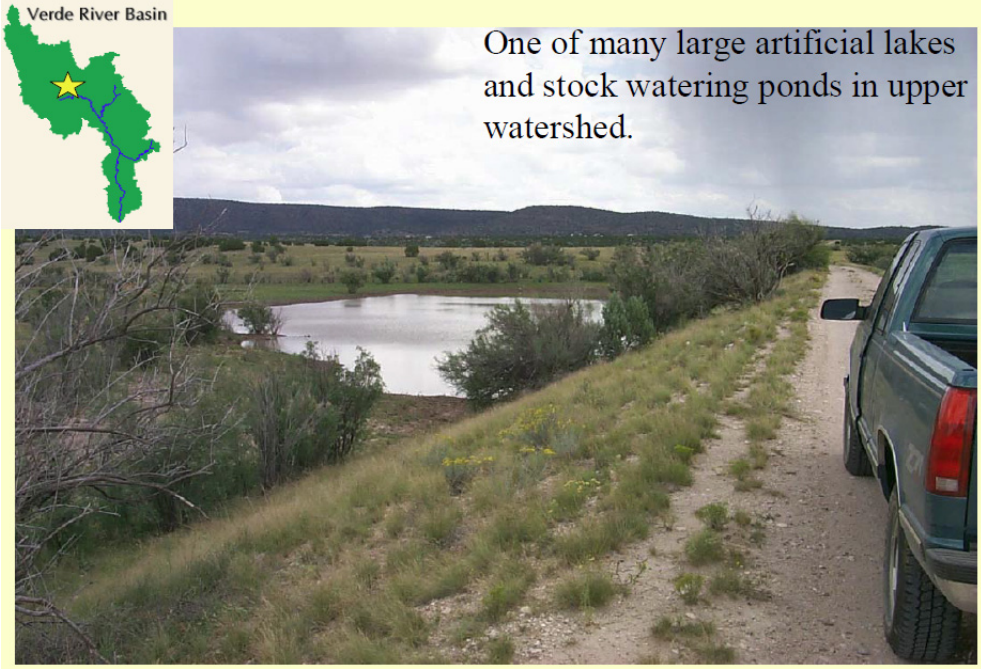
T23N R6W

T23N R6W T22N R6W



T22N R7W T22N R6W





Generally speaking, ranchers consider the cost and benefits of stock tanks. While the precise impact of stock tanks of the flow in rivers is unknown, the following excerpt from a 1951 USGS circular on stock tanks may give some insight into these impacts on both direct and indirect runoff to the Verde River.

Langbein, W. B., Hains, C. H., and Culler, R. C., 1951, HYDROLOGY OF STOCK-WATER RESERVOIRS IN ARIZONA, USGS CIRCULAR 110, 18p.

The many thousands of stock-water reservoirs throughout the Western Range provide a large part of the watering facilities for the Nation's livestock industry. The individual stock watering pond represents a small investment but the aggregate of all ponds is an investment of many million dollars.

Harvesting of the forage crop by stock on the Western Range depends on the accessibility of water. In general, cattle do not graze more than 3 miles from water. Where the water supplies are far apart, forage close to water is so intensively cropped that destructive erosion is induced, whereas valuable forage at a distance remains unharvested. Uniform and efficient utilization of the forage requires a large number of water supplies only short distances apart. For this reason, many thousands of reservoirs have been built in the Verde River watershed. A recent survey (1951) in the 9,000-square-mile basin of the Cheyenne River in Wyoming shows that there are nearly 10,000 reservoirs, or about one per square mile. Although this density of reservoirs may not apply throughout the Intermontane Plateau, it is nevertheless indicative of a high state of development in some areas (eg. the Verde River watershed).

Unlike an Irrigation reservoir, the performance of a stock-water reservoir is dependent on depth of water rather than on capacity. The records demonstrate that there Is generally little need for a reservoir to have a capacity greater than that necessary to store the mean annual runoff. Providing additional capacity to store the water that would spill in years of extraordinary runoff, according to the evidence obtained, does not thereby provide water during extended dry periods.

Rates of loss to ET and seepage are great at high--infrequent stages and losses at such stages may be at the expense of downstream users without necessarily benefiting the stock-water supply. Increasing capacity is generally an uneconomical method of obtaining depth. For example, doubling the capacity in most reservoirs adds only about 35 percent to the depth. Nor does placing reservoirs in tandem, in lieu of a single large reservoir, seem to help; to the contrary, It even Increases losses without providing water during dry years. Rate of losses imposes a limit on the amount of carry-over water that can be provided.

Evaporation and seepage are the two chief causes of depletion of the water in a stockwater reservoir. Collectively they are termed water losses. This term is quite apt as applied to' the stock-water supply, although the water that seeps from a reservoir may reappear In part as stream flow to support stream-bank vegetation or in ways beneficial to downstream water users.

The problem Is to get sufficient water depth to carry over a reasonably long dry period. For economic reasons, this need not be the longest dry period on record, but it must be one that is fairly representative of the dry periods that are likely to occur. The water level records Indicate that, this dry period In Arizona is rarely longer than 15 months and is less where recharge occurs more than once a year.

A sample hydrograph of water surface is shown below. Note the effect of sediment deposition.

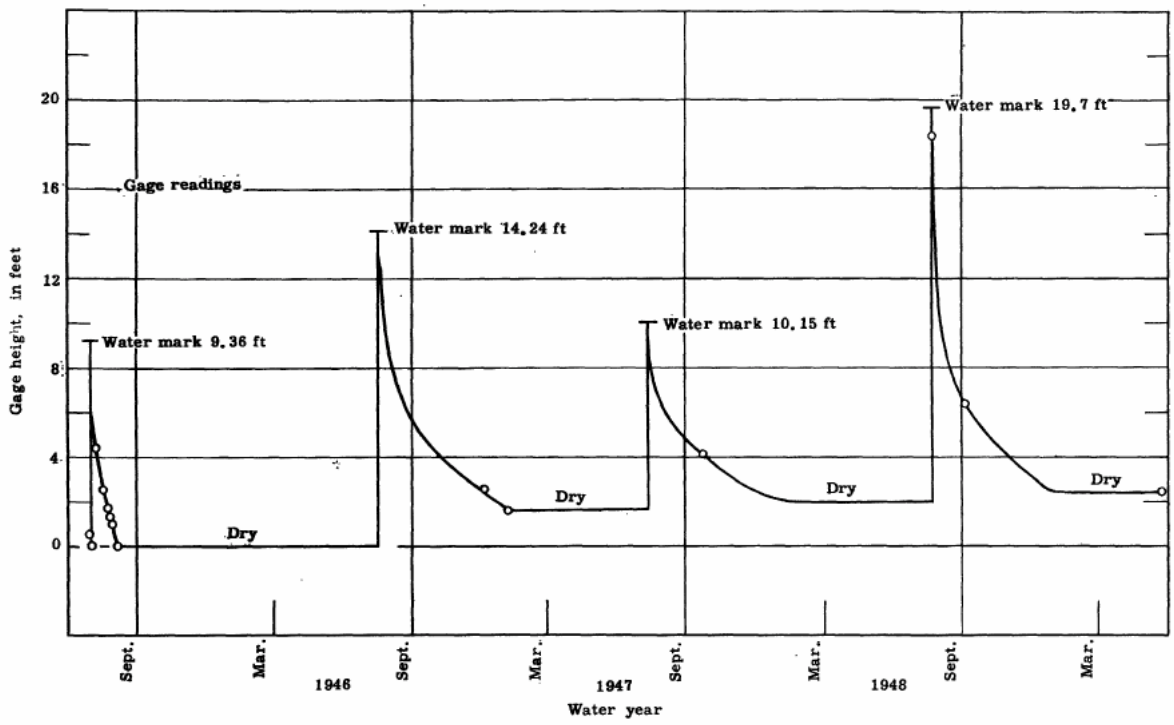
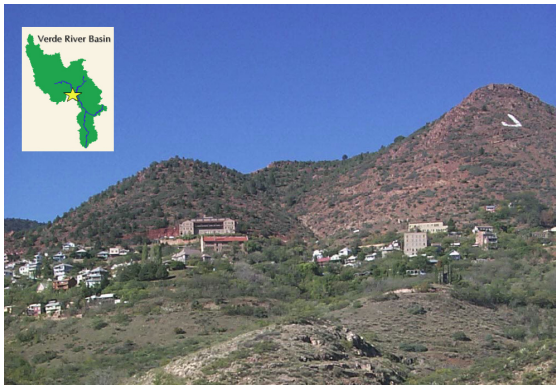
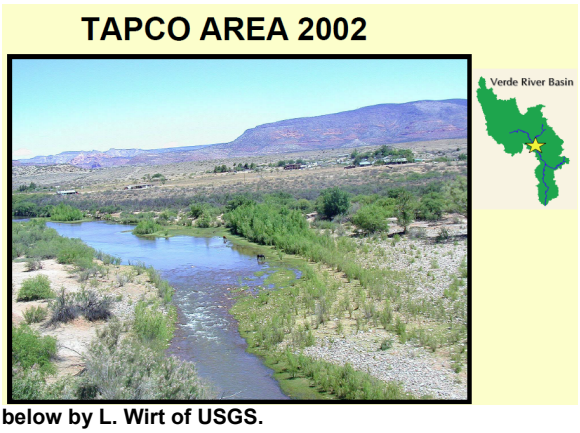


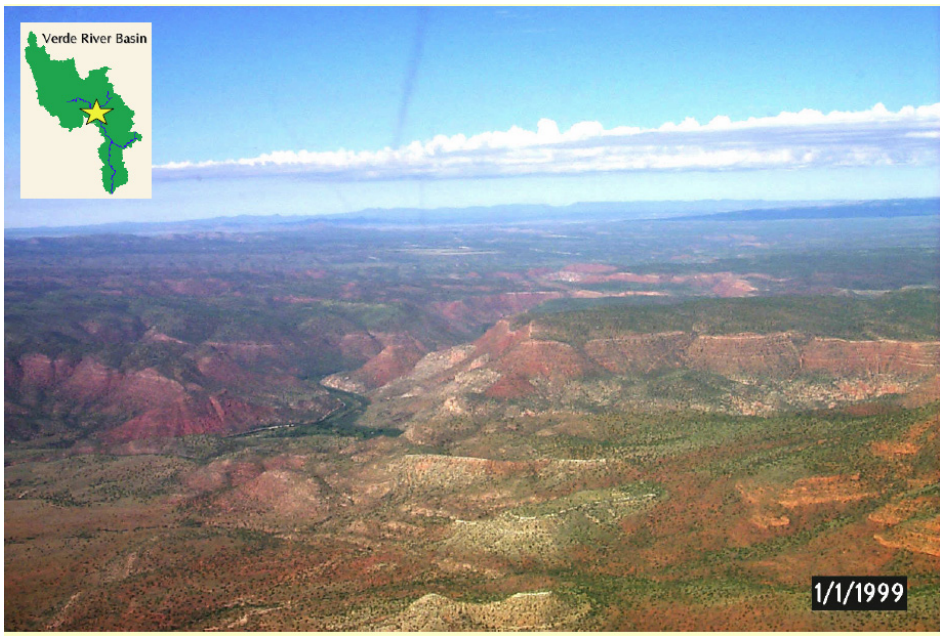
Figure 2.--Hydrograph of water surface at Black Hills Tank near Cave Creek, Ariz.

Item 6.—Photo tour—traveling up the Verde River from Jerome





Photos above and a bottom by Hjalmarson. Two photos below by L. Wirt of USGS.



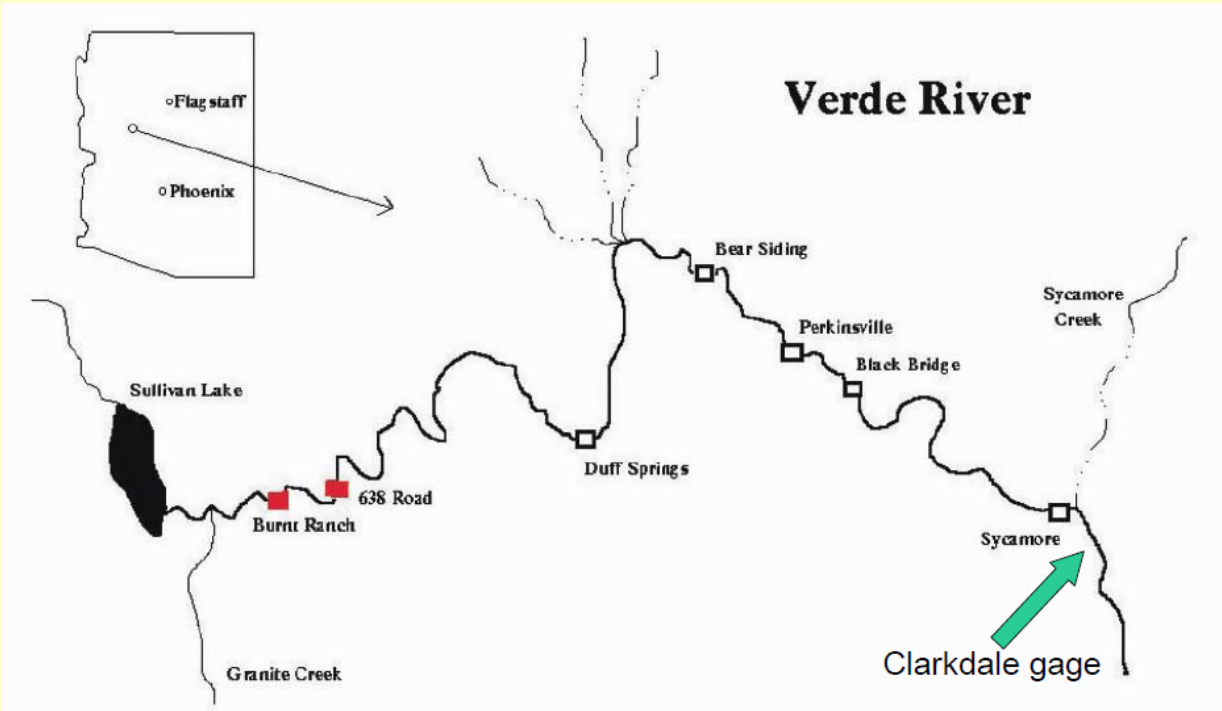


Figure 3.7—Sullivan Lake, UVR study sites, and USDI Geological Survey Paulden Gauge, Yavapai County, Arizona

Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 296 p.

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Description of Upper Verde River Watershed

Wirt, L., 2005, The Verde River headwaters, Yavapai Count, Arizona *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-Central Arizona: U.S Geological Survey Open-File Report 2004-1411, 33 p.

Table A1. Distance from Sullivan Lake dam to major springs, tributaries, and other geographic locations along the upper Verde River, Arizona.

[Distances are approximate and have not been surveyed]

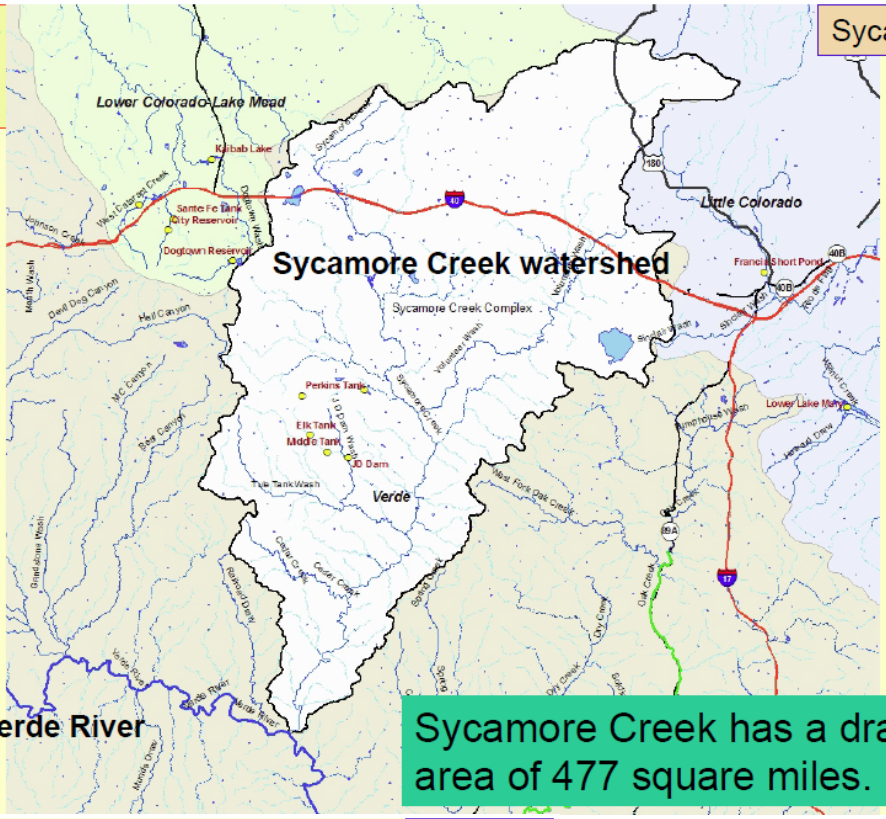
Major tributaries or physiographic features	Miles	Kilometers
Del Rio Springs via Little Chino Creek	–3.0*	–4.8*
Lower Granite Spring*	1.0**	1.6**
Sullivan Lake Dam	0.0	0.0
Stillman Lake (upstream end)	1.0	1.6
Stillman Lake (downstream end)	1.9	3.1
Granite Creek confluence	2.0	3.2
Continuous flow begins	2.1	3.4
Upper Verde River springs (upstream end)	2.2	3.6
Stewart Ranch (west access)	3.2	5.1
Muldoon Canyon	8.0	12.9
Paulden gauge (09503700)	9.8	15.8
Verde Valley Ranch	10.3	16.6
Bull Basin Canyon	11.5	18.5
Duff Spring	13.9	22.4
Hell Canyon	18.0	29.0
U.S. Mine	19.4	31.2
Perkinsville diversion ditch	23.7	38.1
Perkinsville	24.0	38.6
Verde River near Orchard Fault	26.0	41.8
RR Crossing downstream of Perkinsville	26.6	42.8
Mormon Pocket springs	31.0	49.9
Sycamore Canyon	34.9	56.2
Clarkdale gauge (09504000)	36.6	58.9

*Distance upstream from Sullivan Lake dam
**Distance upstream from Granite Creek and Verde River confluence

Photos below by Hjalmarson

AZ Game & Fish map

Sycamore Creek



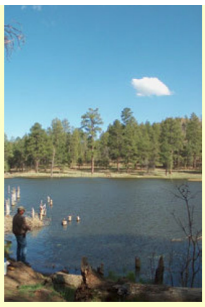
Sycamore Creek has a drainage area of 477 square miles.

AZ Game & Fish

Sycamore Creek

There are 5 fishing reservoirs that are managed by the AZ Game and Fish Department. Perkins Tank, White Horse Lake, Elk Tank, Middle Tank, and J.D. Dam Lake all lie in tributaries of Sycamore Creek on its west side. Perkins Tank lies in the headwaters of Big Springs Canyon, a major tributary to the headwaters of Sycamore Creek. All 5 impoundments are on the Kaibab National Forest.

Perkins Tank is located approximately 15 miles southeast of the City of Williams. Perkins Tank, with a lake elevation of 6,800 feet, on average is about 10 feet deep with a maximum depth of 16 feet, and is approximately 3.5 surface acres when fully watered.



Elk Tank is on JD Wash and is located 18 miles southeast of the City of Williams and 4 miles southwest of White Horse Lake on the Kaibab National Forest. The tank is 0.89 surface acres when full and has a depth of 30 feet.

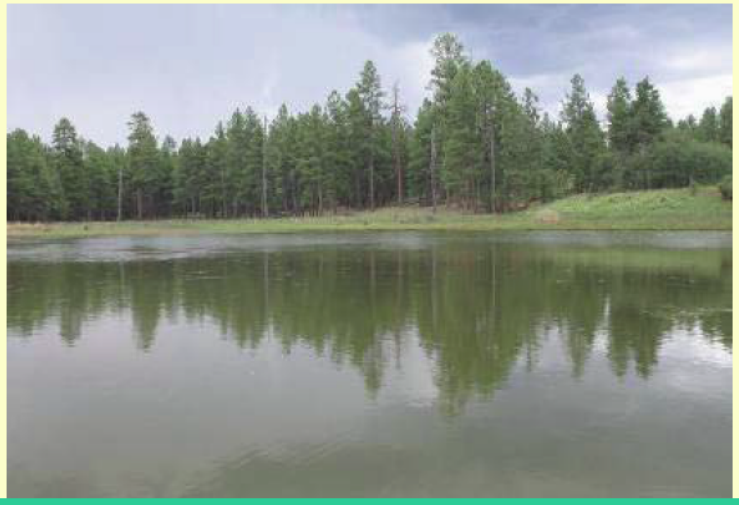
AZ Game & Fish

Sycamore Creek

Middle Tank is located 18 miles southeast of the City of Williams and approximately 4 miles southwest of White Horse Lake on the Kaibab National Forest. It is 2.19 surface acres when full (Figure 65).

AZ Game & Fish

Sycamore Creek



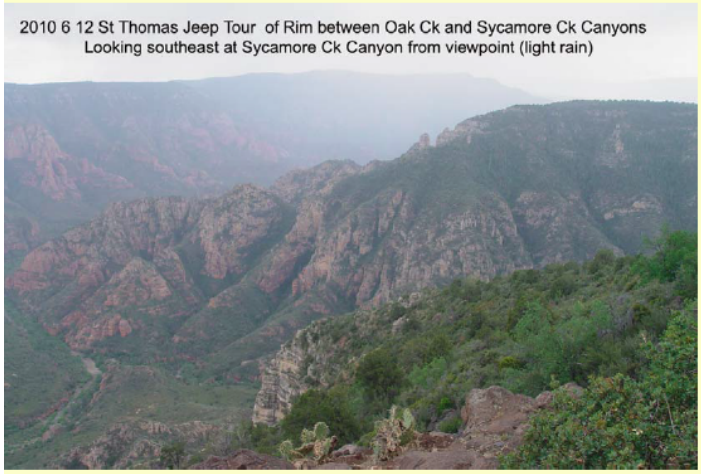
JD Dam Lake is located approximately 18 miles southeast of the City of Williams and approximately 4 miles southwest of White Horse Lake on the Kaibab National Forest; it is about 8 surface acres when full.

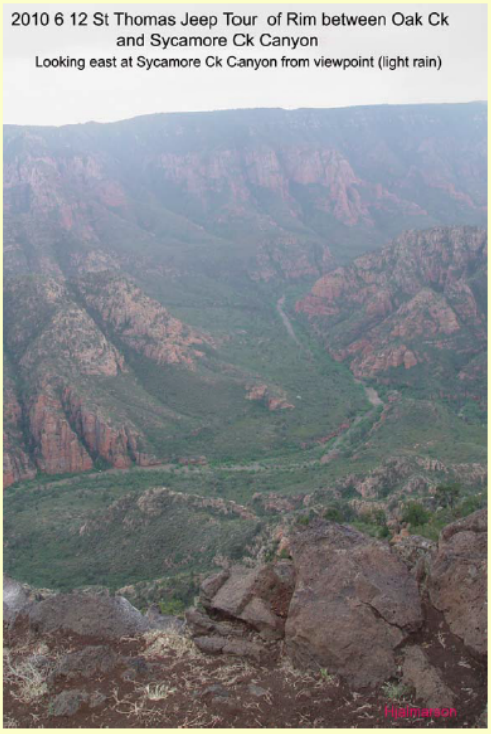
AZ Game & Fish

Sycamore Creek

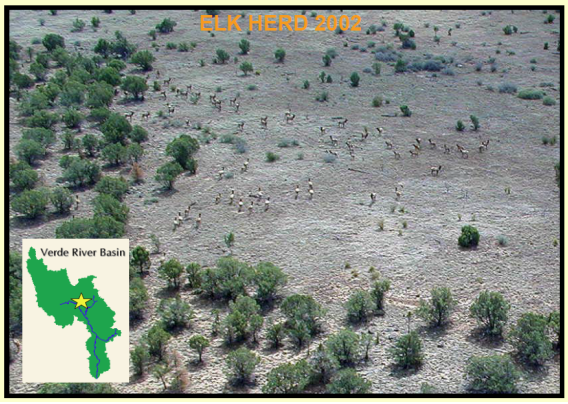
White Horse Lake is located 15 miles from Williams and 55 miles from Flagstaff. White Horse Lake on average covers 30 surface acres, with a 46 surface acre maximum capacity and an elevation of 6,551 feet. The lake is 12 to 15 feet deep on average and has maximum depths of up to 20 feet

Sycamore Creek

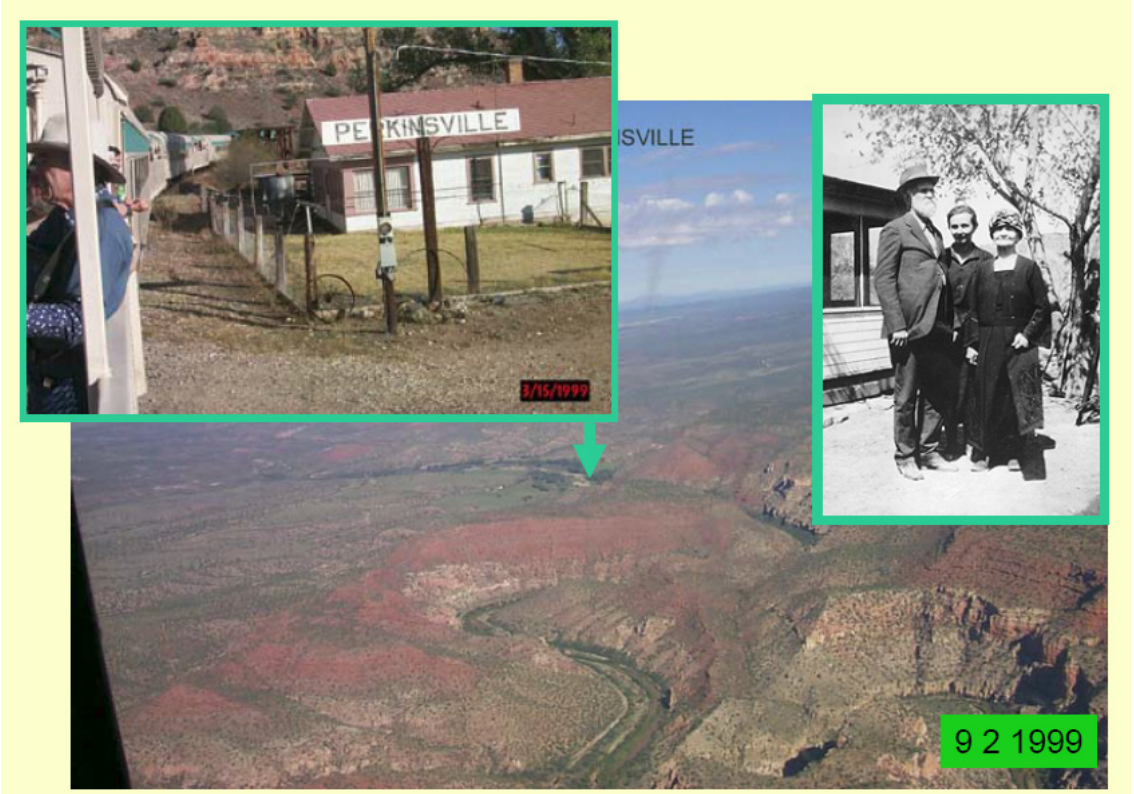




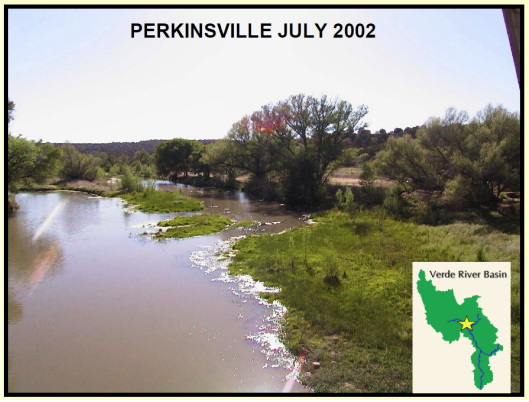
Photos above by Hjalmarson. Two photos below by L. Wirt of USGS.



Gary Beverly



Recent photos by Hjalmarson. Older two B&W photos from Sharlot Hall Museum.



1928 photo at Perkinsville Ranch The flow in this scene is about 1/3 the amount of the natural base flow before settlers.

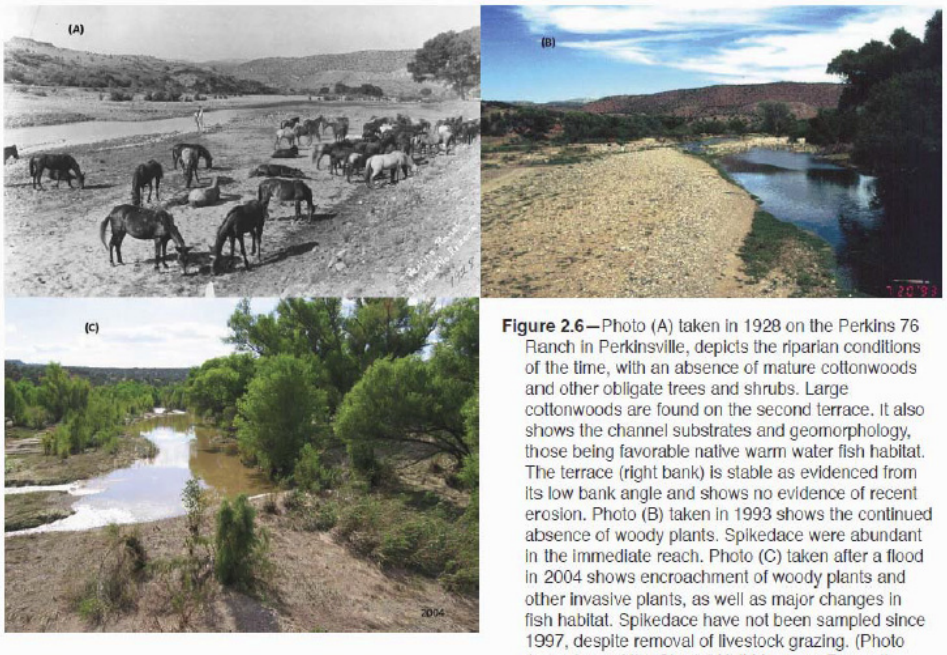


Figure 2.6—Photo (A) taken in 1928 on the Perkins 76 Ranch in Perkinsville, depicts the riparian conditions of the time, with an absence of mature cottonwoods and other obligate trees and shrubs. Large cottonwoods are found on the second terrace. It also shows the channel substrates and geomorphology, those being favorable native warm water fish habitat. The terrace (right bank) is stable as evidenced from its low bank angle and shows no evidence of recent erosion. Photo (B) taken in 1993 shows the continued absence of woody plants. Spikedace were abundant in the immediate reach. Photo (C) taken after a flood in 2004 shows encroachment of woody plants and other invasive plants, as well as major changes in fish habitat. Spikedace have not been sampled since 1997, despite removal of livestock grazing. (Photo A courtesy of the Sharlot Hall Museum, Prescott, Arizona; Photos B and C by Alvin L. Medina.)

Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 296 p.

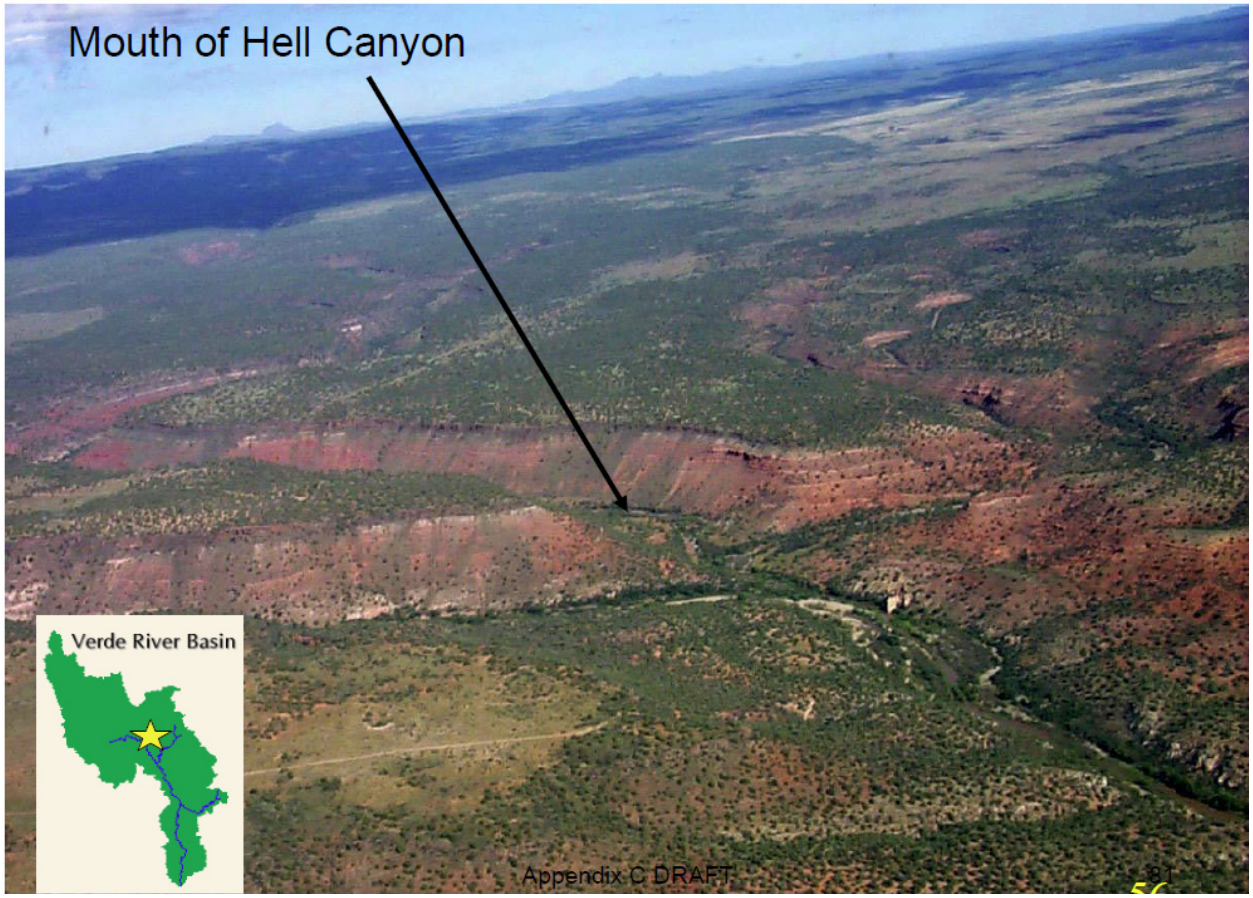
Figure 2.8—This photo was taken from the Perkinsville Road looking east and shows the homestead on the south side of the river. A stand of young cottonwoods, likely less than 10 years old, can be seen growing along the irrigation ditch. These same cottonwoods are seen in figs. 2.36 to 2.42. (Photo A courtesy of the Sharlot Hall Museum, Prescott, Arizona.)

Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 296 p.

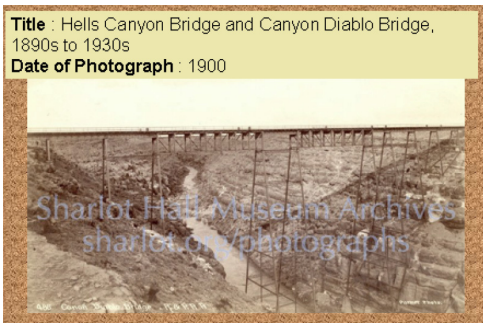
Title : Bridge and Donn's Car, Perkinsville, Arizona, 1953

Title : Verde River at Perkinsville, Arizona, 1953

Photo below by Hjalmarson



King Spring—
In Hell Canyon
Wirt USGS



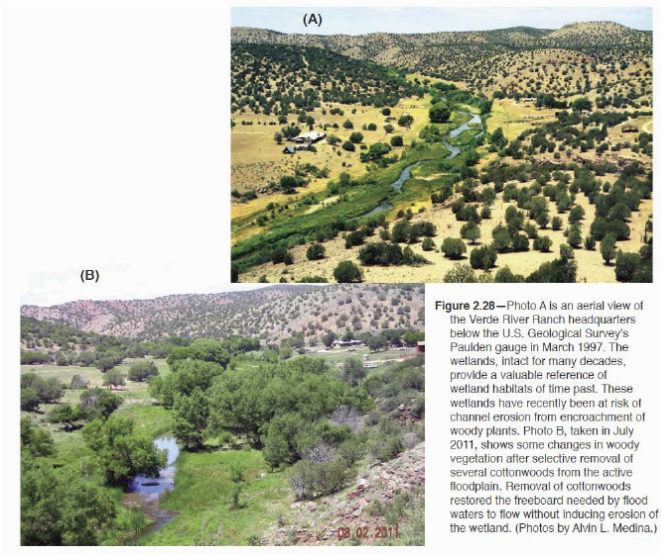


Figure 2.28—Photo A is an aerial view of the Verde River Ranch headquarters below the U.S. Geological Survey's Paulden gauge in March 1997. The wetlands, intact for many decades, provide a valuable reference of wetland habitats of time past. These wetlands have recently been at risk of channel erosion from encroachment of woody plants. Photo B, taken in July 2011, shows some changes in woody vegetation after selective removal of several cottonwoods from the active floodplain. Removal of cottonwoods restored the freeboard needed by flood waters to flow without inducing erosion of the wetland. (Photos by Alvin L. Medina.)

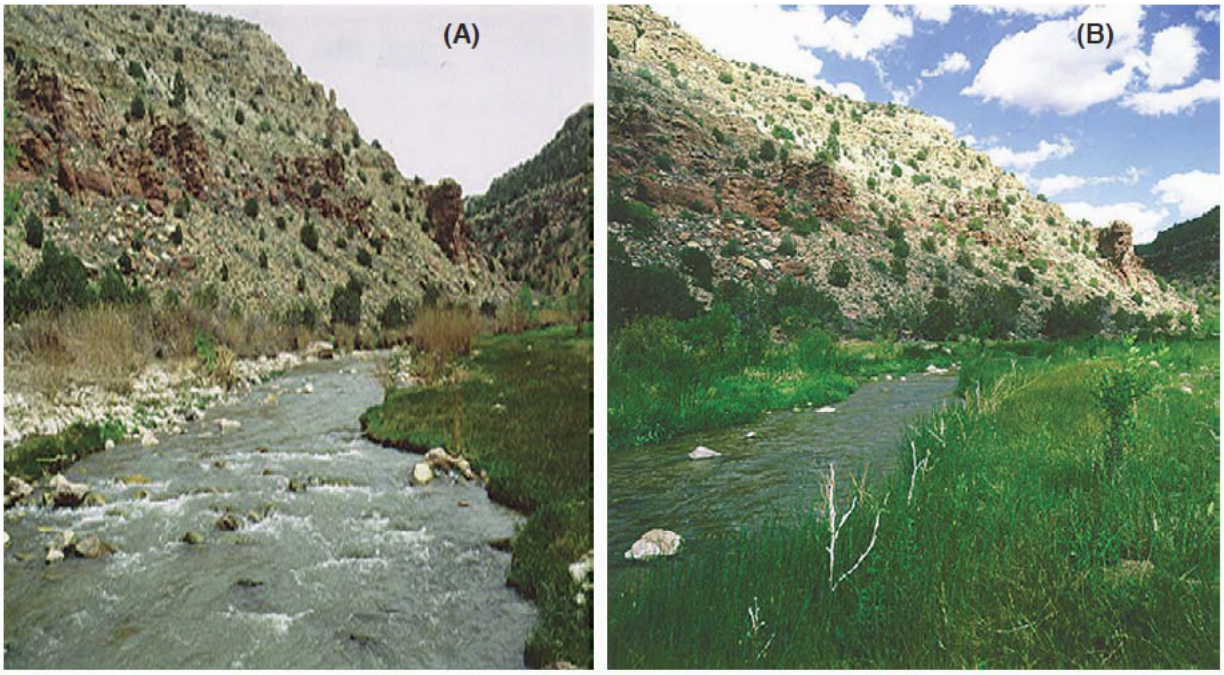


Figure 2.32—UVR vegetation recovery and channel narrowing and deepening at a second site a decade before (A: 1979) and after (B: 2003) the 1993 floods, Verde River Ranch. (Photos by James Cowlin and Alvin L. Medina.)

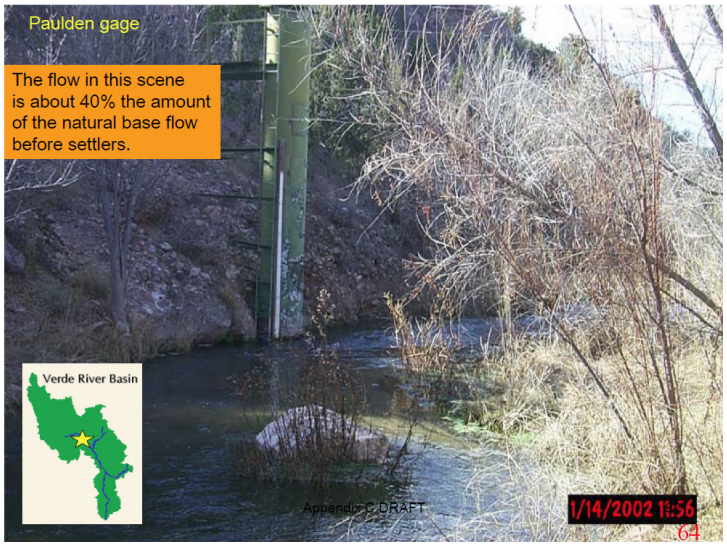
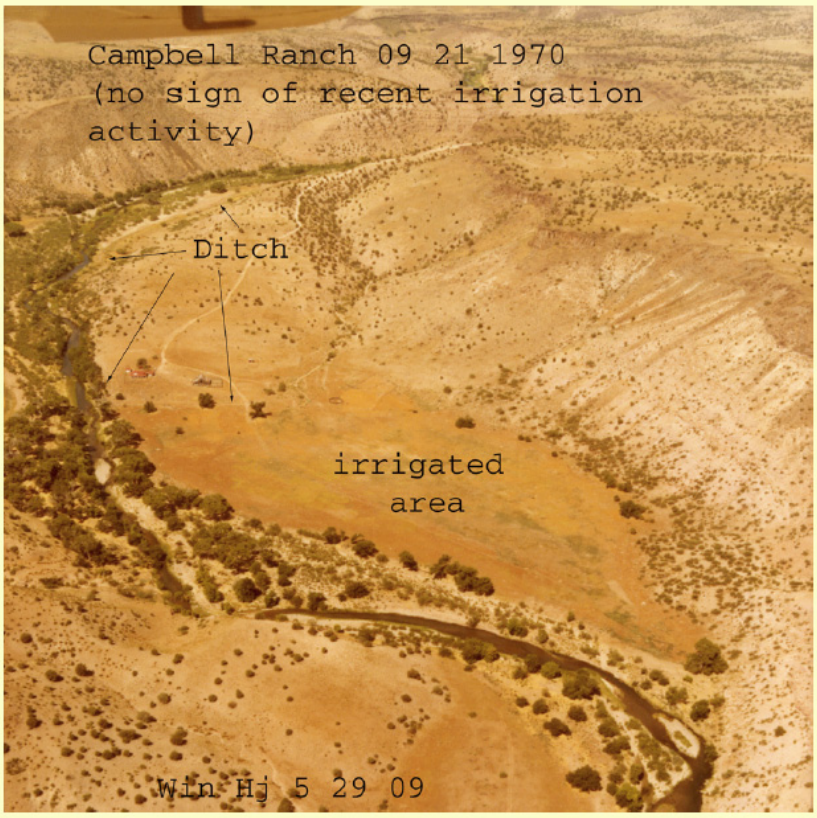


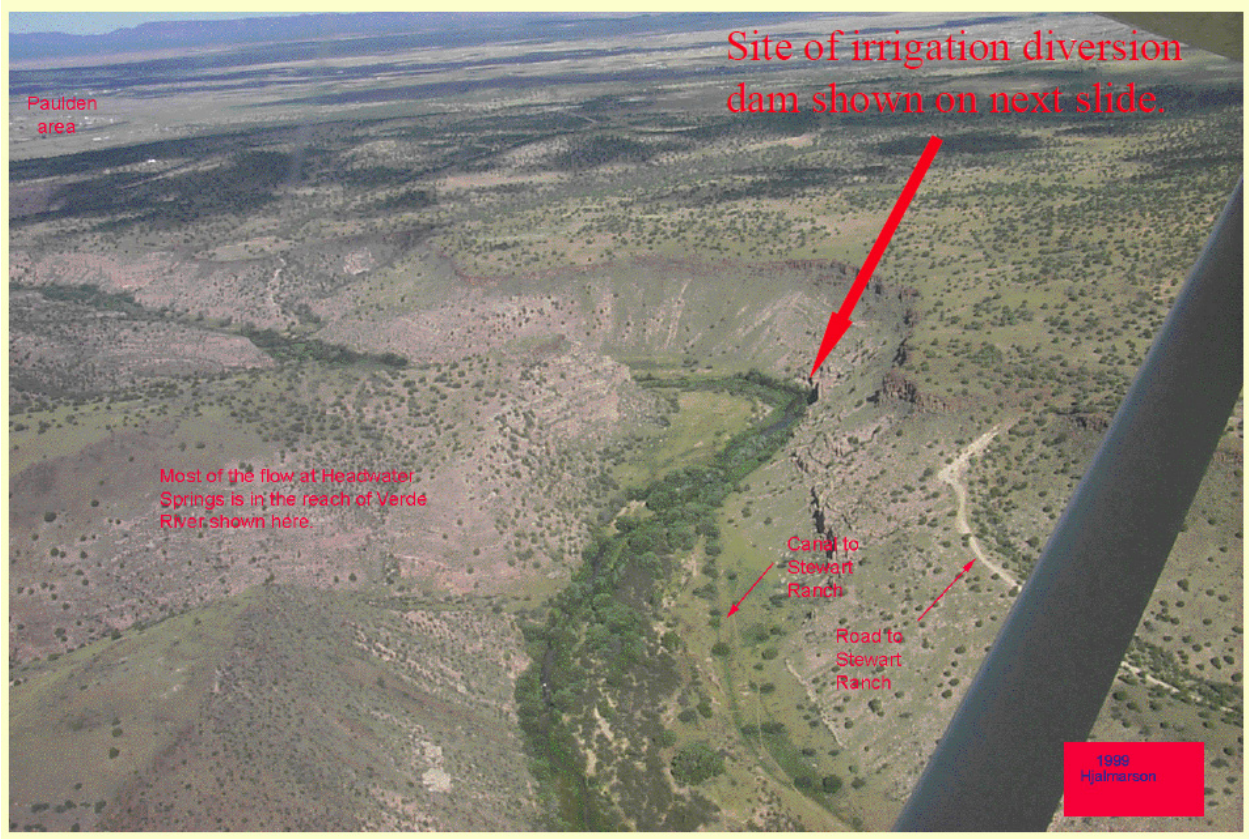
Photo by Hjalmarson

Verde River with Big Chino Valley in background



Stewart or Campbell Ranch

Diversion from Verde in 1940 and I observed irrigation once during 1966-about 1975. I'm unsure when diversion ceased.


Site of irrigation diversion dam shown on next slide.
Paulden area
Most of the flow at Headwater Springs is in the reach of Verde River shown here.
Canal to Stewart Ranch
Road to Stewart Ranch
1999 Hjalmarson

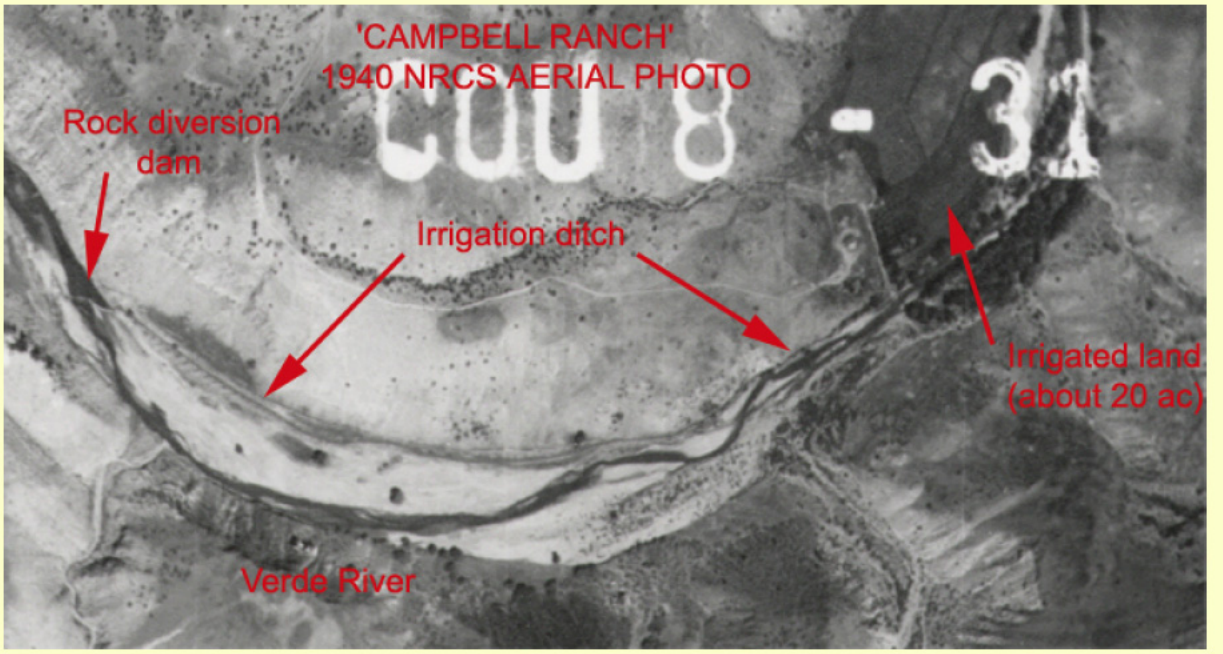

'CAMPBELL RANCH'
1940 NRCS AERIAL PHOTO
Rock diversion dam
Irrigation ditch
Irrigated land (about 20 ac)
Verde River

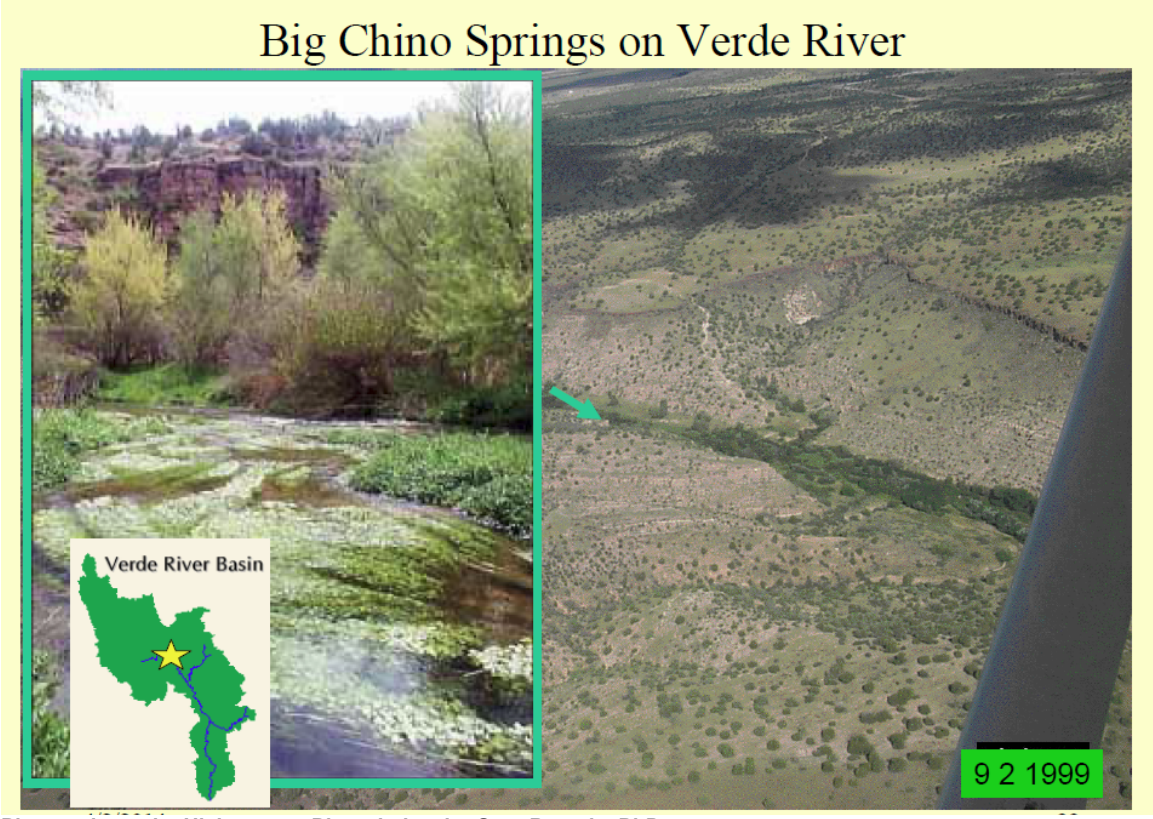
Figure 2.27—Cattle drive in 1946 on the Verde River Ranch and an illustration of the riparian vegetation and geomorphological conditions at the time. (Photo courtesy of the Sharlot Hall Museum, Prescott, Arizona.)

Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 296 p.

97

The largest spring network downstream from the Verde River/Granite Creek confluence (upper Verde River springs) lies below the topographical outlets of both Big and Little Chino valleys. Ground water in the Paleozoic carbonate aquifer usually discharges to the base of incised limestone canyons, such as upper Verde River springs, Stillman Lake, and King Spring in Hell Canyon. Ground water travels preferentially through networks of fractures and solution zones in limestone, although seepage from limestone beneath streambed alluvium will appear diffuse.

Wirt, F.N., DeWitt, Ed, and Langenheim, V.E., 2005, Hydrogeologic Framework, *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-Central Arizona: U.S. Geological Survey Open-File Report 2004-1411-D, 27 p.



Photos above by Hjalmarson. Photo below by Gary Beverly, PhD.

5/2/2014 Chronicling America • The Library of Congress

Arizona weekly miner. (Prescott, Ariz.) 1874-1877, June 05, 1874, Image 3

Image provided by Arizona State Library, Archives and Public Records; Phoenix, AZ

Persistent link: http://chroniclingamerica.loc.gov/lccn/sn82014898/1874-06-05/ed-1/seq-3/

Print this image | Download this image

Judge H. H. Cartter of this place has given up the idea of going East this summer, but may do so in the fall, as he is anxious to visit his relatives and friends before settling down for good in his beloved Arizona.

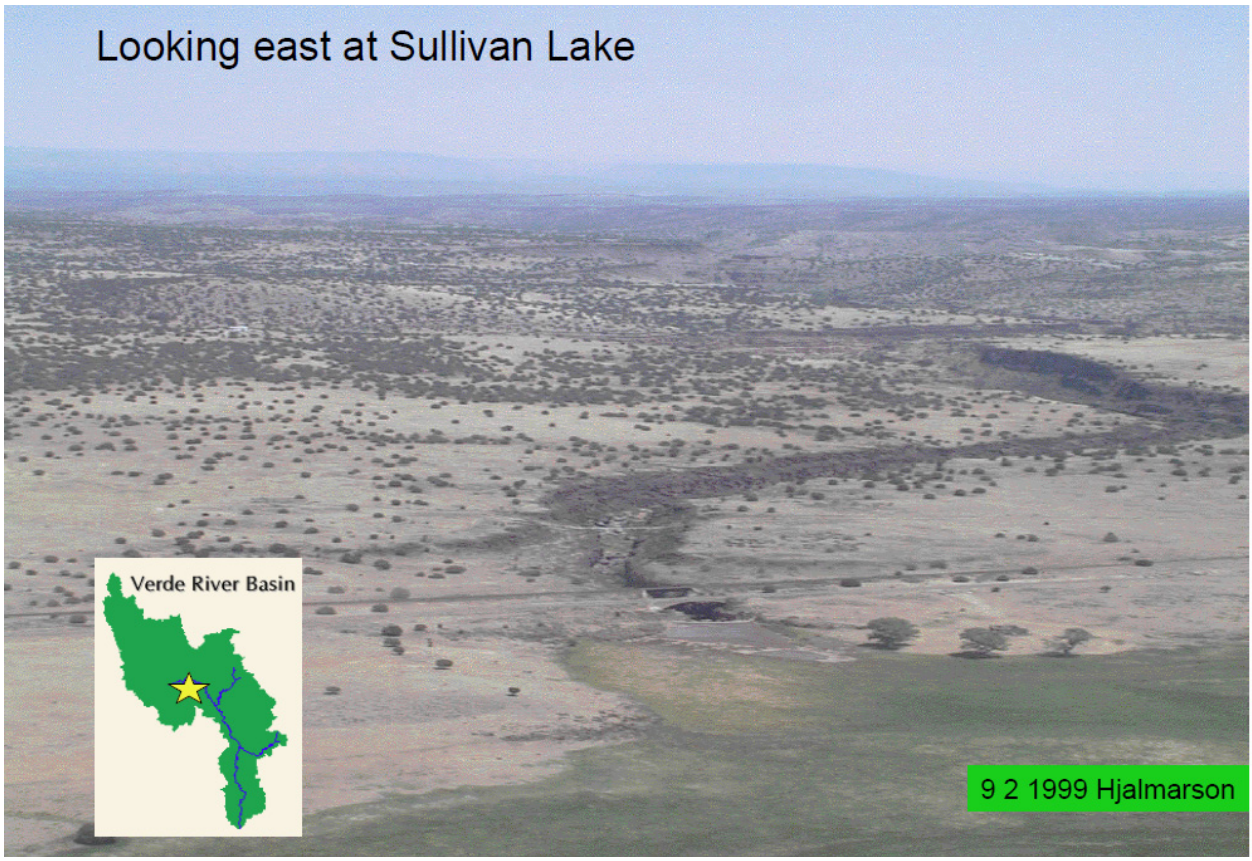
The Verde river, near Chino Valley, 25 miles north of Prescott, is teeming with fish, which, while they do not bite worth a cent, are easily taken, by the wholesale, in nets.

Mr I. Burnet's stage coach, drawn by four stout horses, started for Los Angeles, California, yesterday afternoon, with four passengers—discharged soldiers. The "outfit" go via Hardyville, which appears to be the favorite route with our people.

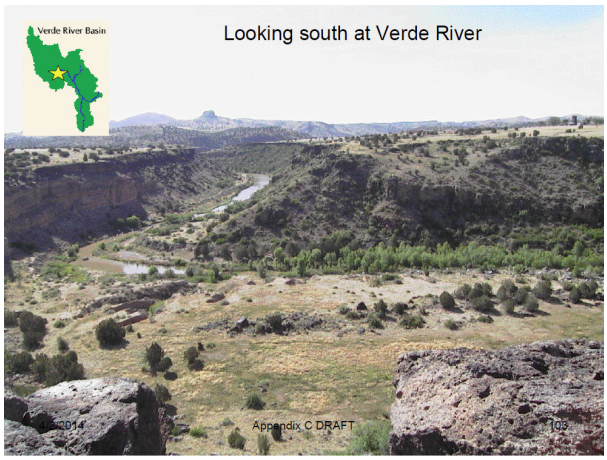
Yesterday was a good growing one.

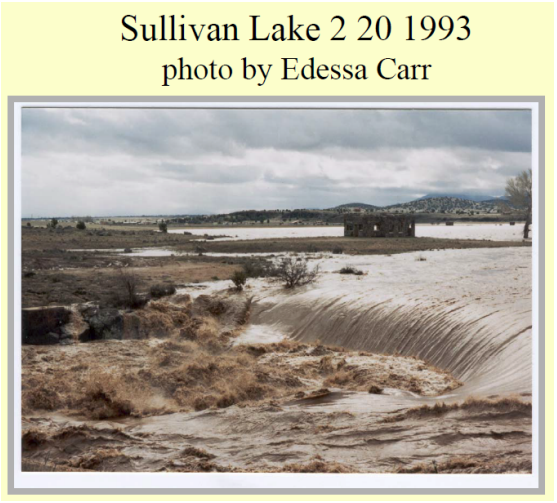
Lieut Wieting, 23d Infantry, is the happy father of a fine boy, born at Fort Whipple, last evening. Mrs Wieting is doing well.

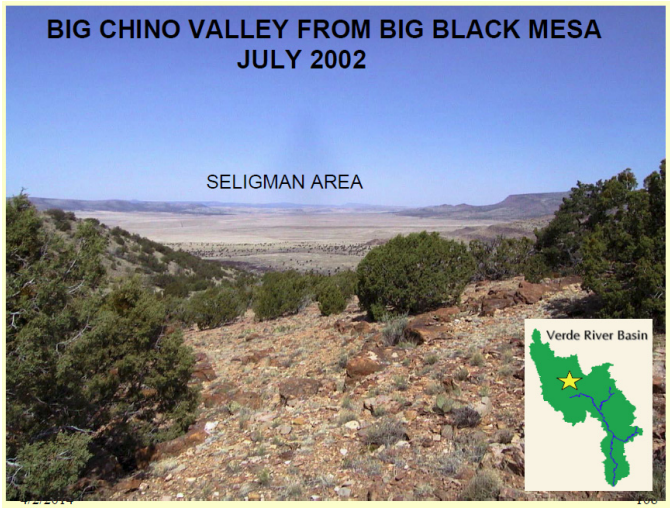
Wm A. Linn started, alone, this afternoon, for a fifteen days' trip through the moun-


Looking east at Sullivan Lake
Verde River Basin
9 2 1999 Hjalmarson

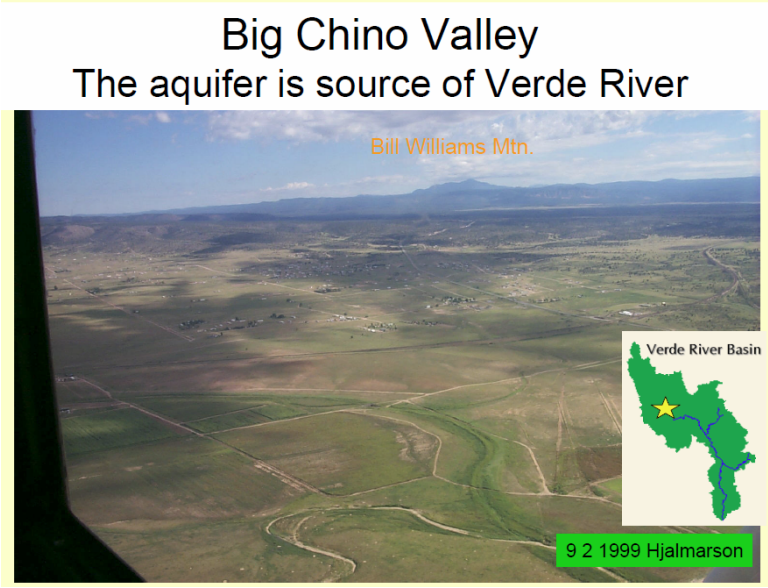

Looking up Granite Ck
at base Q of nearly 1 cfs
on April 12, 1999
Win Hjlmarson

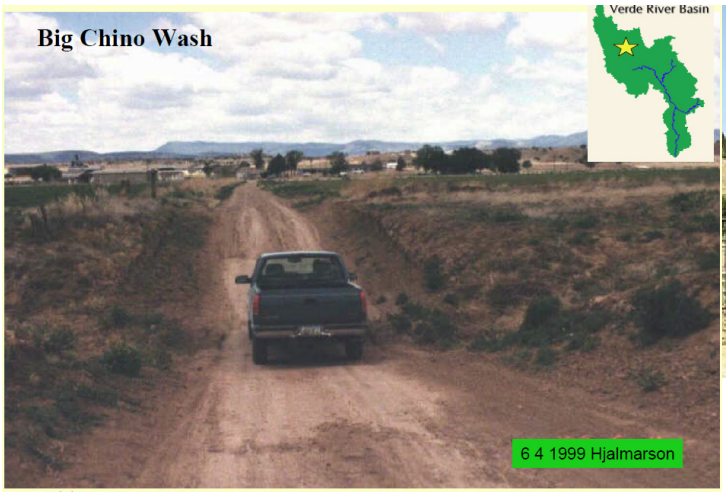






Photos with watershed location by Hjalmarson.





Photos with watershed location by Hjalmarson.

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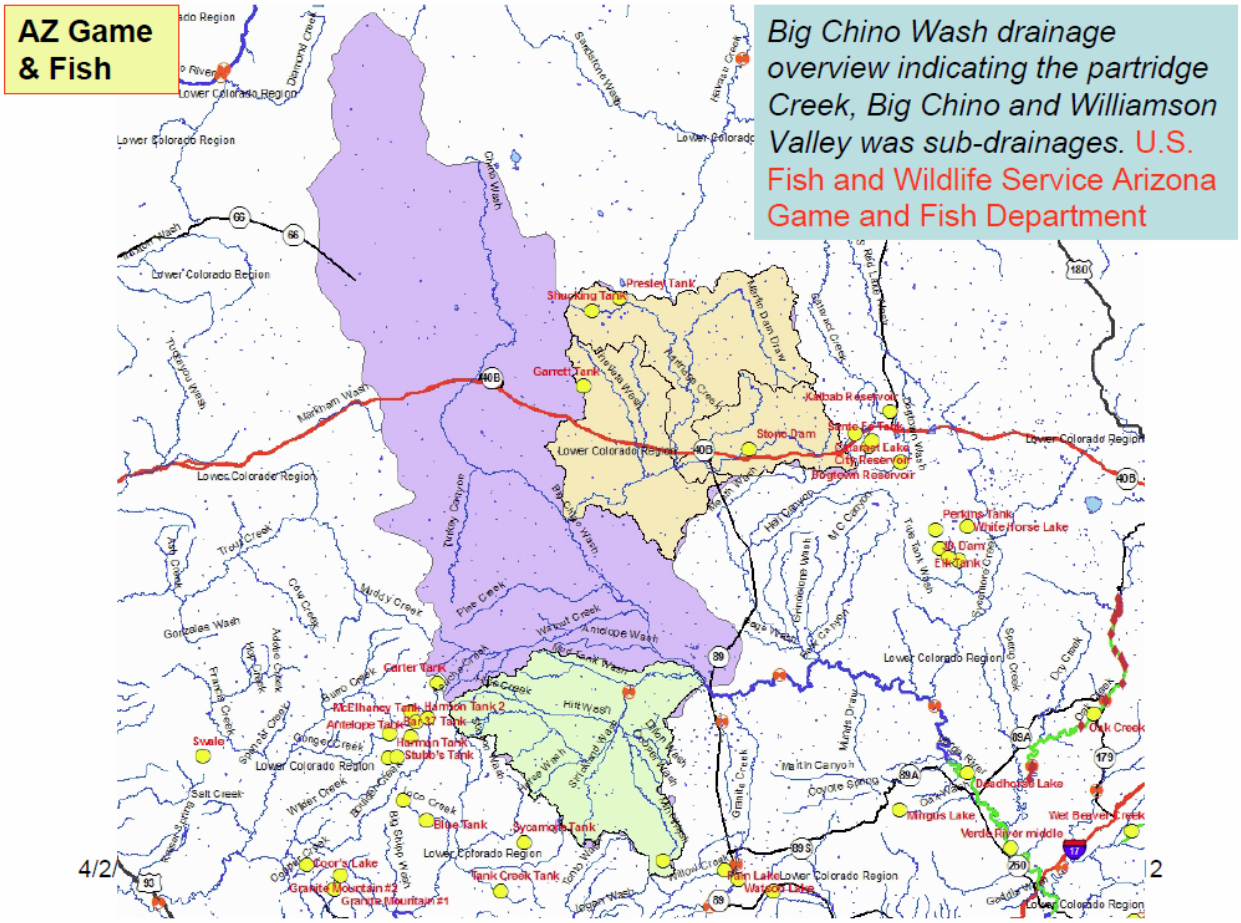
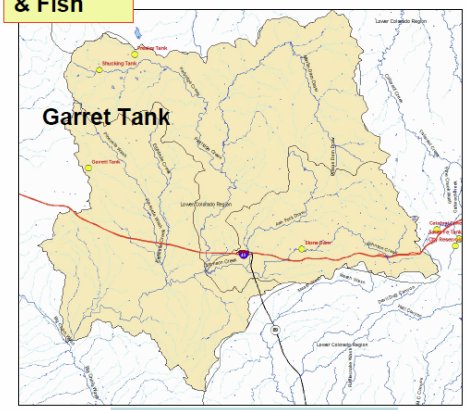


There are many tanks on channels that flow into Partridge Creek; for example, Seven Ranch, Flagstone, Goldtrap, Heifer, Cable, Cow Crossing Buck, Garden tanks, Williscraft, Jumbo, and others. Of the multiple tanks located on Partridge Creek and its tributaries, the AZ Game and Fish Department only stocks Garrett Tank, Shucking Tank, Presley Tank, and Stone Dam. Other tanks are known to dry periodically, but fish presence is unknown.

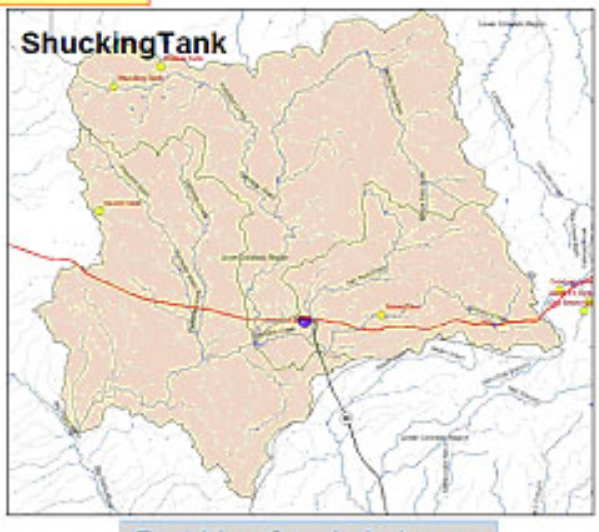
AZ Game & Fish

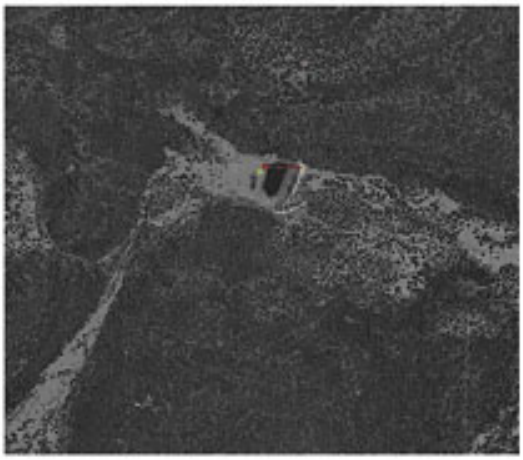


Partridge Creek drainage.

Garrett Tank is located in the headwaters of the Partridge/Big Chino Wash drainage, upstream of the Verde River. It is separated from the Verde River by approximately 52 miles of ephemeral channel. The tank is primarily fed by spring snow melt.

AZ Game & Fish





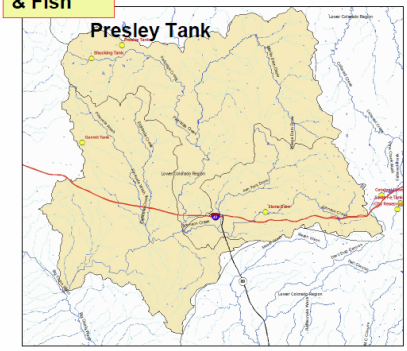
Partridge Creek drainage.

Shucking Tank is separated from the upper Verde River by approximately 73 miles of ephemeral channels. The tank is located just off-channel in the headwaters of Partridge Creek

AZ Game & Fish

Shucking Tank in September 2006

AZ Game & Fish

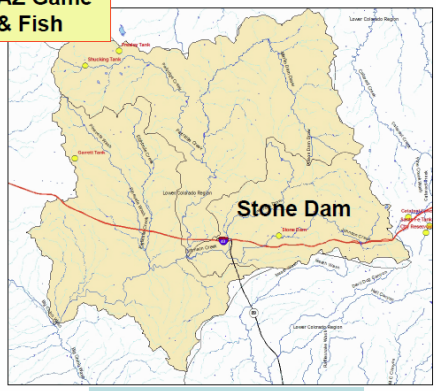


Presley Tank is also located on the Diamond 7 Ranch near Shucking Tank

Partridge Creek drainage.

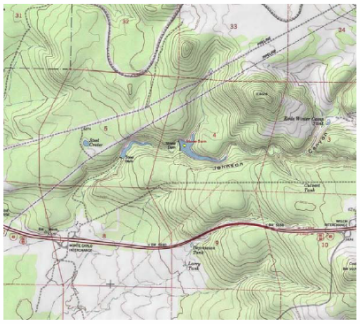
Presley Tank is located on a headwater tributary of Partridge Creek approximately 4.5 miles downstream from Shucking Tank, and approximately 0.8 miles up the tributary. As with other tanks in the area, Presley Tank is primarily fed by spring snow melt.

AZ Game & Fish



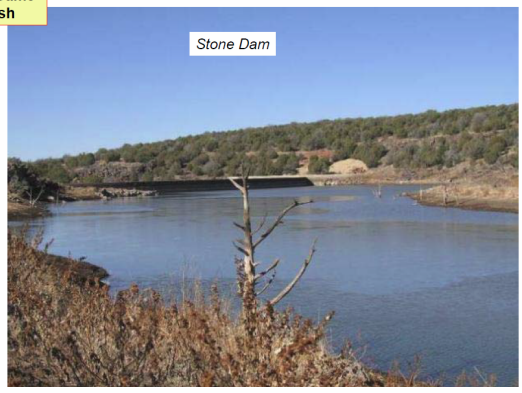
Partridge Creek drainage.

Stone Dam topographic map



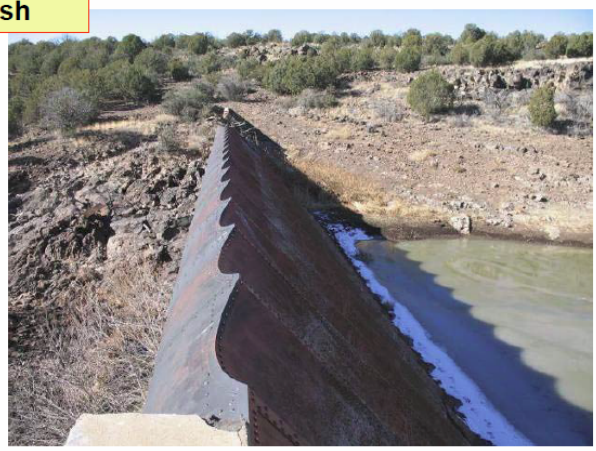
Stone Dam was built in 1910 and impounds, on average, 5 surface acres with a maximum 18 surface acres at spill level. It is located approximately 5 miles east of the town of Ash Fork. Stone Dam was originally developed by the Santa Fe Railroad to provide water for its steam engines.

AZ Game & Fish



Stone Dam

AZ Game & Fish



Steel Dam, located down ~0.35 miles downstream of Stone Dam on Johnson Creek. Photo taken January, 2007.

Also see Appendix F

Outflow from Stone Dam can flow down Johnson Creek 0.35 miles into Steel Dam Reservoir. Steel Dam is about 5 surface acres, and can reach a maximum of 10 surface acres when full.

AZ Game & Fish

Confluence of Partridge Creek and Big Chino Wash, December 2004.

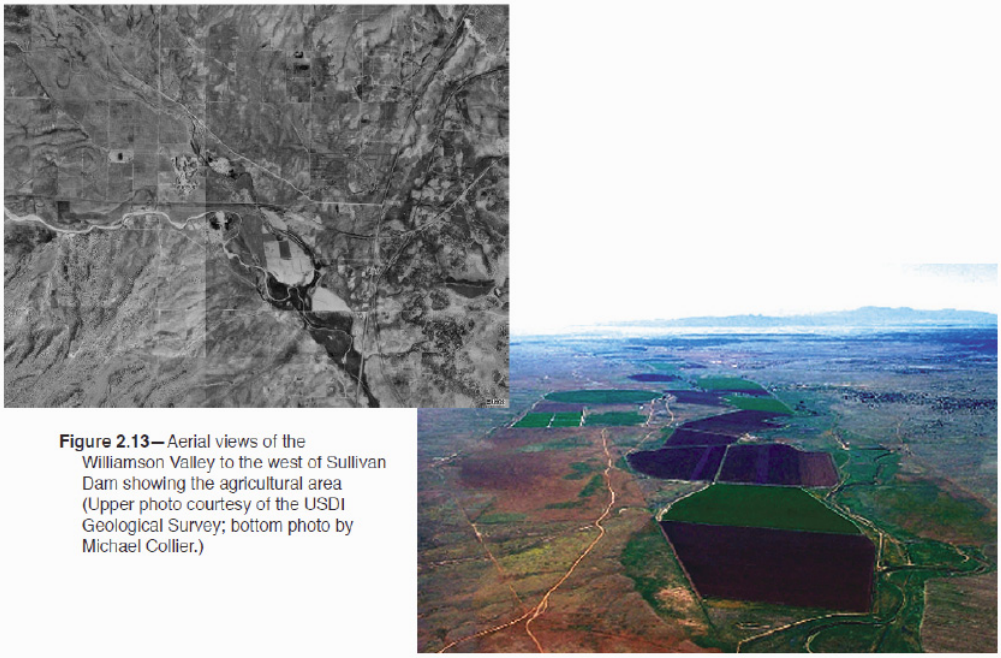
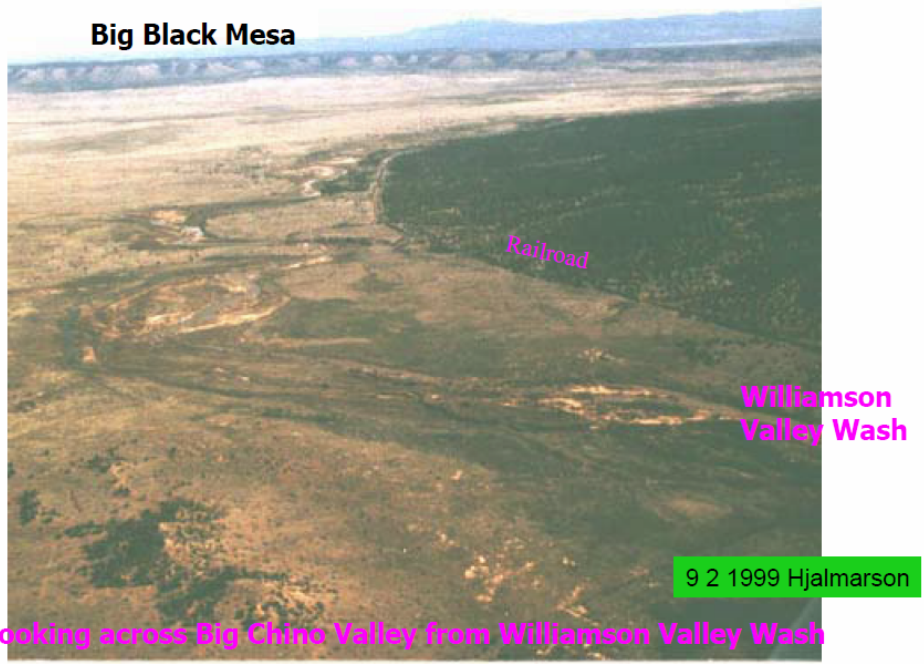


Figure 2.13— Aerial views of the Williamson Valley to the west of Sullivan Dam showing the agricultural area (Upper photo courtesy of the USDI Geological Survey; bottom photo by Michael Collier.)

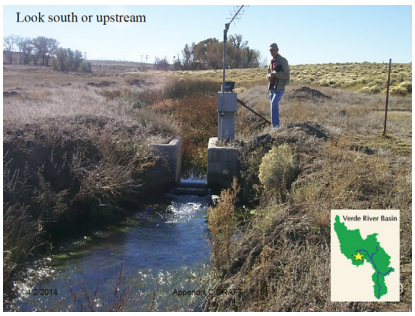
Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 296 p.



Looking across Big Chino Valley from Williamson Valley Wash

Prescott pipeline (presently buried) connecting wells in Little Chino aquifer with Prescott

Big Chino Springs along the Verde River.
More than all the base flow in this scene will fit in pipeline to Prescott!



Photos by Hjalmarson.

Big Chino Valley

•Irrigation well on K4 farm (presently diesel fueled)

•Looking south down Chino Wash

Photos by Hjalmarson 1999

•Looking south at K4 farming

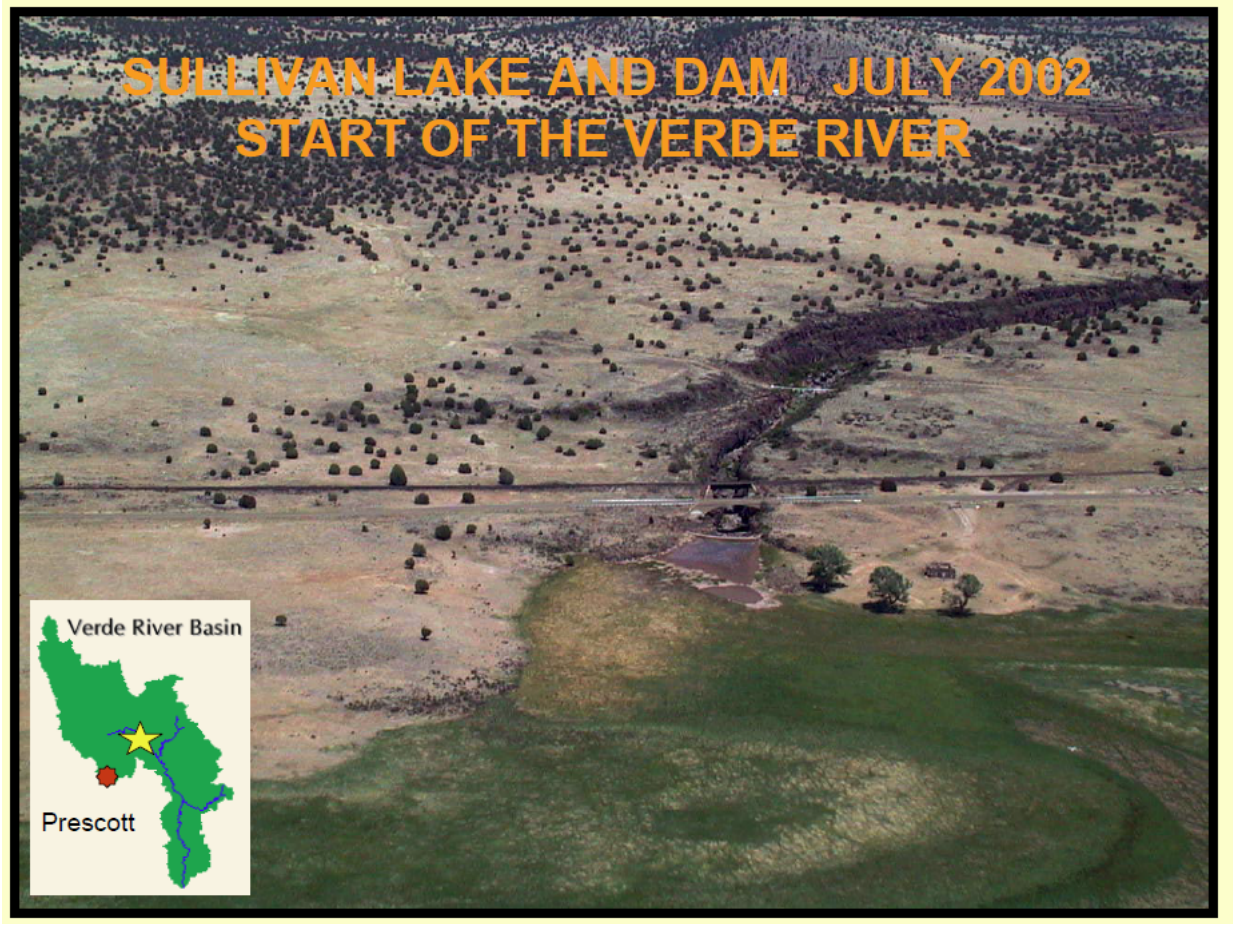


Photo with watershed location by Hjalmarson. Two photos at bottom from *Verde River* on Facebook.

Item 7. Sources of base runoff—a brief discussion

Other uses of streamflow and springflow by settlers included the powering of grist mills on Granite Creek a short distance above Prescott. In 1867 the Bowers brothers operated a mill that ground about one ton of corn meal per day. Another grist mill was operated at Del Rio Springs in 1871 when springflow was at least 150 miner's inches (3.8 cfs) as measured by Federal Land Surveyors. Del Rio Springs was a landmark known to pioneers as a permanent and plentiful source of water. It is located just beyond the northern limit of the artesian area. In 1863 Whipple Barracks was located at this site and then moved to Prescott. In 1904 the City of Prescott built a pumping station at Del Rio Springs and pumped water from a shallow well for a distance of 21 miles into the city through an 8-inch pipe line. The operation was discontinued in 1926.

A small but significant consideration gleaned from history and Grist mills and arrastras is that to be successful, the quantity of flow and the natural uniformity of flow are important, particularly in the summer time. The success of the mill implies natural storage of sufficient size to yield a sufficient uniform quantity of water to power the mill at nearly all times. Therefore, the powering of a grist mill and arrastras on Granite Creek a short distance above Prescott implies a good-steady base runoff before it was depleted by eventual human impacts like diversions and storage.

Item 8. Additional Background

"In 1744, Father Jacob Sedel made an attempt to reach the Moquis and re-establish the missions, but got no further than the country of the Pimas on the Gila, who dissuaded him from the enterprise (Hamilton, Patrick, 1881, The Resources of Arizona, its rivers, farming, etc.., compiled under the under authority of the Legislature, Prescott, Arizona, 120p.) He explored the newly discovered river of Asumpciou (Salado) and the Verde. He also followed the Gila to its sources, and encountered the Apaches. In 1727, the Bishop of Durango, Don Benito Crespo, visited the missions of Arizona, and wrote to Philip V. in their behalf. That monarch ordered that they should be protected and assisted out of the royal treasury."

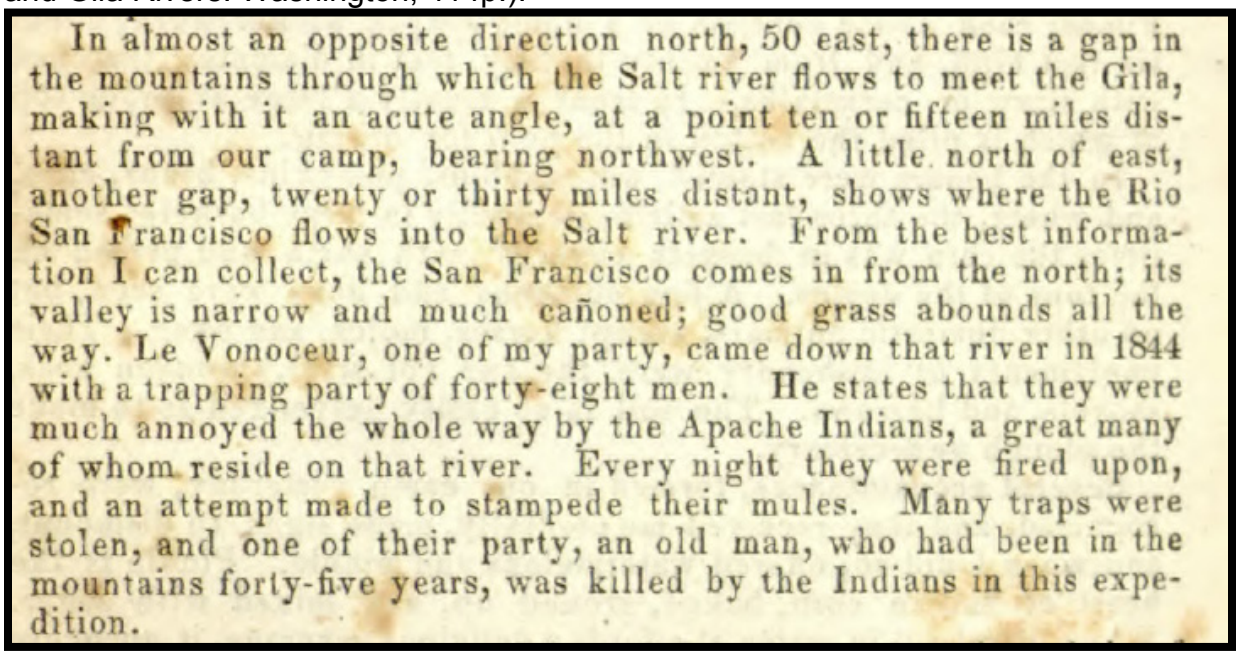
"The recent Indians when discovered by the Spanish conquerors lived by farming and then as now their farming was made possible by the artificial storage and carriage of water. Their period may be said to begin with the time when the present ruins along the valley of the Rio Verde were efficient channels watering rich lands, and has been continued to the present day." (Greely, General A. W. and Glassford, Lieut. W. A., 1891, Report on the climate of Arizona, with particular reference to questions of irrigation and water storage in the arid region; 51st Congress 2nd Session, US House of Rep., Ex. Doc. 287, 88p.).

According to Carrillo and others, 2009, p. 218, "In 1826, Ewing Young along with a group of 30 men were working the Gila River and some of its tributaries. The Young party also worked up the Salt River to its junction with the Verde River. Here the party

divided, part following the Verde River to its source and the other following the Salt River to its source in the White Mountains. The two groups rejoined and trapped down the Salt and Gila rivers to the Colorado River, where they enjoyed good beaver trapping (Hafen 1997). In 1829, Young led a group of 40 trappers from New Mexico to the Salt River. They trapped down that stream and up the Verde River with considerable success.

Among this group of trappers was a young Kit Carson, who had worked as a cook for Young in Taos, New Mexico, and who was now out on his first trapping expedition (Hafen 1997). After leaving the headwaters of the Verde River, the group separated, half returning to New Mexico and the rest, including Young and Carson, setting out for California."

On November 14, 1846 Lt Col Emory discusses the Verde River (Rio San Francisco) that he does not visit (Emory, W. H., Lt Col, 1847, Notes of Military Reconnaissance, Fort Leavenworth in Mo. to San Diego in CA, including parts of the Arkansas, Del Norte and Gila Rivers: Washington, 414p.).



In almost an opposite direction north, 50 east, there is a gap in the mountains through which the Salt river flows to meet the Gila, making with it an acute angle, at a point ten or fifteen miles distant from our camp, bearing northwest. A little north of east, another gap, twenty or thirty miles distant, shows where the Rio San Francisco flows into the Salt river. From the best information I can collect, the San Francisco comes in from the north; its valley is narrow and much cañoned; good grass abounds all the way. Le Vonoceur, one of my party, came down that river in 1844 with a trapping party of forty-eight men. He states that they were much annoyed the whole way by the Apache Indians, a great many of whom reside on that river. Every night they were fired upon, and an attempt made to stampede their mules. Many traps were stolen, and one of their party, an old man, who had been in the mountains forty-five years, was killed by the Indians in this expedition.

Originally Arizona was part of New Mexico, and it continued as such under United States dominion until 1863, when it was made a separate Territory and formally organized at Navajo Springs. Later the capital was established at Fort Whipple (Del Rio Springs), Prescott, Tucson, again at Prescott, and finally at Phoenix. The settlement of Arizona progressed rather slowly largely because of hostilities with Apache Indians. Mainly for this reason there were few if any white inhabitants in the Verde River watershed prior to the treaty of 1848.

From 1853 to 1857 several governmental surveys were made across the region, mainly to find routes for railways. One of these exceptional surveys was the Whipple Survey that entered the Verde River watershed near the present town of Williams and exited at

Apache Pass near the head of Walnut (Pueblo) Creek (Appendix B of this study). The original Federal Land Office Surveys started in about 1870, after early settlement in some of the watershed, and continued into the early 1900s. The early Federal surveys provided valuable information for this assessment of navigability.

Settlements of the early people (Indians) of the Verde watershed were influenced by proximity to perennial water and an ability to defend against hostile Indians. Generally, wherever Indian ruins are located water can, or could, be found nearby (Appendix B).

The original plats and survey notes of the General Land Office Records (GLOR) of the US Bureau of Land Management provide valuable water use information of early settlement. While much early history focuses on particular events, the GLORs document stream location, stream width, occasional stream flow depth, perennial-intermittent-ephemeral flow condition, occasional spring discharge, location and size of cultivated areas, land use and land ownership. Early white settlers knew the importance of water in this arid land but few kept diaries and many available accounts were of extreme conditions. The GLORs provide an important history of measured and documented land and water conditions before statehood.

Many of the earliest visitors/settlers were prospectors, and many mines were opened under more or less protection by the Government. The withdrawal of troops for the Civil War gave the Apaches opportunity to resume depredations, and about 1,000 white settlers were killed in the southwest region generally of present central and southern Arizona. The hostile Indians eventually were subdued. There presently (2014) are a few Indian reservations with a couple of prosperous casinos and impressive education programs for youth in the watershed.

The original Federal Land Surveys identified numerous settlers in the upper Verde River watershed with farms/ranches, many of which were small but some were rather large. In addition to the records of surveyors there were newspaper accounts of “splendid farms”, dairy farms, fields of corn, cattle ranches, etc. in the 1860s and 1870s. Also, by 1909 there were many diversions. For example, two of the diversions are ASCE Historic Civil Engineering Monuments. The first is the Ashfork-Bainbridge Steel Dam built by Santa Fe Railway in 1898 (Item 5 Appendix A). It was constructed with 24 curved plates sloped downstream giving this unique structure a scalloped appearance. The central steel section is 184 feet long, 46 feet high, and weighs an estimated 460,000 pounds. It supplied water to Ash Fork that was a railroad town.

Two wells at Del Rio Springs (or Puro) were drilled in 1926 by the Santa Fe Railroad Co. These were used to haul water by tank car to points along the railroad. In 1931 27,800 tank cars at 10,000 gallons each were filled.

The first artesian well was drilled in 1930 by a group of Chino farmers who formed the Chino Valley Artesian Well Co. Reportedly the Arizona legislature had offered a large reward for the first artesian well.

The USFS recently acquired Ash Fork Steel Dam, located in Kaibab National Forest, through a land exchange. Built in 1897 to serve the Santa Fe Pacific Railway, the dam is the first fixed steel dam erected in the United States.

Upper Verde River water

- 1860 Diversions from streams mostly for irrigation
- 1900 Del Rio Springs pumping to Prescott
- 1915 Watson Lake & Dam for irrigation
- 1926 First deep irrigation well
- 1937 Several deep irrigation wells—University of Arizona contacted by Chino Valley about lowering of water levels
- 1946 USBR published warning Little Chino Valley aquifer is not in safe yield
- 1946-48 Five large deep wells pumping water to Prescott. Water levels continue to decline.
- 1999 Many irrigation and domestic wells. PAMA again declared "not in safe yield ".

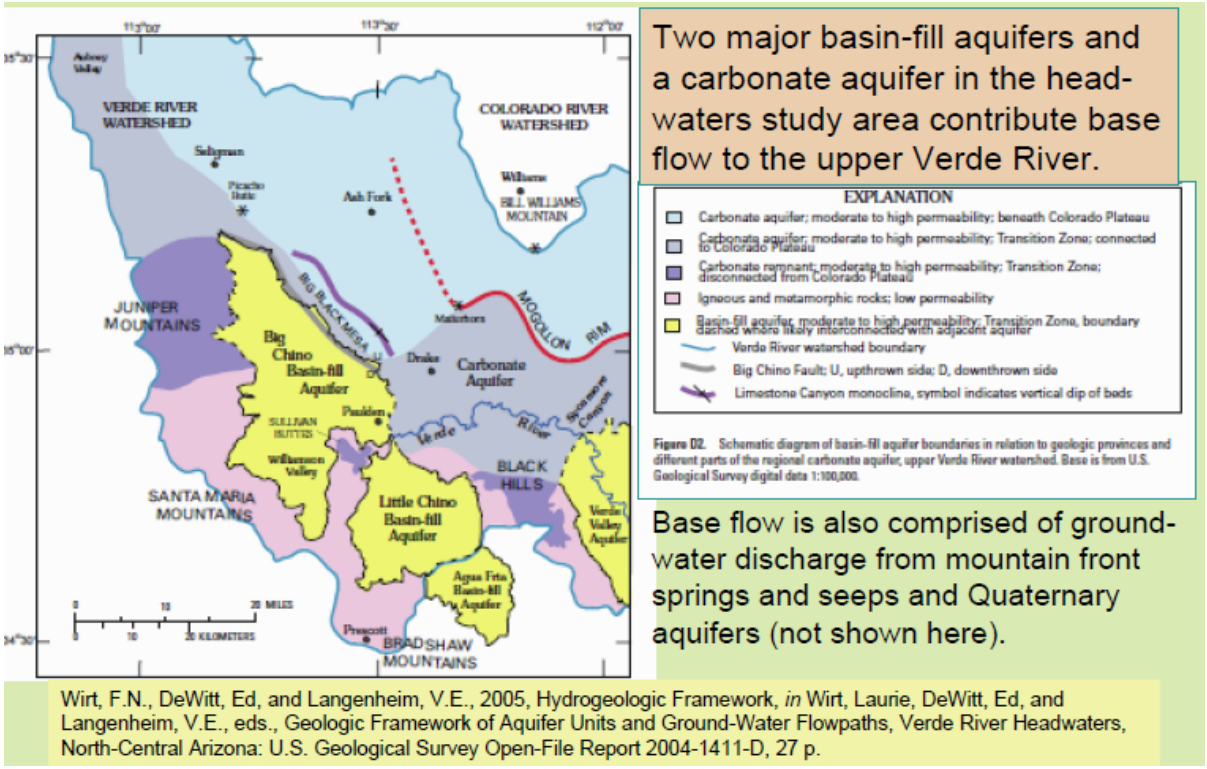
Item 9. Groundwater models—briefly

Many studies by the USBR, ADWR, NAU, USGS and others of the water resources of the Upper Verde River watershed focus on present and future conditions and use background (pre-development) information typically starting in the early 1900s. These investigations typically start with groundwater withdrawal from deep basin fill aquifers using deep wells starting in about 1926 with many in 1930. The thinking is that past information is useful for defining the present and future hydrology and water supply. The latest USGS model (Pool and others, 2011) reportedly does this rather well.

> Pool, D.R., Blasch, K.W., Callegary, J.B., Leake, S.A., and Graser, L.F., 2011, Regional groundwater-flow model of the Redwall-Muav, Coconino, and alluvial basin aquifer systems of northern and central Arizona: U.S. Geological Survey Scientific Investigations Report 2010-5180, 101 p.

Thus, focus of GW models has also been on past depletion of deep basin fill aquifers and associated effects on base flow of the Verde River. Pool's USGS model has recently been applied to the Big Chino aquifer by professional geologist Peter Kroopnick (2012).

> Kroopnick, Peter, 10/04/2013 DRAFT, Application of the Northern AZ GW flow model (NARGFM) to the upper Verde River-potential future declines due to additional GW -2114; 41p.



Wirt, F.N., DeWitt, Ed, and Langenheim, V.E., 2005, Hydrogeologic Framework, *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-Central Arizona: U.S. Geological Survey Open-File Report 2004-1411-D, 27 p.

In regard to this particular study for ANSAC of the natural and ordinary base flow in the Upper Verde River, the fact that the USGS did not model the Quaterary alluvium and areas of mountain front springs and recharge that were above the first layer of the USGS GW model (Pool and others, 2011, Figure 12 p. 44) is a very important limiting characteristic of the USGS GW model.

Generally speaking, GW models don't necessarily do a good job of modeling all of the natural base flow. Models define base flow from regional (main) aquifers but not necessarily account for flow from higher or mountain recharge and mountain front springs. Base flow associated with these higher areas springs must be defined separately and is often ignored. For example, Goode and Maddock (2000) considered mountain front springs (base runoff) along the San Pedro River while the USGS GW models did not.

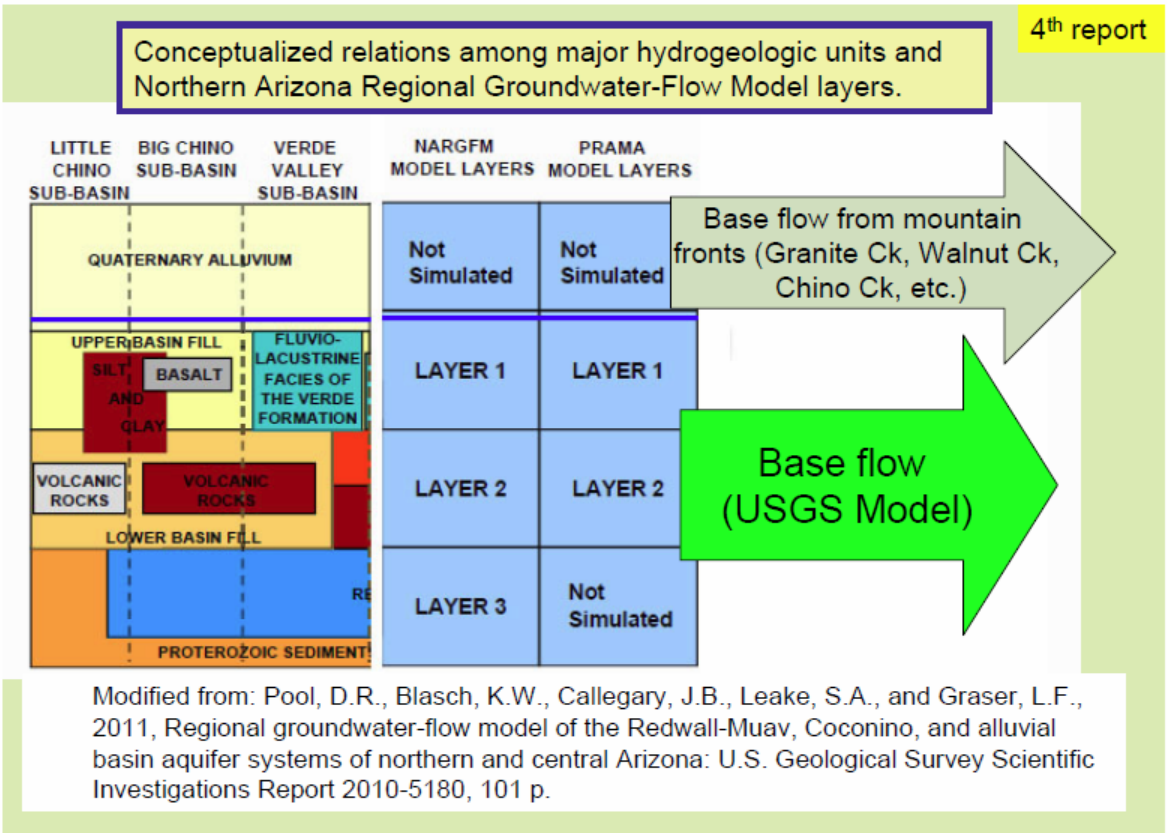
> Modified from Goode, T.C., and Maddock, Thomas III, 2000, Simulation of groundwater conditions in the Upper San Pedro Basin for the evaluation of alternative futures: University of Arizona, Tucson, Arizona, Department of Hydrology and Water Resources, HWR No. 00–030, 113 p.

These mountain front areas are above the modeled layers of the USGS GW model of the upper Verde area (Pool and others, 2011). Under natural conditions streams such as Granite Creek, Hell Canyon, Big Chino Wash, Walnut Creek, Willow Ck, Pine Ck were intermittent or perennial typically with perched GW levels (See Item 1 of this Appendix) along the stream channels at or near the channel bottoms (Wirt and others,

2005). Base runoff along these streams was perched above the basin fill aquifer that was modeled by the USGS.

> Wirt, F.N., DeWitt, Ed, and Langenheim, V.E., 2005, Hydrogeologic Framework, *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-Central Arizona: U.S. Geological Survey Open-File Report 2004-1411-D, 27 p.

Three layers are used to represent the primary aquifers as shown on the following diagram. In regard to this analysis of navigability, Layer 3 is the lowest of the layers represents the Redwall-Muav aquifer and crystalline rocks. Layer 2 extends only partially over the model domain and represents the Supai Formation on the Colorado Plateau, sand and gravel in the Verde and Big Chino Valleys, and the lower volcanic unit in the Little Chino Valley. Layer 1 is the uppermost and least extensive model layer and represents the Coconino aquifer on the Colorado Plateau and the thick silt and clay and adjacent interbedded alluvial deposits in the Big Chino Valley and the upper alluvial layer in the Little Chino Valley.



"Groundwater flow is simulated for steady-state conditions that were assumed to exist in 1910 and transient conditions during 1910 through 2005. The simulation period is divided into nine multi-year stress periods. No seasonal or annual variations were simulated. The groundwater flow system in 1910 was dominated by natural conditions

across most of the study area except in the Little Chino and Verde Valley sub-basins where the natural groundwater-flow system was altered by surface-water diversions for agricultural use. **Natural predevelopment conditions prior to surface water diversions were not simulated because data to define that system are sparse."**

The USGS model development focused on when there were deep wells with substantial groundwater development in the basin fill (layers 1 and 2). The model ignored diversions along perennial/intermittent streams for irrigation, mining and domestic use. Since about 1850 there were diversions for irrigation along the stream sediments of Granite Creek, Williamson Valley Creek, Chino Creek, Pueblo (Walnut) Creek and the Verde River. Diversion was made using low earth/rock dams and, near the turn of the century, shallow wells using centrifugal pumps. These rather small but numerous diversions had little impact on layers 1 and 2 of the USGS model and were ignored by the USGS. However, these were diversions of tributary base runoff to the Verde River.

SIR 2010-5180 is unclear concerning the effect of early diversion of surface water directly from tributary streams. For example, they report that "Diversion of surface water for application at agricultural fields modified the groundwater system before the development of groundwater supplies" but the earliest SW diversions were to cultivated lands along stream channels where the shallow groundwater typically was perched. These numerous rather small diversions had little direct affect on the groundwater in layers 1 and 2 of the model. The USGS seems to imply the model considers some early diversion but is not explicit about the area of this study.

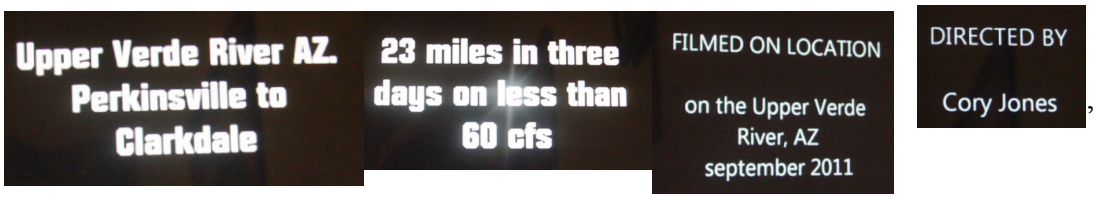
> Pool, D.R., Blasch, K.W., Callegary, J.B., Leake, S.A., and Graser, L.F., 2011, Regional groundwater-flow model of the Redwall-Muav, Coconino, and alluvial basin aquifer systems of northern and central Arizona: U.S. Geological Survey Scientific Investigations Report 2010-5180, 101 p.

"A poor understanding of base flow results in a poor understanding of groundwater budgets. A more detailed understanding of the shallow groundwater-flow system and streams is needed to better define base flow and groundwater budgets for the Verde Valley sub-basin."(Pool and others, page 93).

The groundwater-surface water system of the upper Verde River watershed is complex but the USGS model remains useful as a water resource management tool mostly because it models the present and future connection between the basin fill aquifers and base flow of the Verde River. This complexity is evidenced by the number of occurrences for the entire region modeled of the following words in the 94 page SIR 2010-5180: estimate = 330+, lacking = 10, perch =18, poorly defined = 31, and unknown = 4.

Item 10.—Boating the upper Verde River—Several accounts.

Source A.—Perkinsville to Clarkdale during early September 2011.

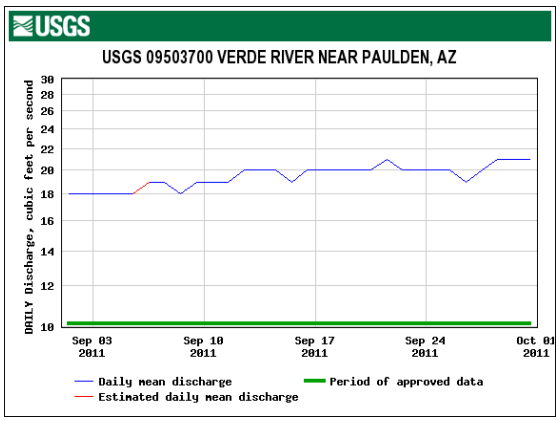


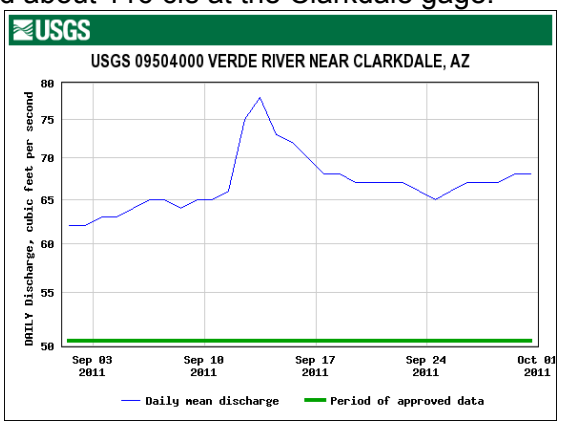
https://www.youtube.com/watch?v=K1pJ4FhgDOI'

Start of trip at Perkinsville. Q was about 20 cfs.

NOTE

The flow at Perkinsville was approximately 20 cfs (assume same flow as at Paulden gage shown below) and flow at Clarkdale gage was about 67 cfs. The estimated natural base flow is about 60 cfs at Perkinsville and about 116 cfs at the Clarkdale gage.






we threw the chub back


second camp

Source B. In 2010 the USFS reported the following:

> A state-wide inventory of potentially eligible rivers for inclusion in the National Wild and Scenic Rivers System was completed and the preliminary analysis was published in January 1993 (Forest Service 1993). The report evaluated segments determined eligible by the Forest Service and segments proposed by the Arizona Rivers Coalition but determined not eligible. The Santa Maria , Upper Verde , and Hassayampa Rivers on the PNF were included in the report, and the **Upper Verde River** was the only segment found eligible.

Four segments, that include the Upper Verde River of this navigability assessment, were classed as navigable by the USFS as part of their inclusion of the Upper Verde River as “potentially eligible rivers for inclusion in the National Wild and Scenic Rivers System” (USDA, 2010, Upper Verde River Eligibility Report Update for the National Wild and Scenic River System, Prescott National Forest: 28p.). The four segments with the corresponding assessment of navigability are shown in the following map and table of the USFS report.

Even with the depletion of more than 50% of the natural base runoff in USFS segments 1 and 2 the USFS classed the Verde River as navigable.

Figure 2 – Upper Verde River Segments

Table 4. Recreational Activities by Segment within the Upper Verde River Study Area

	Segment 1	Segment 2	Segment 3	Segment 4
Length of Season	Mid February –Late June Mid September–Late November	Mid February –Late June Mid September–Late November	Mid February –Late June Mid September–Late November All year on train	All year on train
Diversity of Use	Camping, exploring, kayaking, wading, swimming, bird watching, viewing wildlife, fishing, hunting, photography and picnicking	Camping, exploring, kayaking, wading, swimming, bird watching, viewing wildlife, fishing, hunting photography and picnicking	Camping, exploring, kayaking, wading, swimming, bird watching, viewing wildlife, fishing, hunting photography and picnicking and train traveling	Camping, exploring, kayaking, wading, swimming, bird watching, viewing wildlife, fishing, hunting photography, sight seeing, picnicking and train traveling
Experience Quality	Unique – rare, long riparian corridor	Unique – rare, long riparian corridor. Feeling of solitude and remoteness	Unique – rare, long riparian corridor and popular train ride offering sight seeing	Unique – rare, long riparian corridor and popular train ride offering sight seeing
Access	Drivable access to river from private land. 2 public non-motorized trails to river	2 non-motorized trails	4 non-motorized trails, 1 road	5 roads
Level of Use	Little use, but some illegal use –(illegal OHV use occurs)	Little use	Scenic train ride from Clarkdale to Perkinsville & back daily & 2x/day in peak season creates a high level of use from train	Scenic train ride from Clarkdale to Perkinsville & back daily & 2x/day in peak season creates a high level of use from train
Associated Opportunities	Hiking and viewing heritage resources, interpretive and educational opportunities	Hiking and viewing heritage resources, interpretive and educational opportunities	Hiking and viewing heritage resources, interpretive and educational opportunities, sightseeing from train	Sightseeing from train
Attractiveness	High	High	High	High
Flow	Generally low flow. Navigable by canoe &/or kayak.	Generally low flow. Navigable by canoe &/or kayak.	Generally low flow. Navigable by canoe &/or kayak.	Generally low flow. Navigable by canoe &/or kayak.
Sites and Facilities	Prehistoric site visible from river.	Prehistoric site visible from river.	Prehistoric sites visible from river.	Prehistoric sites visible from river. Commercial train ride available Clarkdale- Perkinsville provides some facilities
Shoreline Development	Little evidence of pipeline that crosses the river. May not be evident in near future due to planting of native vegetation	Little evidence of human activity	Some evidence of human activity (Verde River Railroad – train activity and track system)	Some evidence of human activity (roads, Verde River Railroad – train activity and track system)

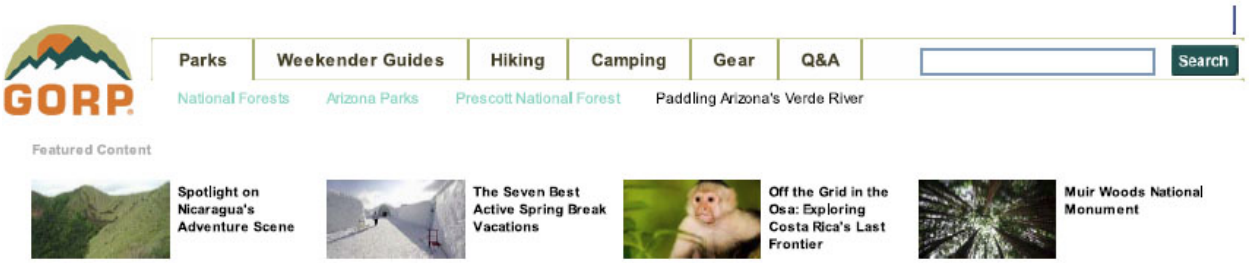
Source C.—In 1989 the U. S. Fish and Wildlife Service reported the following.

HUMAN USES

From Sullivan Lake downstream to Cottonwood (Figure 1), cattle grazing appears to have a major impact on both the upland and aquatic communities, as evidenced by trampled banks and heavily grazed vegetation. Scattered throughout the area are several abandoned mines. Recreational use by hikers, campers, anglers and off-road vehicles is visible throughout this area. Information provided by surface water recreational users indicates that the reach of the Verde River between Perkinsville and Cottonwood constitutes one of Arizona's best floatable reaches that provides high quality wildlife viewing." (USFWS, 1989, p. 41-42).

USFWS, 1989, FISH AND WILDLIFE COORDINATION ACT SUBSTANTIATING REPORT CENTRAL ARIZONA PROJECT VERDE AND EAST VERDE RIVER WATER DIVERSIONS Yavapai and Gila Counties, Arizona: Prepared for Bureau of Reclamation Arizona Projects Office Phoenix, Arizona, Fish and Wildlife Service 72) Ecological Services, draft, July 25, 1989, 174p.

Source D. Paddling Arizona's Verde River (GORP) from Perkinsville.



Paddling Arizona's Verde River

Recommended Runs

By **Ena Lynne Wilson**

The entire run of the Verde, all 198 miles from Sullivan Lake to its confluence with the Salt River outside of Phoenix, would take the better part of two weeks to float. For those on a tighter schedule, here are some weekend-size sections of the river that I highly recommend.

Perkinsville to TAPCO (The Arizona Power Company)

Distance: Approximately 21 miles
Days needed: Two (three to four if you explore the Sycamore Canyon Wilderness Area)

Difficulty: Class II+ (Beginner/Intermediate)
Maps: USGS 7.5-minute quads: Perkinsville, Sycamore Basin, Munds Draw, and Clarkdale, and Prescott National Forest

Although not designated as Wild or Scenic, the Perkinsville/TAPCO run is a beautiful section of the Verde, marred only by the presence of the Central Arizona Railroad. The twice-daily intrusion of the Verde River Excursion Train might prove distracting, but in general a prettier stretch is hard to find.

There are several ways to get to the Perkinsville Bridge for put-in, but the most straightforward is the Perkinsville Road. From Chino Valley (Highway 89), Perkinsville Road (FR 354) runs approximately 20 miles to the bridge. From Williams (I-40), Perkinsville Road (FR 173) runs approximately 30 miles to the bridge. The take-out at TAPCO is about 3 miles from the Tuzigoot Road/Sycamore Road junction (right outside of Clarkdale). Just look for the old smokestack.

Source E.—Using -mounted electrofishing and seining along the upper Verde River.

Boats were used for several years along the Verde River above and below Perkinsville by the AZ Game and Fist Dept. as shown in Figures 2 and 3 of Hyatt's (2004) report.

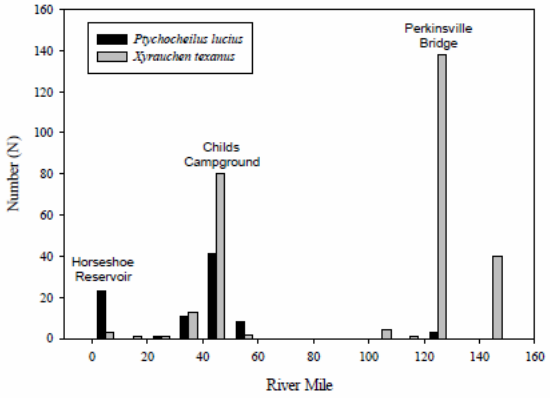


Figure 2. Summary of *Ptychocheilus lucius* and *Xyrauchen texanus* captures in the Verde River, 1990-2003, by river mile.

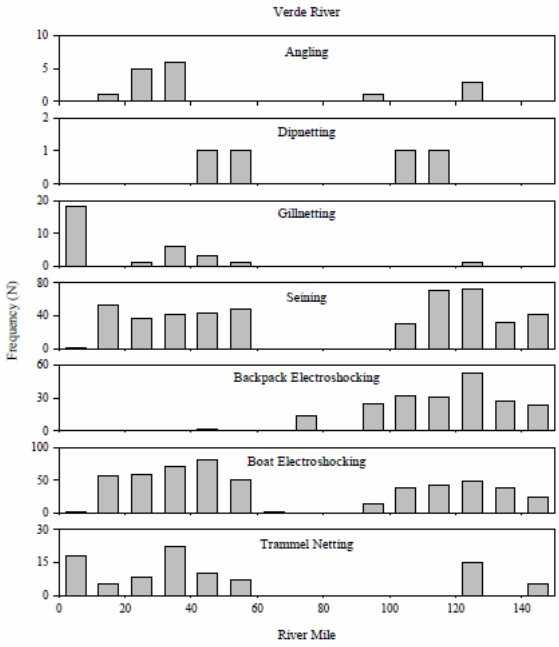


Figure 3. Monitoring effort in the Verde River, 1990 through 2003. The number of individual efforts is denoted by frequency (y-axis). A single effort equals an individual sampling event, independent of hours fished (angling, gillnetting, trammel netting), area sampled (dipnetting, seining) or shock seconds (backpack shocking, boat shocking).

Hyatt, M. W., 2004, Assessment of Colorado Pike minnow and Razorback Sucker Reintroduction Programs in the Gila River Basin Final Report: September 30, 2004, Arizona Game and Fish Department, Wildlife Management Division, Phoenix, AZ 85023, Submitted to: United States Fish and Wildlife Service, 28p.

Source F.-- Sycamore Creek to Clarkdale

Yavapai County Kayakers

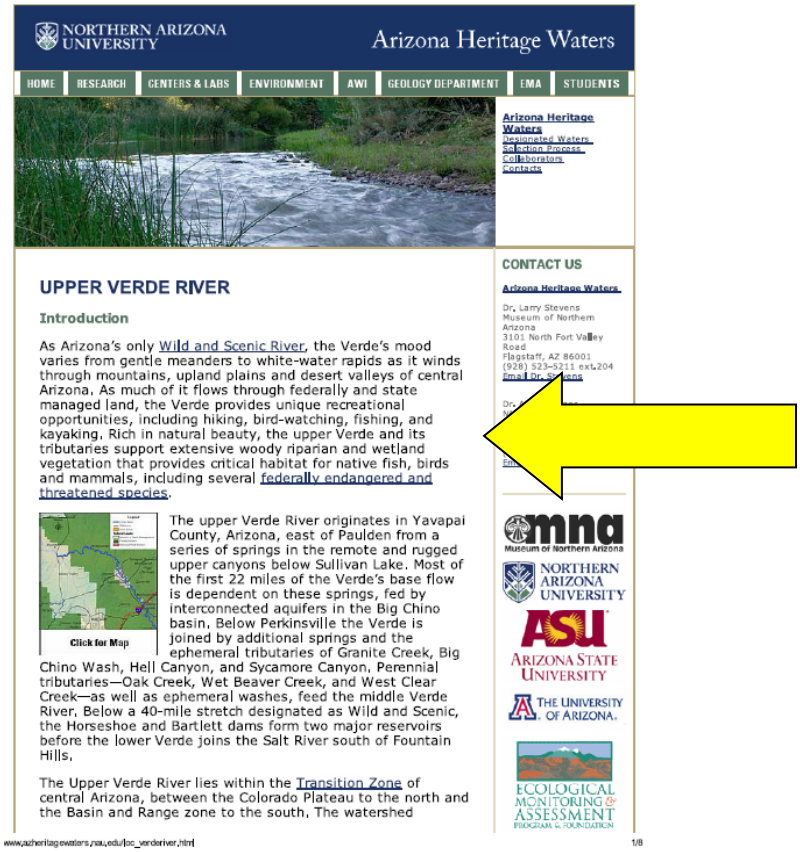
Home Members Sponsors Photos Pages Discussions More Join us!

Yavapai County Kayakers Message Board › Perkinsville to Clarkdale

Perkinsville to Clarkdale

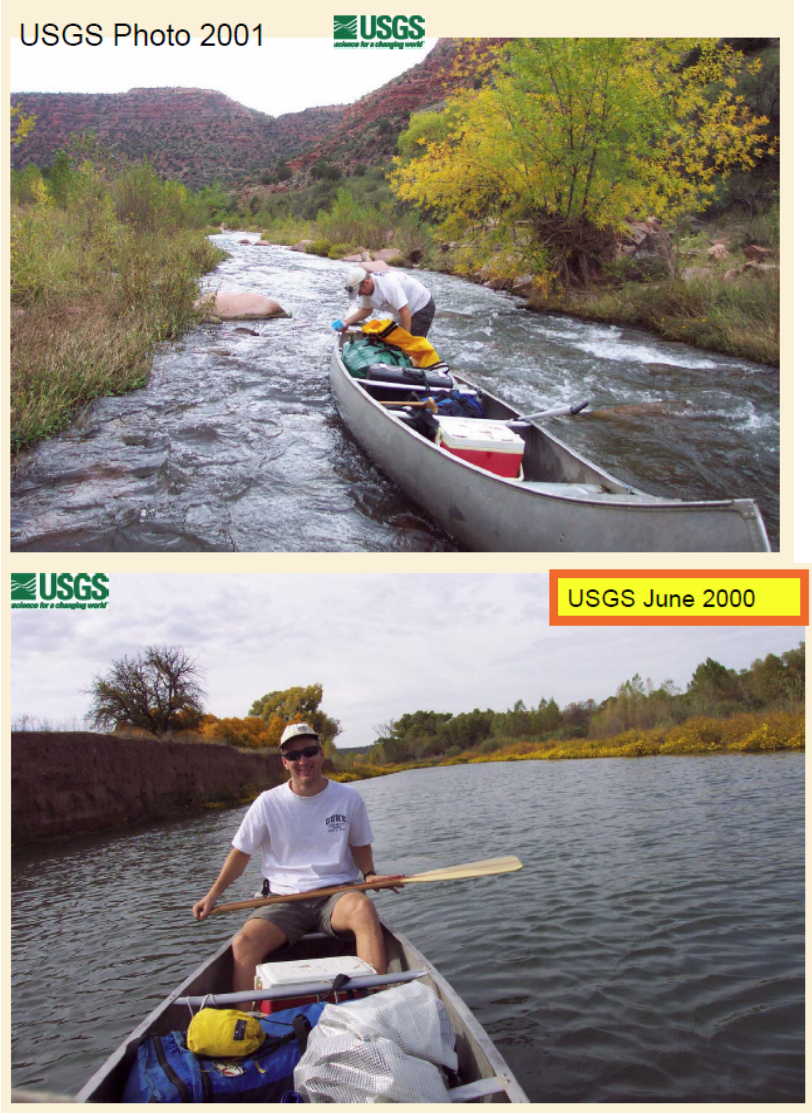
James	Posted 1/28/13 3:54 PM Link to discussion
 user 39306162 Dewey, AZ Post #: 1	Has anyone paddled the Verde from Perkinsville to Clarkdale? I have done the section from Sycamore Canyon to Clarkdale but I have not done the section from Perkinsville to Sycamore. My intent is to do a camp trip on that section late in February or early March... dpending on weekend of good weather and flow.

Source G—Northern AZ University.



Source H.—USGS

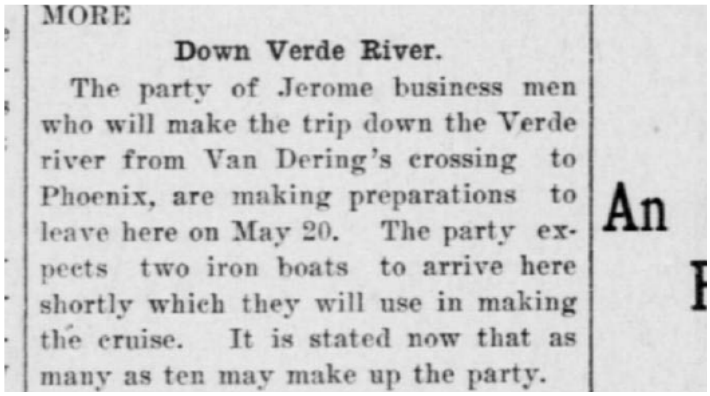
Collecting sample of water in Mormon Pocket area. Trip was from Perkinsville to Tapco.



The USGS conducted multiple small boat trips down the upper Verde River during hydrologic studies in the later 1990s and early 2000s.

Source I—Two iron boats

Weekly Arizona journal-miner. (Prescott, Ariz.) 1903-1908, May 10, 1905, Image 3



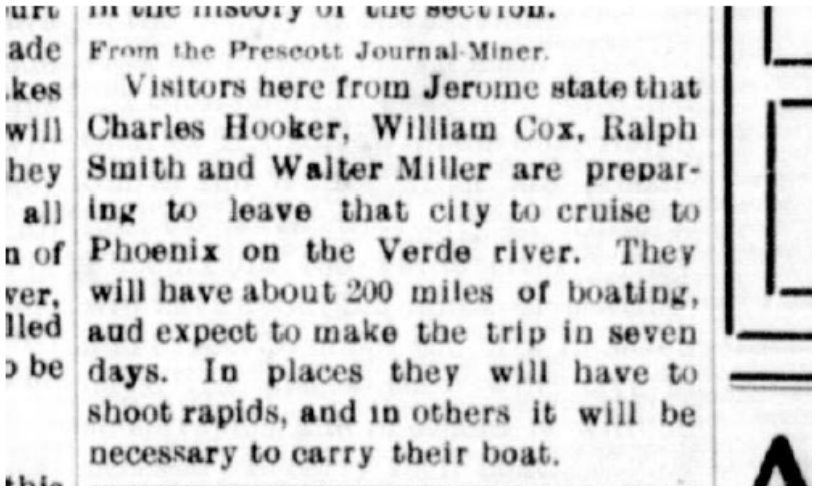
MORE

Down Verde River.

The party of Jerome business men who will make the trip down the Verde river from Van Dering's crossing to Phoenix, are making preparations to leave here on May 20. The party expects two iron boats to arrive here shortly which they will use in making the cruise. It is stated now that as many as ten may make up the party.

An

Arizona silver belt. (Globe City, Pinal County, Ariz.) 1878-19??, April 27, 1905, Page 2, Image 2



From the Prescott Journal-Miner.

Visitors here from Jerome state that Charles Hooker, William Cox, Ralph Smith and Walter Miller are preparing to leave that city to cruise to Phoenix on the Verde river. They will have about 200 miles of boating, and expect to make the trip in seven days. In places they will have to shoot rapids, and in others it will be necessary to carry their boat.

Source J—Journey down Verde, Salt and Gila in a boat. Beaver trapping for the 5th time along 800 river miles to the Colorado River.

The Arizona sentinel. (Yuma, Ariz.) 1872-1911, April 02, 1892, Image 1

Image provided by Arizona State Library, Archives and Public Records; Phoenix, AZ

Persistent link: http://chroniclingamerica.loc.gov/lccn/sn84021912/1892-04-02/ed-1/seq-1/

A Long Journey.

On the first of September last J. K. Day and his brother George left Camp Verde, Yavapai county, in a small boat on a trapping expedition. They arrived in Yuma on Sunday, having made the journey in a little less than six months.

J. K. Day has been engaged in trapping for some years past and says that it requires only experience and a little patience to make a very remunerative profit out of the business. He brought a large quantity of furs, consisting of beaver and otter, which always command good prices, the demand for such pelts being always greater than the supply. The journey began on the beautiful limpid Verde river, which received its name of "green river," on account of the apparent color of the water, which is really clear as crystal, but its mirror-like surface reflects the verdure from each bank, giving it the appearance of being colored like the surrounding foliage. After leaving the Verde, the Rio Salado, or Salt river was entered, from which the trappers came down the Gila and soon found themselves at Yuma, their boat floating upon the waters of the great Colorado of the west. The distance traveled by the Messrs. Day by river is a trip over 800 miles, and is the fifth one made by J. K. Day.

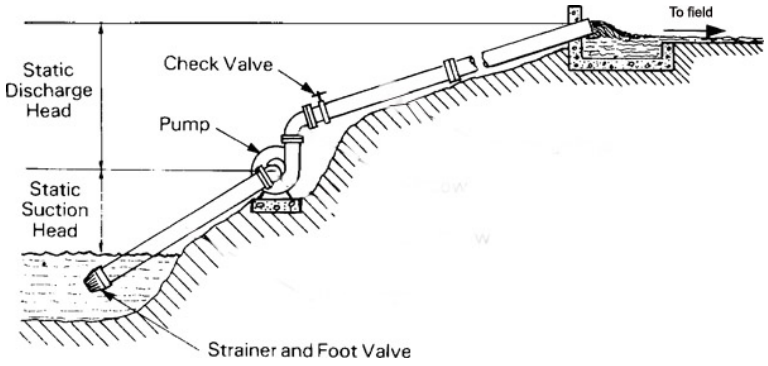
The two trappers will leave by rail for Prescott within a few days and will repeat the trip next September.

Item 11. Early Pumps

Centrifugal Pump Installation

The sketch below shows a low lift centrifugal pump installation on the upstream side of an earthen dike. Pipe diameters of 1 ft were not uncommon with suction lifts of up to approximately 10 ft. Diesel engines were commonly used to power the early pumps.

See T19N R4W of Appendix F for application of this system in the Big Chino Valley.



Propeller Pump Installation

Propeller pumps were also used for low lift, high flow rate conditions in the early 1900s. Heads of roughly 20 ft were easily attainable. A modern propeller pump installation is shown below (This pump simply is an example and is not located in the Verde watershed).

Piston (plunger) Pump Installation

PRESCOTT WATER WORKS PUMPING PLANT
Del Rio Springs, Yavapai County, Arizona

The City of Prescott pumped water from a spring at Del Rio from 1904 to 1926 through a twenty-one (21) mile pipe line to Prescott to provide municipal water. The operation discontinued in 1926 and not used since.

Significance: The Prescott Water Works pumping plant at Del Rio Springs, Arizona, is an early example of a high pressure pumping plant being used to supply domestic water in the Southwest.

Historical Summary

Before 1900, the town of Prescott, Arizona, secured its water supply from a well sunk in the bed of Granite Creek, an intermittent stream. During the summer of 1900, while the water works reservoir was empty due to a drought, Prescott burned. The citizens saw that they had to either abandon their town or find a new water supply.

The only reliable water source available to Prescott was that located at the Del Rio Springs, twenty miles away and 1135 feet lower in elevation. In order to secure this water, the city had to construct a water pipeline and install a pumping plant at the springs.

The City of Prescott employed Mr. George W. Sturdevant, Jr., of Chicago to design the required pumping plant and pipeline. Following Sturdevant's plans, construction began in December, 1900, on the plant and pipeline. The pumping works consisted of a sixty-five horsepower steam engine which was belted to a large triplex Deane pump with three double plungers. This equipment, which went into operation on September 6 1901, served to supply Prescott with one-half million gallons of water per day.

The amount pumped was 500,000 gal per day or 470 ac-ft per year.

Remains: The Del Rio Springs pumping plant of the Prescott Water Works has been removed. The only extant building at the site is the house formerly occupied by the pump keeper. Only the foundations of the pump house remain, although the various rooms of the building can still be identified. At the side of the pump house is the now-covered pump well from which spring water was supplied. The property is owned by the City of Prescott and is accessible on a gravel road east of U. S. Highway 89 near the town of Chino Valley, Arizona.

See page 23 of Appendix C for more information on this pump system.

References

Baker (1890), Follett (1902), The McGraw (1915).

Baker, T. L., Rae, S. R., Minor, J. E. and Connor, S. V., 1973, Water for the Southwest-Historical Survey and Guide to Historic Sites: American Society of Civil Engineers, Historical Publication No. 3, 205 p.

Item. 12. Claims to surface water

The following are several, but by no means all, surface water claims in the Verde River Watershed. These claims are a rough indication of the amount of surface water used by humans before Arizona statehood. Available industrial claims to water used along the Verde River downstream of Granite Creek possibly before 1912 total about 20 cfs. Stock water/Irrigation claims total between 2 and 3 cfs. Irrigation claims and claims for water used after 1912 are not included in the above figures.

It's interesting that the Groseta Surface Water Claim 36-87901 seems to recognize the connection between groundwater near the river and base flow in the Verde River. (This post-statehood claim is shown below for interest purposes only.)

SEP 1981
DEPARTMENT OF WATER RESOURCES

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

Home Well

...CLAIM OF RIGHT TO USE ...F THE STATE

Filing Fee $5

(LEAVE BLANK)
Registry No. 36-87901
Filed 7-2-79 (DATE) at 7:35 (TIME) M.

...NS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant GROSETA, Peter
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

Star Route Box 62, Cottonwood, AZ 86325 634-2366
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Domestic & Stockwater
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 1000/day* 365,000 gpa / 100 head from year round
(Gallons or Acre feet) (Day) (Month)

to _____ each year
(Day) (Month)

4. The date(s) the water was first used beneficially Prior to 1936
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Ground Water
(Source Name)

Tributary to _____ on the Verde Watershed
(Leave Blank)

6. The point of diversion is within the SW ¼, NE ¼, Section 2,
of Township 15N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SW ¼, NE ¼, Section 2, of
Township 15N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Continuous Use for Ranching
*Usage based on 10 gallons per head of stock
(Attach copies of any documents being filed in support of Claim)

RECEIVED JUL 2 1979 STATE LAND DEPT.

STATE OF ARIZONA)
) SS
County of Yavapai)

Peter Groseta being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

ARIZONA DEPARTMENT OF WATER RESOURCES
Surface Water Rights
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2450
Fax (602) 417-2420

COPY

JANET NAPOLITANO
GOVERNOR

HERB GUENTHER
DIRECTOR

August 4, 2004

Karl F. Kolthoff
1853 W. San Angelo
Gilbert, Arizona 85223

RE: Statement of Claim of Right No. 39-105224

Applicant:

The Statement of Claim of Right you submitted has been received by the Department and has been issued the above referenced number.

The Department does not presume to either adjudicate the validity of the claim or determine who should hold the claim.

Check No. 675 for $5.00 has been deposited. Thank you for your payment. The cancelled check is your receipt.

Please call me at (602) 417-2450 if you require further information.

Sincerely,

[redacted]

Barbara L. Norton
Surface Water Rights Specialist

bln

LAW OFFICES OF
BOYLE, PECHARICH & WHITTINGTON
SECOND FLOOR, PLAZA BUILDING
100 EAST UNION STREET
P. O. BOX 1949
PRESCOTT, ARIZONA 86302

JAMES K. BOYLE, JR.
ROBERT S. PECHARICH
WILLIAM R. WHITTINGTON
ROBERT C. KOZAK

TELEPHONE 445-0122
AREA CODE 602

May 18, 1987

Richard Gessner
Arizona Dept. of
Water Resources
99 E. Virginia
Phoenix, Arizona 85004

RE: Town of Clarkdale - Water Rights

Dear Mr. Gessner:

Please be advised that I represent the Town of Clarkdale, Arizona.

Pursuant to a recent act of the Legislature of the State of Arizona (House Bill 2163), please find enclosed Statement of Claim of Right to Use Public Waters of the State as to each of the following Springs: Haskell, Allen, Cliff, and Blowout.

Pursuant to said Legislative act, please be advised that the Town of Clarkdale is an Arizona town which has a population of less than 25,000 according to the 1980, United States Decennial Census. The Arizona Department of Water Resources has advised me that the thirtieth (30th) day to file these water claims fell on a Saturday, i.e., May 16, 1987, and that therefore the next regular day of business, i.e., Monday, May 18, 1987, is available as the last day for timely filing, and I therefore timely filed on said date.

A $5.00 filing fee for each claim is also submitted herewith.

Kindest personal regards.

Very truly yours,

BOYLE, PECHARICH & WHITTINGTON

Robert S. Pecharich

RSP/bEw

Enclosure

cc: Pat Spence, Manager
Town of Clarkdale

ARIZONA DEPARTMENT OF WATER RESOURCES
99 E. Virginia Avenue, Phoenix, Arizona 85004

Evan Mecham, Governor
Alan P. Kleinman, Director

June 10, 1987

To: Ursula

Re: Statements of Claim of Right, Registration Nos. 36-93032, 36-93033, 36-93034 and 36-93035.

The places of use are the same for all of the four referenced files since they encompass the entire corporate perimeter of the Town of Clarkdale.

PLACES OF USE OF ALL OF THE REFERENCED FILES:

Sec. 17 SE NW; SE SW NW; SW; NW SE; SW SE.

" 18 NE SE; SW SE; SE SE.

" 19 N½; NE NW; SE NW; NE SW; SE SW; SE.

" 20 NE; NW; SW; SE. (ALL) How about "ALL" on screen as a symbol?

" 21 SW NW; SW; SE.

" 28 NW NE; NW.

" 29 NE; NW; SW; NW SE; SW SE; SE SE.

" 30 NE; NE NW; SE NW; SE.

" 31 NE; SE NW; SE.

" 32 NE; NW; SW.

"Ricky" and Bob

ARIZONA DEPARTMENT OF WATER RESOURCES

99 East Virginia

Phoenix, Arizona 85004

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee $5.00

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

(LEAVE BLANK)
Registry No. 36-93035
5-18-87 (DATE) __ (TIME)

1. Name of Claimant Town of Clarkdale, Arizona (Print Last Name or Name of Co.) (First Name) (Middle Initial)
* Robert S. Pecharich
Attorney at Law, P.O. Box 1549, Prescott, AZ 86302 (602)445-0122
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Municipal
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 1015 + A.F. (Gallons or Acre feet) from 1 / 1 (Day) (Month) to 31 / 12 (Day) (Month) each year.

4. The date(s) the water was first used beneficially 1 (Month) 24 (Day) 1920 (Year) (see app. #A0000117)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Blowout Spring (Source Name)
Tributary to Blowout Creek on the Verde (Leave Blank) Watershed

6. The point of diversion is within the SW ¼, SE ¼, Section 35 (see map, Exhibit "A" attached)
of Township 6N (N/S), Range 2E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the ___ ¼, ___ ¼, portions of Sections 17,18,19,20,21,28,29,30,31, & 32, of (See map Exhibit "B" attached)
Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim. Use with priority date of 1/24/1920 (see Exhibit "C" attached) (see app. #A0000117) This water was commingled with water from Haskell, Allen, & Cliff Springs through common distribution system.
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) SS
County of Yavapai)

Robert S. Pecharich, Town of Clarkdale Attorney being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

Robert S Pecharich
Robert S. Pecharich, Attorney
(CLAIMANT(S))

Subscribed and sworn to before me this 18th day of May, 1987

My Commission Expires:
August 26, 1990
(DATE)

[signature]
(NOTARY PUBLIC)

RECEIVED MAY 18 1987 DEPT OF WATER RESOURCES

Filed in Water Rights Claim Registry No. 36-93035 of the Dept. of Water Resources on MAY 18 1987 at 2:35 P.M.

[signature]

H.B. 2163 ARS 45-184 FILING OF CLAIM
4-15-87 WITH THE DEPARTMENT NOT DEEMED
ADJUDICATION OF RIGHTS

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

TWICE)

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36 26502
Filed JUN 29 1979 1:54 P.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of claimant The VALLEY NATIONAL BANK OF ARIZONA, a national banking association as Lessor and as Trustee under Trust No. 0005804 for the Czechoslovak Society of America, an Illinois corporation and on behalf of ARIZONA PUBLIC SERVICE COMPANY, an Arizona corporation, as Lessee and beneficial user
(Print Last Name or Name of Co.) (First Name) (Middle Initial)
(Address, City, State, Zip) (Phone No.)
P. O. Box 71, Phoenix, Arizona 85001 (602) 261-9140

2. The purpose(s) and extent of use(s) Mining, milling, mechanical, domestic, irrigation and electrical power generation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 3262 (Number of Acre Feet) from 1 (Day) January (Month)
to 31 (Day) December (Month) each year

4. The date(s) the water was first put to beneficial use(s) November 16 1902
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)
Tributary to Salt River on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the NE ¼ NE ¼, Section 8,
of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai,

7. The Place(s) of use is in the S½ ¼, Section 8, of
Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim the Territory of Arizona and the State of Arizona as evidenced by those documents recorded on the attached exhibit A entitled "Legal basis of claim"
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Maricopa)

L. L. Gillespie being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of h.k. own knowledge except as to any matters stated therein to be on information and belief and as to all such matters he states he believes the same to be true and correct.

VALLEY NATIONAL BANK OF ARIZONA
By L. L. Gillespie
(CLAIMANT(S))

Subscribed and sworn to before me this 15th day of June, 1979.

My Commission Expires:
January 1, 1981.
(SEAL)

Notary Public

Filed in Water Rights Claim Registry No. 36-26502 of the State Land Department on
June 29, 1979 at 1:54 P.M.

Brian Kirby
Adjudication Section

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"
28-76

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

(WRCO)

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36 26501
Filed JUN 29 1979 at 1:54 P.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right so appropriated and for each source of water.

1. Name of Claimant: ARIZONA PUBLIC SERVICE COMPANY, an Arizona corporation, on its own behalf as Lessee and beneficial user and on behalf of the VALLEY NATIONAL BANK OF ARIZONA as Lessor and as Trustee under Trust No. 0005504 for the Czechoslovak Society of America, an Illinois corporation
(Print Last Name or Name of City) (First Name) (Middle Initial)
411 North Central Avenue, Phoenix, Ariz. 85036 (602) 271-7900
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Mining, milling, mechanical, domestic, irrigation and electric power generation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 3262 (~~Gallons or~~ Acre feet) from 1 (Day) January (Month) to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially November (Month) 16 (Day) 1902 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Source Name)
tributary to Salt River on the VERDE RIVER (Leave Blank) watershed

6. The point of diversion is within the ¼ NE ¼ Section 8 of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the ¼ SE ¼ Section 8 of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim: Diversion and continuous beneficial use pursuant to the laws of the United States, the Territory of Arizona and the State of Arizona as evidenced by those documents referenced on the attached Exhibit A entitled "Legal Basis of Claim"
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Maricopa)

Russell D. Hulse, being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

ARIZONA PUBLIC SERVICE COMPANY
By: Russell D. Hulse
(CLAIMANT(S))

Subscribed and sworn to before me this 21st day of June, 1979.

My Commission Expires:
My Commission Expires March 30, 1981
(SEAL)

Nellie J. (Andrews) Martinelle
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-26501 of the State Land Department of June 29, 1979 at 1:54 P.M.

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

Brian Kirby
Adjudication Section

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue, Phoenix, Arizona 85007
Telephone (602) 542-1581
Fax (602) 256-0503

BRUCE BABBITT
Governor

RITA P. PEARSON
Director

May 2, 1994

William and Elizabeth Wade
728 Green River Lane
Cottonwood, Arizona 86326

Re: Assignment (Conveyance) of Statement of Claim of Right No. 36-48594.

Dear William and Elizabeth:

Enclosed is your recently submitted application for assignment.

The Cottonwood Ditch Company, Inc. is the holder for Statement of Claim of Water Right No. 36-48594. The entity made a blanket filing for all domestic, stockwatering and irrigation users. An assignment of the referenced claim may only be done by the Cottonwood Ditch Company, Inc.

If you have not yet acquired the water that you believe that you are entitled to, please contact the Cottonwood Ditch Company, Inc., P.O. Box 445, Cottonwood, Arizona 86326 - Telephone No. (602) 634-8110.

Yours truly,

Louise Hutchinson

Louise Hutchinson
Surface Water Rights Specialist
Operations Division
Telephone (602) 542-1581

Enclosure

cc: Cottonwood Ditch Company, Inc.

lh

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-61470
Filed 3-23-78 (DATE) at 8:00AM (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant C W CORPORATION (Print Last Name or Name of Co.) (First Name) (Middle Initial)
Star Route Cornville Arizona 86325 (Address, City, State, Zip) 634-4877 (Phone No.)

2. The purpose(s) and extent of use(s) STOCKWATER (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 200,000 (Gallons [illegible]) from 1 (Day) January (Month) to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1874 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Hickey Ditch) (Source Name)
Tributary to Salt River on the [illegible] (Leave Blank) Watershed

6. The point of diversion is within the NW ¼, SW ¼, Section 21 of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SW ¼, NW ¼, Section 26, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Open Grazing by early homesteaders prior to 1900 and Pleasants-Jones filing 2/2/1876
(Attach copies of any documents being filed in support of Claim)

- -

STATE OF ARIZONA)
) ss
County of YAVAPAI)

C. W. Waddoups being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of HIS own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated HE believes the same to be true and correct.

C.W. Corporation
BY: [signature]
(CLAIMANT(S))

Subscribed and sworn to before me this 13 day of Feb, 19__.

My Commission Expires:
Dec 31, 1979
(SEAL)

[signature]
(NOTARY PUBLIC)

- -

Filed in Water Rights Claim Registry No. 36-61470 of the State Land Department of March 23, 1978 at 8:00 a.M.

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

[signature]
F. C. Ryan, Director
Water Rights Division

ARIZONA
DEPARTMENT
OF WATER
RESOURCES

Jane Hull, Governor
N. W. Plummer
Director

15 South 15th Avenue
Phoenix, Arizona 85007

February 8, 1989

Arizona State Parks Board
800 West Washington Suite No. 415
Phoenix, Arizona 85007

RE: Statement of Claim No. 36-29496.0001

Dear Sir:

The recent assignment action as referenced above has been accomplished.

Thank you for complying with Arizona Revised Statutes §45-163 and 45-164.

Sincerely,

Rosemary Hester

Rosemary Hester
Chief, Surface Water Section
Telephone (602) 542-1581

RH:lm

Enclosure

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-62381
Filed 4-19-78 (DATE) at 8:00 a.m. (TIME)

INSTRUCTIONS:

1. Execute Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant BILLOCK William B. (Print Last Name or Name of Co.) (First Name) (Middle Initial)
Verde Village, Box 2046, Cottonwood, Arizona 86326 634-8453 (Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 1.65 (Acre feet) from 1 (Day) January (Month)
to 31 December (Day) (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1869 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River [Cottonwood ditch] (Source Name)
Tributary to Salt River, on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the SW ¼ SW ¼, Section 21, of Township 16S (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SW ¼, NW ¼, Section 18, of Township 13N (N/S), Range 4E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Notices of Location dated 10/20/85 & 12/4/1877 and Hayden Report, 1940
(Attach copies of any documents being filed in support of Claim)

(OVER)

STATE OF ARIZONA)
) ss
County of)

____ being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of ____ own knowledge except as to any matters stated therein to be on ____ information and belief and as to all such matters as stated ____ ____ believes the same to be true and correct.

William B. Billock
(CLAIMANT(S))

Subscribed and sworn to before me this 14th day of April, 1978.

My Commission Expires:
12-16, 1978.
(SEAL)

(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-62381 of the State Land Department at April 19, 1978 at 8:00 a.m.

F.C. Ryan, Director
Water Rights Division

AMS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT AFFECTS 28-76 ADJUDICATION OF RIGHTS."

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

(LEAVE BLANK)
Registry No. 36-80440
Filed 6-28-79 at 11:00 A.M.
(DATE) (TIME)

Filing Fee $5.00

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Chaikin Henry R
(Print Last Name or Name of Co.) (First Name) (Middle Initial)
P.O. Box 447, Clarkdale Az 86324 634-2761
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Stockwater, Domestic, Irrigation, Fish, Recreation, Wildlife
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 50-250 gallons/min from 1 January
(Gallons or Acre feet) (Day) (Month)
to 31 December each year. Spring flows are extremely variable.
(Day) (Month)

4. The date(s) the water was first used beneficially January 10 1906
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Butcherville Spring (Humbert Water Right)
(Source Name)
Tributary to N/A on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the SW ¼, NE ¼, Section 20, of Township 16 North Range 3 East, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)
and (SE) ¼ (NW) ¼

7. The Place(s) of use is in the SW ¼, NE ¼, Section 20, of Township 16 North Range 3 East, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

8. The legal basis for the claim Recorded Notice of Location, Humbert Water Right, Jan. 18, 1906, Book 5 Mill Sites + Water Rights, Pages 288-289, Yavapai County
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of)

Henry R. Chaikin being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

Henry R. Chaikin
(CLAIMANT(S))

Subscribed and sworn to before me this 26 day of June, 1979.

My Commission Expires:
My Commission expires May 12, 1980
(SEAL)

Carol M. Sampson
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-80440 of the State Land Department of June 28, 1979 at 11:00 a.m.

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED AN ADJUDICATION OF RIGHT"

Brian Kirby
Adjudication Section

LAW OFFICES OF
BOYLE, PECHARICH & WHITTINGTON
SECOND FLOOR, PARK HILTON
100 EAST UNION STREET
P.O. BOX 1549
PRESCOTT, ARIZONA 86302

JAMES P. BOYLE
ROBERT S. PECHARICH
WILLIAM F. WHITTINGTON
ROBERT J. KOZAK

TELEPHONE (602)
AREA CODE 928

May 18, 1987

Richard Gessner
Arizona Dept. of
Water Resources
99 E. Virginia
Phoenix, Arizona 85004

RE: Town of Clarkdale - Water

Dear Mr. Gessner:

Please be advised that I represent the Town of Clarkdale, Arizona.

Pursuant to a recent act of the Legislature of the State of Arizona (House Bill 2163), please find enclosed Statement of Claim of Right to Use Public Waters of the State as to each of the following Springs: Haskell, Allen, Cliff, and Blowout.

Pursuant to said Legislative act, please be advised that the Town of Clarkdale is an Arizona town which has a population of less than 25,000 according to the 1980, United States Decennial Census. The Arizona Department of Water Resources has advised me that the thirtieth (30th) day to file these water claims fell on a Saturday, i.e., May 16, 1987, and that therefore the next regular day of business, i.e., Monday, May 18, 1987, is available as the last day for timely filing, and I therefore timely filed on said date.

A $5.00 filing fee for each claim is also submitted herewith.

Kindest personal regards.

Very truly yours,

BOYLE, PECHARICH & WHITTINGTON

Robert S. Pecharich

RSP/bfw

Enclosure

cc: Pat Spence, Manager
Town of Clarkdale

Evans, Kitchel & Jenckes

PHOENIX, ARIZONA

April 28, 1958

Mr. Donald LeMaster
Water Division
State Land Department
Capitol Annex
Phoenix, Arizona

Re: Appn. No. I-204, Permit No. I-196
Verde River, trib. Salt River
Phelps Dodge Corporation

Dear Mr. LeMaster:

Enclosed is Notice of Complete Application of Water to Beneficial Use in the above-entitled matter, which you requested us in your letter of March 27, 1958, to prepare and file.

This notice is dated April 23, 1958, and signed by John E. Davis, Jr., Chief Mechanical Engineer, on behalf of Phelps Dodge Corporation.

Yours very truly,

Alfred B. Carr

Alfred B. Carr
For EVANS, KITCHEL & JENCKES

Enclosure
ABC:rea

RECEIVED
JUL 1 - 1996
SURFACE WATER

Arizona Department of Water Resources
500 North Third Street, Phoenix, Arizona 85004
(602) 417-2470

No. 36-104914

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE OF ARIZONA
(Instructions on reverse side)

Date filed 7-1-96

1. Name of Claimant Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520) 432-3621

Address: 26 W. Highway 92, Bisbee, Arizona 85603

2. Water use:

Use	Annual Use in Gallons or Acre-Feet	Months of Use
Municipal, Commercial or Industrial, Mining, Stock-watering Other than from a Stockpond are Agriculture as per Notice of Appropriation)	1810 Acre-Feet	January 1 - December 31

3. Water source name and type: Mescal Gulch

a tributary to Verde River within the 05 Verde watershed.
(Office use only)

4. Legal description of Point of Diversion: County: Yavapai

NW¼ NW ¼ of the SE ¼ of Section, 31 Township 16 N/S, Range 3 E/W

5. Legal description of Place(s) of Use: County: See Attachment "A"

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S, Range _____ E/W

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S Range _____ E/W

6. The date the water was last used beneficially (month/day/year): 1/18/19

7. The Legal Basis for the Claim: United Verde Copper Company Appropriation, dated 1/18/19, recorded in Book 7, Mill Sites and Water Rights, pp. 537-538, Yavapai County, AZ (See Attachment "B")

(Attach copies of any documents being filed in support of claim)

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
)
County of Greenlee)

W. F. Richardson, Senior Hydrogeologist
Korean Branch, for the Corporation

SUBSCRIBED AND SWORN to before me this 25th day of June, 19 96

My commission expires January 22, 1997

Notary Public

DWR#5

Department of Water Resources
Before the Director

IN THE MATTER OF THE APPLICATION OF THE ARIZONA STATE PARKS BOARD, A STATE AGENCY, REQUESTING THE RIGHT TO SEVER AND CHANGE THE USE OF WATER FROM AN OLD EXISTING PERFECTED IRRIGATION WATER RIGHT (1874) INVOLVING 291.2 ACRE-FEET, PER ANNUM, ON 78.74 ACRES OF LAND TO THE NEW USE FOR A RECREATIONAL STATE PARK INCLUDING 23.95 ACRE-FEET, PER ANNUM, FOR A LAKE WHICH WILL INCLUDE FISH. THE REMAINING 267.25 ACRE-FEET, PER ANNUM, WILL BE USED FOR RECREATION, WILDLIFE, INCLUDING FISH AND OTHER PARK SERVICES ON LANDS LOCATED WITHIN THE EXTERIOR BOUNDARIES OF DEAD HORSE RANCH STATE PARK, LOCATED WITHIN PORTIONS OF SECTIONS 27 AND 26, TOWNSHIP 16 NORTH, RANGE 3 EAST, GILA AND SALT RIVER BASE AND MERIDIAN, YAVAPAI COUNTY, ARIZONA. SOURCE OF WATER IS THE VERDE RIVER.

APPLICATION: 35-36-36209-T001A

REFERENCE FILE: Book 1, Page 324, Promiscuous Records Yavapai County, Arizona

DECISION AND ORDER

TS-82-006

On April 6, 1982, the applicant filed its application-petition for a transfer and severance of a water right from an irrigation use to a recreational park including fish and wildlife uses. An Order for Hearing set the hearing in Cottonwood, Arizona on the 2nd day of June, 1982. The matter was published as required by law, A.R.S. Section 45-172. The matter came on regularly for hearings before Hearing Officer George Senner, Jr., and exhibits and witnesses were examined and the proceedings were stenographically recorded.

. . .

ASSIGNMENT

One Assignment and $5.00 Fee to be Filed for Each Document

For valuable consideration, the undersigned hereby assigns and transfers:

____ Application to Appropriate Public Waters No. _____
____ Permit to Appropriate No. _____
____ Certificate of Water Right No. _____
__X__ Water Rights Registration No. 36-72535
____ Registration of Stockpond No. _____

together with all rights evidenced therein to State of Arizona by and through the Arizona State Parks Board, 800 W. Washington, Suite 415, Phoenix, AZ 85007
Assignee
Address

DATED this 8th day of May, 19 87.

Assignor (George W. Reeve) P.O. Box 245, Cottonwood, AZ 86326
Address

STATE OF ARIZONA)
County of Maricopa) ss.

The foregoing assignment was acknowledged and signed before me this 8th day of May, 19 87, by George W. Reeve.

My commission expires:

Ora Mae Leffard
Notary Public

OFFICIAL SEAL
ORA MAE LEFFARD
Notary Public — State of AZ
MARICOPA COUNTY
My Comm. Expires Feb. 14, 1988

ACCEPTANCE

The undersigned hereby accepts the assignment of the document described herein and agrees to be bound by the terms and conditions thereof.

DATED this 8th day of May, 19 87.

State of Arizona by & through the AZ State Parks Board, 800 W. Washington, Ste. 415, Phoenix, AZ 85007
Assignee
Address

Charles R. Cathcart

STATE OF ARIZONA)
County of Maricopa) ss.

The foregoing instrument was acknowledged and signed before me this 8th day of May, 19 87, by Charles R. Cathcart.

My commission expires:

Ora Mae Leffard
Notary Public

OFFICIAL SEAL
ORA MAE LEFFARD
Notary Public — State of AZ
MARICOPA COUNTY
My Comm. Expires Feb. 14, 1988

APPROVAL

Approved by and filed with the Arizona Department of Water Resources this date June 2, 1987.

Lawrence H. Ramsey
for the Director

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 38-80272
Filed 7-2-79 at 7:45 A.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Mabery Charles F. and Dorothy A.
[Print Last Name or Name of Co.] (First Name) (Middle Initial)

1739 Sawmill Road, Cottonwood, Az. 86326 634-8974
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use[s] Irrigation
[Examples: Irrigation, Stockwater, Domestic]

3. The quantities of water used annually 210 AF from 1 January
(Gallons or Acre-feet) (Day) (Month)

to 31 December each year
(Day) (Month)

4. The date[s] the water was first used beneficially February 2 1876
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)

Tributary to on the Verde River Watershed
(Source Name)

6. The point of diversion is within the NE 1/4, SW 1/4, Section 21,
of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place[s] of use is in the NW & SW1/4, NW 1/4, Section 27, of
Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Hayden Report and Pleasant-Jones Filing recorded Page 324, Book 1, Prow.
(Attach copies of any documents being filed in support of Claim)

RECEIVED JUL 2 1979 STATE LAND DEPT.

STATE OF ARIZONA)
) ss
County of Yavapai)

Charles F. & Dorothy A. Mabery being first duly sworn on oath, depose(s) and state(s) that the foregoing Statement of Claim is true and correct of their own knowledge except as to any matters stated herein to be on information and belief and as to all such matters so stated they believe the same to be true and correct.

Charles F. Mabery
Dorothy A. Mabery
(CLAIMANT[S])

Subscribed and sworn to before me this 29th day of June, 1979.

My Commission Expires
SEPTEMBER 20 19 81
(SEAL)

Enid F. Wolfe
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 38-80272 of the State Land Department of July 2, 1979 at 7:45 A.M.

Brian Kirby
Adjudication Section

SRS 35-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DONE."
28-76 ADJUDICATION OF RIGHTS"

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

(LEAVE BLANK)
Registry No. 36-73137
Filed 2-20-79 at 8:00 A.M.
(DATE) (TIME)

Filing Fee $5.00

RECEIVED FEB 6 1979 STATE LAND DEPT.

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant DOBYNS (Print Last Name or Name of Co.) Erma (First Name) F. (Middle Initial)

Box 733 Cottonwood, AZ 86326 (Address, City, State, Zip) 634-7740 (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION/STOCKWATER (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 258.1 (Gallons or Acre feet) from 1 (Day) January (Month) to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1874 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Hickey Ditch) (Source Name)

Tributary to Salt River on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the NW ¼, SE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SW ¼, SE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Notices of Location filed in Book 1, Promiscuous Records, page 324, and Book 5, Mill Sites and Water Rights page 24.
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Yavapai)

ERMA DOBYNS being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of her own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated she believes the same to be true and correct.

Erma F. Dobyns
(CLAIMANT(S))

Subscribed and sworn to before me this 25 day of Jan., 19 79.

My Commission Expires:
10-17-82, 19
(SEAL)

[signature]
(NOTARY PUBLIC)

RECEIVED FEB 20 1979 STATE LAND DEPT.

Filed in Water Rights Claim Registry No. 36-73137 of the State Land Department of February 20, 1979 at 8:00 A.M.

F. C. Ryan, Director
Water Rights Division

ARS 45-184 ... WITH ... ASSOCIATION ...

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE FLOWING WATERS OF THE STATE

(LEAVE BLANK)
Registry No. 36-73138
Filed 2-20-79 (DATE) 8:00 A.M. (TIME)

Filing Fee $5.00

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

RECEIVED FEB 6 1979 STATE LAND DEPT.

1. Name of Claimant DOBYNS (Print Last Name or Name of Co.) Erma (First Name) F. (Middle Initial)

Box 733, Cottonwood, AZ 86326 (Address, City, State, Zip) 634-7741 (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION/STOCKWATER (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 333.3 (Unless in Acre feet) from 1 January (Day) (Month)

to 31 December (Day) (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1960 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Unnamed underground flow (Proper Name)

Tributary to Verde River on the Verde Basin (Upper Basin) Watershed

6. The point of diversion is within the NW ¼, SE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the NW ¼, SE ¼, Section 35, of Township 16N (N/S) Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Continuous beneficial use since 1960.

(Attach copies of any documents being filed in support of Claim)

(over)

STATE OF ARIZONA)
) ss
County of Yavapai)

ERMA DOBYNS being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of her own knowledge except as to any matters stated therein to be on information and belief and as to all such matters he verily believes the same to be true and correct.

Erma Dobyns
(CLAIMANT(S))

Subscribed and sworn to before me this 29 day of Jan., 1979.

My Commission Expires:
10-17-82 (SEAL), 19__.

RECEIVED FEB 20 1979 STATE LAND DEPT.

(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-73138 of the State Land Department
February 20, 1979 at 8:00 A.M.

F. C. Ryan, Director
Water Rights Division

ADC 65-106 [illegible]

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $1.00

(LEAVE BLANK)
Registry No. 36-73139
Filed 2-20-79 at 8:00 AM
(DATE) (TIME)

RECEIVED FEB 6 1979 STATE LAND DEPT.

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant DOBYNS (Print Last Name or Name of Co.) Erma (First Name) F. (Middle Initial)

Box 733 Cottonwood, AZ 86326 (Address, City, State, Zip) 634-7740 (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION/STOCKWATER (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 258.1 (Gallons or Acre feet) from 1 January (Day) (Month)

to 31 December (Day) (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) (Day) 1914 (Year)

5. The Name(s) of the water source(s) or Well(s) No(s) being claimed Unnamed underground flow (Source Name)

Tributary to Verde River on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the NW ¼ SE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The place(s) of use is in the NW ¼, SE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Continuous beneficial use since 1914
(Attach copies of any documents being filed in support of Claim)

(OVER)

STATE OF ARIZONA)
) ss
County of Yavapai)

ERMA DOBYNS being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of her own knowledge except as to any matters stated therein to be on information and belief and as to all such matters she stated she believes the same to be true and correct.

Erma F. Dobyns
(CLAIMANT(S))

Subscribed and sworn to before me this 20 day of Jan., 1979.

My Commission Expires:
10-17-82
(DATE), 19____.

(NOTARY PUBLIC)

RECEIVED FEB 20 1979 STATE LAND DEPT.

Filed in Water Rights Claim Registry No. 36-73139 of the State Land Department
February 20, 1979 at 8:00 A.M.

F. C. Ryan, Director
Water Rights Division

ARS 45-[illegible] STATE
[illegible]
ADJUDIC[illegible]

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-62068
Filed 4-7-78 (DATE) at 2:00 P.M. (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant VIOTTI INVESTMENT COMPANY
(First Full Name or Name of Co.) (First Name) (Middle Initial)

P. O. Box 1701 Cottonwood, Az 86326 634-2011
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION/STOCKWATER
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 16.05 (Diversion Acre Feet) from 1 January (Day) (Month)
to 31 December (Day) (Month) each year

4. The date(s) the water was first used beneficially _____ (Month) _____ (Day) 1869 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Cottonwood Ditch)
(Source Name)
Tributary to Salt River on the Verde River (Lower, Upper) Watershed

6. The point of diversion is within the SE (SW, SE, NW, NE) 1/4, Section 21, of Township 16N (N/S), Range 3E (E/W), GILA&SRM, in the County of Yavapai.

7. The Place(s) of use is in the SW 1/4 NW 1/4, Section 12, of Township 15N (N/S), Range 3E (E/W), GILA&SRM, in the County of Yavapai.

8. The legal basis for the claim Notices of Location dated October 20, 1885 & December 1, 1877; and the Hayden Report, 1946
(Attach copies of any documents being filed in support of Claim)

(OVER)

STATE OF ARIZONA)
) ss
County of Yavapai)

Peter Viotti being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct to _____ own knowledge except as to any matters stated therein to be on information and belief and as to all such matters he stated _____ believes the same to be true and correct.

VIOTTI INVESTMENT CO.
(CLAIMANT(S))

Subscribed and sworn to before me this 30 day of March, 19 78.

My Commission Expires:
My Commission Expires Oct 7, 1980
(SEAL)

(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-62068 of the State Land Department on April 7, 1978 at 2:00 P.M.

ARS 45-184 "CLAIM OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

38-76

F.C. Ryan, Director
Water Rights Division

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK) 36 cm. 025461
Registry No.
Filed JUN 29 1979 8:36 A.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Phelps Dodge Corporation
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

United Verde Branch, Jerome, Arizona 86331 634-2622
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 7,240 acre feet all year
(400 M.I.)
(Gallons or Acre feet) (Day) (Month)

to _____ each year
(Day) (Month)

4. The date(s) the water was first used beneficially _____ _____ 1895
(Month) (Day) (Year)

5. The Name(s) of the water source(s) or Water Source(s) being claimed The Allen Ditch
(Source Name)

Tributary to Verde River on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the NE ¼ SE ¼, Section 17
of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The place(s) of use is as follows E/2 of E/2 Sec. 17; S/2 Sec. 16; N/2 NW/4 Sec. 21; SW/4 SW/4 Sec. 15
Section
S/2, N/2 Sec. 16 NW/4 Sec. 22, N/2. SW/4
Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai Sec. 22

8. The legal basis for the claim See attached

(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Maricopa)

Keith J. Cole being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters he stated _____ on _____ believes the same to be true and correct.

Phelps Dodge Corporation
By Keith J. Cole
(SIGNATURE) Agent

Subscribed and sworn to before me this 6th day of June, 19 79.

My Commission Expires
May 13, 1981.
(SEAL)

Michele Swerdlow
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-25461 of the State Land Department on June 29, 1979 at 8:36 a. M.

Brian Kirby
Adjudication Section

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
36- 25471
Registry No.
Filed JUN 29 1979 at ___ M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Phelps Dodge Corporation
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

United Verde Branch, Jerome, Arizona 86331 634 2652
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 305 acre feet from All Year
(Gallons or Acre feet) (Day) (Month)

to ______ ______ each year
(Day) (Month)

4. The date(s) the water was first used beneficially ______ ______ 1899
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Peck's lake
(Source Name)

Tributary to Verde River on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the SE ¼, NW ¼, Section 21
of Township 16 N, Range 3 E, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

7. The Place(s) of use is in the ___ ¼, ___ ¼, Section E/2 W/2 Sec. 17; S/2 Sec. 16; N/2 NE/4 Sec. 21; SE/4 SW/4 Sec. 15; S/2 N/2 Sec. 16; NW/4 Sec. 22; E/2 SW/4 Sec. 22, of Township 16 N, Range 3 E, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

8. The legal basis for the claim See Attachment No. 1.

(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) SS
County of Maricopa)

Keith J. Coke being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

Phelps Dodge Corporation
By Keith J. Coke
(CLAIMANT(S)) Agent

Subscribed and sworn to before me this 6th day of June, 19 79.

My Commission Expires:

May 13, 1981.
(SEAL)

Michele Swerdlow
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-25471 of the State Land Department of June 29, 1979 at 8:30 a. M.

Brian Kirby
Adjudication Section

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

36- (LEAVE BLANK) 25472
Registry No.
Filed JUN 29 1979 8:36 a.m.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Phelps Dodge Corporation
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

United Verde Branch Jerome, Arizona 86331 634-2622
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Industrial
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 1930 acre feet from All year
(Gallons or Acre feet) (Day) (Month)

to ______ ______ each year
(Day) (Month)

4. The date(s) the water was first used beneficially ______ ______ 1915
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)

Tributary to Verde River on the [Verde River] Watershed
(Leave Blank)

6. The point of diversion is within the NE ¼, SE ¼, Section 17 of Township 16 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SE SW ¼, NW NE ¼, Section 21 21, of Township 15 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Maricopa County Superior Court Decree Dated June 10, 1926
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) SS
County of Cochise)

Keith J. Coke being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

Phelps Dodge Corporation
By [signature]
(CLAIMANT(S)) Agent

Subscribed and sworn to before me this 22nd day of June, 19 79.

My Commission Expires:
My Commission Expires Jan. 11, 1983
(SEAL)

[signature]
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-25472 of the State Land Department of June 29, 1979 at 8:36 a. M.

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

[signature]
Brian Kirby
Adjudication Section

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
36 — 25473
Registry No.
Filed JUN 29 1979 (DATE) (TIME)

INSTRUCTIONS

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Phelps Dodge Corporation (Print Last Name or Name of Co.) (First Name) (Middle Initial)

United Verde Branch, Jerome, Arizona 86331 (Address, City, State, Zip) 634-2622 (Phone No.)

2. The purpose(s) and extent of use(s) Industrial (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 5068 acre ft. all year (Gallons or Acre feet) from (Day) (Month)

to (Day) (Month) each year

4. The date(s) the water was first used beneficially prior to 1896 (Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Sycamore Springs – Packard Ranch (Source Name)

Tributary to Verde River Sycamore Creek on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the N½ ¼ SE ¼, Section 17, of Township 16 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the SE SW ¼ NW NE ¼, Section 21 21, of Township 16 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim See attached report of Fowler & Frankenberg dated 1896 and report by N. A. Evans (Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Maricopa)

Keith J. Coke being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

Phelps Dodge Corporation
By [signature] Agent
(CLAIMANT(S))

Subscribed and sworn to before me this 6th day of June, 1979.

My Commission Expires:

May 10, 1981.
(SEAL)

[signature]
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. ________ of the State Land Department of ________ at ________ M.

36-25473

June 29, 1979
38-76

B136 [illegible]

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

[signature]
Brian Kirby
Adjudication Section

RECEIVED
MAR 08 1996
WATER MANAGEMENT

Arizona Department of Water Resources
99 North Third Street, Phoenix, Arizona 85004
(602) 417-2470

No. 36-104802

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE OF ARIZONA
(Instructions on reverse side)

Date filed 3-8-96

1. Name of Claimant: Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520)432-3621

Address: 26 W. Highway 92, Bisbee, Arizona 85603

2. Water use:

Use	Annual Use in Gallons or Acre-Feet	Months of Use
Municipal, Commercial or Industrial, Mining and Stockwatering Other than from a Stockpond	.37 acre-feet	January 1 - December 31

3. Water source name and type: Forgeway Tunnel Spring

a tributary to Bitter Creek within the 05 Verde watershed.
(Office use only)

4. Legal description of Point of Diversion: County: Yavapai

SE¼ SW ¼ of the NW ¼ of Section, 14 Township 15 N/S, Range 2 E/W

5. Legal description of Place(s) of Use: County: See Attachment "A"

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S, Range _____ E/W

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S Range _____ E/W

6. The date the water was first used beneficially (month/date/year): 12/18/06

7. The Legal Basis for the Claim: Chas. W. Clark Notice, dated 12/18/06, recorded in Book 5, Mill Sites and Water Rights, pp. 331-332, Yavapai County, Arizona (See Attachment "B")

(Attach copies of any documents being filed in support of claim)

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so states, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
)
County of Greenlee)

W.F. Richardson
W.F. Richardson, Senior Hydrogeologist
Morenci Branch, Phelps Dodge Corporation

SUBSCRIBED AND SWORN to before me this 1st day of March 19 96

My commission expires: January 22, 1997

Notary Public

mwr4sls

RECEIVED
MAR - 8 1996
SURFACE WATER

Arizona Department of Water Resources
500 North Third Street, Phoenix, Arizona 85004
(602) 417-2470

No. 36-104803

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE OF ARIZONA
(Instructions on reverse side)

Date filed 3-8-96

1. Name of Claimant: Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520)432-3681

   Address: 35 N. Highway 92, Bisbee, Arizona 85603

2. Water use:

Use	Annual Use in Gallons or Acre-Feet	Months of Use
Municipal, Commercial or Industrial, Mining and Stockwatering Other than from a Snowpack	16 acre feet	January 1 - December 31

3. Water source name and type: Section House Spring

   a tributary to Bitter Creek within the OS Verde watershed.
   (Direction only)

4. Legal description of Point of Diversion: County: Yavapai

   SW1/4, NE ¼ of the SW ¼ of Section, 16 Township 16 N/S, Range 2 E/W

5. Legal description of Place(s) of Use: County: See Attachment "A"

   ___ ¼ of the ___ ¼ of Section, ___ Township ___ N/S, Range ___ E/W

   ___ ¼ of the ___ ¼ of Section, ___ Township ___ N/S, Range ___ E/W

6. The date the water was first used beneficially (month/date/year): 9/24/15

7. The Legal Basis for the Claim: Rugged Boy Extension unpatented lode mining claim, Notice of Location, Book 103 of Mines, p. 577, dated 9/24/15, Amended 11/15/20 (See Attachment "B")
   (Attach copies of any documents being filed in support of claim)

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
)
County of Greenlee)

W.F. Richardson
W.F. Richardson, Senior Hydrogeologist,
Morenci Branch, Phelps Dodge Corporation

SUBSCRIBED AND SWORN to before me this 1st day of March, 1996.

My commission expires: January 22, 1997

Notary Public

DWR4/93

RECEIVED
MAR - 6 1996
SURFACE WATER
SECTION

Arizona Department of Water Resources
500 North Third Street, Phoenix, Arizona 85004
(602) 417-2470 No. 36-104804

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC SURFACE WATERS OF THE STATE OF ARIZONA Date filed 3-8-96
(Instructions on reverse side)

1. Name of Claimant: Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520)432-3622

Address: 36 W. Highway 92, Bisbee, Arizona 85603

2. Water use:

Use	Annual Use in Gallons or Acre-Feet	Months of Use
Municipal, Commercial or Industrial, Mining and Stockwatering Other than from a Stockpond	32.3 acre feet	January 1 - December 31

3. Water source name and type: Iron King Pleasant Spring

a tributary to Bitter Creek within the 05 Verde, watershed.
(Office use only)

4. Legal description of Point of Diversion: County: Yavapai

SW¼ NE¼ ¼ of the NW¼ ¼ of Section, 22 Township 16 N/S, Range 2 E/W

5. Legal description of Place(s) of Use: County: See Attachment "A"

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S, Range _____ E/W

_____ ¼ of the _____ ¼ of Section, _____ Township _____ N/S Range _____ E/W

6. The date the water was first used beneficially (month/date/year): 1/2/1890

7. The Legal Basis for the Claim: G. W. Hull Appropriation, dated 1/2/1890, recorded in Book 28 of Mines, p. 546, Yavapai County, Arizona (See Attachment "B")

(Attach copies of any documents being filed in support of claim)

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
)
County of Greenlee)

W.F. Richardson
W.F. Richardson, Senior Hydrogeologist,
Morenci Branch, Phelps Dodge Corporation

SUBSCRIBED AND SWORN to before me this 6th day of March 19 96.

My commission expires: January 22, 1997

Notary Public

DWR4/95

RECEIVED
MAR 8 1996
SURFACE WATER

Arizona Department of Water Resources
500 North Third Street, Phoenix, Arizona 85004
(602) 417-2470

No. 36-104805

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE OF ARIZONA
(Instructions on reverse side)

Date filed 3-8-96

1. Name of Claimant Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520) 432 3621

Address: 36 W. Highway 92, Bisbee, Arizona 85603

2. Water use:

Use	Annual Use in Gallons or Acre Feet	Months of Use
Municipal, Commercial or Industrial, Mining, Stockwatering Other than from a Stockpond and Agriculture as per Notice of Appropriation	900 acre feet	January 1 December 31

3. Water source name and type: Indian Springs

a tributary to Mescal Gulch within the Oak Verde watershed.
(Office use only)

4. Legal description of Point of Diversion: County: Yavapai

SW 1/4, SE 1/4 of the NE 1/4 of Section, 25 Township, 15 N/S, Range 2 E/W

5. Legal description of Place(s) of Use: County: See Attachment "A"

_____ 1/4 of the _____ 1/4 of Section, _____ Township _____ N/S, Range _____ E/W

_____ 1/4 of the _____ 1/4 of Section, _____ Township _____ N/S Range _____ E/W

6. The date the water was first used beneficially (month/date/year): 1/18/12

7. The Legal Basis for the Claim United Verde Copper Company Appropriation, dated 1/18/12, recorded in Book 6, Mil. Sites and Water Rights, pp. 377-378, Yavapai County (See Attachment "B")

(Attach copies of any documents being filed in support of claim)

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
)
County of Greenlee)

W.P. Richardson
W.P. Richardson, Senior Hydrogeologist,
Morenci Branch, Phelps Dodge Corporation

SUBSCRIBED AND SWORN to before me this 1st day of March, 19 96

My commission expires: January 23, 1997

Notary Public

46/3

RECEIVED
JUL 1 - 1996
SURFACE WATER

Arizona Department of Water Resources
500 North Third Street, Phoenix, Arizona 85004
(602) 417-2479 No. 36-104913

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE OF ARIZONA Date filed 7-1-96
(Instructions on reverse side)

1. Name of Claimant: Phelps Dodge Corporation - Copper Queen Branch Telephone No. (520) 432-5621
Address: 36 N. Highway 92, Bisbee, Arizona 85603

2. Water use: Use | Annual Use in Gallons or Acre-Feet | Months of Use
Municipal, Commercial or Industrial, Mining and Stockwatering Other than from a Stockpond | .4 Acre-Feet | January 1-December 31

3. Water source name and type: Iron King Mine Spring
a tributary to Silver Spring Gulch within the Verde watershed.
(Office use only)

4. Legal description of Point of Diversion: County: Yavapai
SE¼ NE ¼ of the SW ¼ of Section 1 Township 13 N/S, Range 2 E/W

5. Legal description of Place(s) of Use: County: See Attachment, "A"
¼ of the ¼ of Section, Township N/S, Range E/W
¼ of the ¼ of Section, Township N/S, Range E/W

6. The date the water was first used beneficially (month/date/year) 1/1/1886

7. The Legal Basis for the Claim: Notice of location of Lode Mining Claim, dated 1/1/1885, recorded in Book 22 of Mines, pp. 58-59, Yavapai County (See Attachment "B").
(Attach copies of any documents being filed in support of claim)

The Foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated I (we) believe the same to be true and correct.

STATE OF ARIZONA)
County of Greenlee)

W.F. Richardson, Senior Hydrogeologist,
Morenci Branch, Phelps Dodge Corporation

SUBSCRIBED AND SWORN to before me this 26th day of June, 19 96.

My commission expires: January 23, 1997

Notary Public

DWR-695

JANICE K. BREWER
Governor

SANDRA A. FABRITZ-WHITNEY
Director

ARIZONA DEPARTMENT OF WATER RESOURCES

3550 North Central Avenue, Second Floor
PHOENIX, ARIZONA 85012-2105
Telephone (602) 771-8621
Fax (602) 771-8689

June 1, 2012

CERTIFIED MAIL NO. 7007 3020 0000 7686 8419
RETURN RECEIPT REQUESTED

Freeport-McMoran Copper & Gold
Attn. Ms. Shilpa Hunter-Patel
333 N. Central Avenue
Phoenix, Arizona 85004

RE: Applications to Appropriate Public Water Nos. 33-86759 (San Francisco River) and 33-86760 (Verde River) - Instream Flows

Dear Shilpa:

The above-referenced applications were filed by your predecessor Phelps Dodge Corporation (copies enclosed). This letter is to advise you that information required for completing the above-referenced instream flow applications is overdue. Without this information, the Arizona Department of Water Resources (Department) is unable to continue processing the applications.

The Department established instream flow guidelines in December of 1991 that detail the requirements for filing an instream flow application (1991 Instream Flow Guidelines). A copy of these guidelines is enclosed. Chapter II of the 1991 Instream Flow Guidelines indicates that a minimum of one year of streamflow measurement data together with a report that includes certain information must be submitted within two years after the application filing date. It has been more than two years since the applications were filed, and the required streamflow data and report for each application has not been submitted to the Department.

Pursuant to Arizona Revised Statute (A.R.S.) §§ 45-152(B)(6) and 152(C), the Department requests that you provide the streamflow data and report described in the 1991 Instream Flow Guidelines for each of the applications. Without the required information, the above-referenced applications are not in proper form and cannot be granted under A.R.S. § 45-153.

Please provide the requested information by August 1, 2012 or the applications will be denied for failure to comply with A.R.S. §§ 45-152(B)(6) and 152(C). No extension of time will be granted to provide the requested information. If the applications are denied the application fees will not be refunded.

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $3.00

(LEAVE BLANK)
Registry No. 36- 43146
Filed 2-18-77 at 11:00 AM.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant GUTZER , GEORGE T.
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

P.O. Box 217, Cottonwood, Arizona 86326 634-2660
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation and Stock water
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 5½ Acre Feet from 1 March
(Gallons or Acre feet) (Day) (Month)

to 1st October each year 2 Acre feet the balance of the year.
(Day) (Month)

4. The date(s) the water was first used beneficially ______ ______ 1869
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)

Tributary to ______ on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the SE ¼, SW ¼, Section 21 of Township 16 , Range 3E , G&SRB&M, in the County of Yavapai .
(N/S) (E/W) (Letter enclosed.)

7. The place(s) of use is in the ______ ¼, ______ ¼, Section ______ of Township ______ , Range ______ , G&SRB&M, in the County of ______ . (Letter enclosed)
(N/S) (E/W)

8. The legal basis for the claim From enclosed letter from the Salt River Project, dated March 9, 1968.
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) SS
County of Yavapai)

George T. Gutzer being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated he believes the same to be true and correct.

[signature]
(CLAIMANT(S))

Subscribed and sworn to before me this 16th day of Feb. , 1977.

My Commission Expires:
Sept 24 , 1979.
(SEAL)

[signature]
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-43146 of the State Land Department of February 18, 1977 at 11:00 a.m.

[signature]
R. G. Ryan, Director
Water Rights Division

ARS 45-182 "FILING OF STATEMENT WITH STATE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS - STATE OF ARIZONA

Examination Fee $5.00
Map (see instructions)
CLAIM MUST BE SUBMITTED IN DUPLICATE

To be Filled in by
State Land Department

Registry No. 36-[illegible]
Filed 3-30-78 (Date) at 8 AM (Time)

1. Name of Claimant GILBERT TOWN (Print Last Name or Name of Co.) (First Initial) (Middle Initial)

P.O. Box 1466 Cottonwood, Az 86326 (602) 634-8931
(Address, City, State, Zip) (Phone No.)

2. The waters claimed are used for DOM

3. The amount of water used annually is 13.0 A.F. from Jan. to 31 Dec. each year.
(Gallons or Acre Feet) (Day) (Month) (Day) (Month)

4. The date the water was first used beneficially was [illegible] (Month) (Day) 1960 (Year)

5. The direct source of supply is Verde River (Source Name) (Type of Watercourse)

Tributary to SALT RIVER on the [illegible] (Leave Blank) Watershed,

6. The Point of Diversion (locate on map) is within the NE ¼ SW ¼, Section 11, of Township 16N, Range 3E, G&SRB&M, in the County of Yavapai
Number of Points of Diversion 1

7. The Place(s) of Use (locate on map) is in the SW ¼ NW ¼, Section 12, of Township 16 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai
Acres Irrigated 0.5 Number and Kind of Stock [illegible] (Number) [illegible] (Kind)
Number of Families [illegible] Other uses explain on line 12.

8. The water is diverted by Cottonwood Ditch
the maximum flow is unknown

9. If water is stored, give capacity and name of Reservoir in Acre Feet [illegible] (Capacity)
(Name)
Height of Dam ft., Area inundated in Acres

10. The Claimed Right to Water was created by the following fact(s): (1) Yavapai County Promiscuous Records Book 1, pg. 317 Bor. L, 1877 (2) Yavapai County Militias & Water Rights Book 1, pg. 333 Oct. 20, 1880. (3) Court Case 2577 Decided May 16, 1896. (4) Letter of Aug. 27, 1976 from Salt River Project.
(Attach copies of any documents supporting Claim)

11. The land on which the water is used is owned by P

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-43519
Filed 1-24-77 (DATE) 8:00 (TIME) A.M.

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant: Grimalda (Print Last Name or Name of Co.) Antonio (First Name) (Middle Initial)
P.O. Box 35 Jerome, AZ 86331 634-2664
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s): Irrigation & Stockwater
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 495.49 (GALLONS or Acre Feet) from 1 (Day) January (Month)
to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1869 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Source Name)
Tributary to Salt River via the Verde River (Leave Blank) Watershed

6. The point of diversion is within the SE ¼, SW ¼, Section 21,
of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The place(s) of use is on the NW ¼, NE ¼, Section 34, of
Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Notice of Appropriation filed December 10, 1877 and the Turney Survey of 1901
(Attach copies of any documents being filed in support of claim)
(see reverse side)

STATE OF ARIZONA)
) ss
County of)

Antonio & Christine Grimalda being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of their own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated they believe the same to be true and correct.

Antonio Grimalda
Christine Grimalda
(CLAIMANT(S))

Subscribed and sworn to before me this 24th day of January, 19 77.
My Commission Expires: My Commission Expires Aug 23, 1980

(SEAL) ____, 19____

Phyllis A. Ferraro
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-43519 of the State Land Department at
January 24, 1977, at 8:00 a. m.

ARS 45-194 "FILING OF CLAIM WITH THE DEPARTMENT DOES NOT CONSTITUTE ADJUDICATION OF RIGHT"

F. C. Ryan
F. C. Ryan, Director
Water Rights Division

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE
PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-59325
Filed 1-23-78 at 8:00 A.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant GRIMALDA (Print Last Name or Name of Co.) Anthony (First Name) (Middle Initial)

5380 Alhambra Ave. Los Angeles, Ca 90032 (Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) IRRIGATION/STOCKWATER (Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 821.68 (Acre feet) from 1 (Day) January (Month) to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1869 (Year).

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Cottonwood Ditch) (Source Name)

Tributary to Salt River on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the SE ¼, SW ¼, Section 21, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The Place(s) of use is in the NE ¼, NW ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Notices of Location dated October 20, 1885 and December 4, 1877 and the Hayden Report, 1940.
(Attach copies of any documents being filed in support of Claim)

(OVER)

STATE OF ~~ARIZONA~~ CALIFORNIA) ss
County of LOS ANGELES)

Antonio Grimalda being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated [illegible] believes the same to be true and correct.

(CLAIMANT(S))

Subscribed and sworn to before me this 17th day of January, 19 78.

My Commission Expires:
January 29, 1979

(SEAL) OFFICIAL SEAL
STELLA M. KROGER
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires JAN 29, 1979

(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-59325 of the State Land Department of January 23, 1978 at 8:00 a. M.

ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

T. C. Ryan, Director
Water Rights Division

Home Well

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

SEP 1981
DEPARTMENT OF WATER RESOURCES

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5

(LEAVE BLANK)
Registry No. 36-87901
Filed 7-2-79 at 1:30 P.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant GROSETA, Peter
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

Star Route Box 62, Cottonwood, AZ 86325 634-2366
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Domestic & Stockwater
(Example: Irrigation, Stockwater, Domestic)
365,000 gal / 100 head

3. The quantities of water used annually 1000/day from year round
(Gallons or Acre feet) (Day) (Month)

to ______ each year
(Day) (Month)

4. The date(s) the water was first used beneficially Prior to 1936
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Ground Water
(Source Name)

Tributary to ______ on the Verde Watershed
(Leave Blank)

6. The point of diversion is within the SW ¼, NE ¼, Section 2, of Township 15N, Range 3E, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

7. The Place(s) of use is in the SW ¼, NE ¼, Section 2, of Township 15N, Range 3E, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

8. The legal basis for the claim Continuous Use for Ranching
*Usage based on 10 gallons per head of stock
(Attach copies of any documents being filed in support of Claim)

- -

RECEIVED
JUL 2 1979
STATE LAND DEPT.

STATE OF ARIZONA)
) SS
County of Yavapai)

Peter Groseta being first duly sworn on oath deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to those matters so stated he believes the same to be true and correct.

Peter Groseta
(CLAIMANT(S))

Subscribed and sworn to before me this 29th day of June, 19 79.

My Commission Expires:

4/23/, 19 81.
(SEAL)

(NOTARY PUBLIC)

- -

Filed in Water Rights Claim Registry No. 36-87901 of the State Land Department of
SEP 23 1981 at 4:00 P.M.

DEPT. OF WATER RESOURCES

AS-ARS 45-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHT"

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS - STATE OF ARIZONA

Examination Fee $5.00
Map (see instructions)
CLAIM MUST BE SUBMITTED IN DUPLICATE

To be filled in by State Land Department
Registry No. 36-39774
Filed 8-26-76 (Date) at 11:40 A M (Time)

1. Name of Claimant FALTIGAN [illegible] (Print Last Name or Name of Co.) D (First Initial) F (Middle Initial)

2168 Humboldt Avenue, Santa Rosa, California 95404 (Address, City, State, Zip) 546-0765 (Phone No.)

2. The waters claimed are used for 0 0 D A

3. The amount of water used annually is 96 acre feet (Gallons or Acre Feet) from ___ (Day) Jan. (Month) to ___ (Day) Dec. (Month) each year.

4. The date the water was first used beneficially was 01 (Month) 01 (Day) 1876 (Year)

5. The direct source of supply is VERDE RIVER (Source Name) RT (Type of Watercourse)

Tributary to ______ on the 05 (Leave Blank) Watershed.

6. The Point of Diversion (locate on map) is within the SE ¼ SW ¼, Section 31, of Township 16N, Range 3E, G&SRB&M, in the County of Yavapai

Number of Points of Diversion 1

7. The Place(s) of Use (locate on map) is in the SW NE ¼ SW NE ¼, Section 26 27, of Township 16 N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yavapai

Acres irrigated 0 0 0 3 2 . 0 0 Number and Kind of Stock ___ (Number) ___ (Kind)

Number of Families 0 0 0 0 Other uses explain on line 14.

8. The water is diverted by Hickey Ditch the maximum flow is unknown

9. If water is stored, give capacity and name of Reservoir in Acre Feet ______ (Capacity) ______ (Name)

Height of Dam ______ ft., Area inundated in Acres ______

10. The Claimed Right to Water was created by the following facts: The Salt River Project has records and historical documents supporting a 1878 and a 1908 water right claim. Enclosed copies of recorded rights of 1878 and 1919. Said property was probably covered in Case #2577 Yavapai County Superior Court. Old tax records showing 32 irrigated acres.
(Attach copies of any documents supporting Claim)

11. The land on which the water is used is owned by F

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-46814
Filed 6-30-77 (DATE) at 11:00 AM. (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant Hogan (First Last Name or Name of Co.) James (First Name) F, (Middle Initial)
Box 255, Star Route Cottonwood, AZ 86326 634-2750
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation & Stockwater
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 40.17 (Acre feet) from 1 (Day) January (Month)
to 31 (Day) December (Month) each year

4. The date(s) the water was first used beneficially ____ (Month) ____ (Day) 1914 (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River (Source Name)
Tributary to Salt River on the Verde River (Leave Blank) Watershed

6. The point of diversion is within the NE ¼, NE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

7. The place(s) of use is in the NE ¼, NE ¼, Section 35, of Township 16N (N/S), Range 3E (E/W), G&SRB&M, in the County of Yavapai.

8. The legal basis for the claim Use documented by the Hancock Report, 1914; Phelps Survey, 1920; Hayden Survey, 1940.
(Attach copies of any documents being filed in support of Claim)
(see reverse)

STATE OF Arizona)
) ss
County of Cathem)

James F. Hogan being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of his own knowledge except as to any matters stated therein to be on information and belief and as to all such matters he states he believes the same to be true and correct.

James F. Hogan
(CLAIMANT(S))

Subscribed and sworn to before me this 26 day of May, 1977.

My Commission Expires:
July 17 (SEAL) 1977.

Joan Ward
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-46814 of the State Land Department of
June 30, 1977 at 11:00 A.M.

F. C. Ryan
F. C. Ryan, Director
Water Rights Division

AR3 46-184 "FILING OF CLAIM WITH THE DEPARTMENT NOT DEEMED ADJUDICATION OF RIGHTS"
2M-76

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

(LEAVE BLANK)
Registry No. 36-23932
Filed 3-20-79 at 11:00 A.M.
(DATE) (TIME)

INSTRUCTIONS:

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant McEnelly Roberta J.
(Print Last Name or Name of Co.) (First Name) (Middle Initial)

Star Rt. 2, Box 536-E, Camp Verde, Az 567-4205
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 12 acre ft from 1 - Jan
(Gallons or Acre feet) (Day) (Month)

to 31 Dec. each year
(Day) (Month)

4. The date(s) the water was first used beneficially Oct 3rd 1891
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)

Tributary to Salt River on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the ___ ¼, ___ ¼, Section ___,
Information not available at present.
of Township ___, Range ___, G&SRB&M, in the County of ___.
(N/S) (E/W)

7. The Place(s) of use is in the SW ¼, NE ¼, Section 35, of
Township 16 N, Range 3 E, G&SRB&M, in the County of Yavapai.
(N/S) (E/W)

8. The legal basis for the claim ___

(attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) SS
County of Yavapai)

Roberta J. McEnelly, being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of her own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated she believes the same to be true and correct.

Roberta J. McEnelly
(CLAIMANT(S))

Subscribed and sworn to before me this 9 day of Mar., 1979.

My Commission Expires:
My Commission Expires Oct. 27, 1979
___, 19___.
(SEAL)

[illegible]
(NOTARY PUBLIC)

RECEIVED
MAR 20 1979
STATE LAND DEPT.

Filed in Water Rights Claim Registry No. 36-73932 of the State Land Department on March 20, 1979 at 11:00 a. m.

William H. Allen
William H. Allen
Acting Water Rights Administrator

AND ON March 20, 1979 WITH THE DEPARTMENT FOR GENERAL ADJUDICATION OF RIGHTS

If this doesn't need filing for real property please return check with attached paper. Thank

COPY

JANICE K. BREWER
Governor

HERBERT R. GUENTHER
Director

ARIZONA DEPARTMENT OF WATER RESOURCES

3550 North Central Avenue, Second Floor
PHOENIX, ARIZONA 85012-2105
Telephone (602) 771-8621
Fax (602) 771-8688

October 20, 2010

National Park Service
Attn: Kathy M. Davis
P.O. Box 219
Camp Verde, Arizona 86322

RE: Amendment for Statement of Claim of Right No. 36-25460.

Applicant:

The Arizona Department of Water Resources (Department) has received the above-referenced amendment. The amendment form has been incorporated into the Department's official file, and the Department's records have been revised to reflect the changes that were requested. This is not a determination by the Department of the truth and accuracy of the amended claim.

Please be aware that an amendment to a Statement of Claim may not be used to make changes in location, quantity, source, or use of water that have occurred after March 17, 1995. See Arizona Revised Statute (A.R.S.) § 45-182.D. In addition, if you intend to change a certain type of use to a new use that was initiated after March 17, 1995, you must obtain approval from the Director of the Department pursuant to A.R.S. § 45-156(B).

Please do not hesitate to contact me at (602) 771-8591or toll free (within Arizona only) at 1-800-352-8488 if you require further information or assistance.

Sincerely,

Elizabeth V. Logan

Elizabeth V. Logan, Manager
Permitting Unit, Surface Water Division

CC: Rodney Held, ADWR

ARIZONA DEPARTMENT OF WATER RESOURCES
Surface Water Rights
500 North Third Street, Phoenix, Arizona 85004
Telephone (602) 417-2460
Fax (602) 417-2429

JANET NAPOLITANO
GOVERNOR

HERB GUENT–SP
DIRECTOR

COPY

April 19, 2004

Silkie Perkins
P.O. Box 365
Clarkdale, Arizona 86324

RE: Statement of Claim of Right No. 36-105237 (Big Springs), 36-105238 (West Mesa Cache), 36-105239 (Unnamed Spring), 36-105240 (Summer Springs), 36-105241 (Unnamed Spring), 36-105242 (Cress Spring), 36-105243 (Black Seep), 36-105244 (Pioneer Road Cache), 36-105245 (Verde River), 36-105246 (Lower Mormon Pocket), 36-105247 (Upper Mormon Pocket Tank) and 36-105248 (Sakes Pass Tank).

Applicant:

The Statements of Claim of Right you submitted have been received by the Department and have been issued the above referenced numbers.

The Department does not presume to either adjudicate the validity of the claims or determine who should hold the claims.

Please call me at (602) 417-2460 if you require further information.

Sincerely,

[redacted]

Barbara L. Norton
Surface Water Rights Specialist

bln

ARIZONA STATE LAND DEPARTMENT
1624 West Adams
Phoenix, Arizona 85007

RECEIVED MAY 29 1979

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

Filing Fee $5.00

INSTRUCTIONS:

(LEAVE BLANK)
Registry No. 36-67599
Filed 6-20-78 at 10:30 A.M. (DATE) (TIME)

1. Submit Statement of Claim in duplicate.
2. Answer all questions fully.
3. File separate claim for each claimed right to appropriate and for each source of water.

1. Name of Claimant ~~[illegible]~~ Scroggins, Thomas H.
(Print Last Name or Name of Co.) (First Name) (Middle Initial)
P. O. Box 780 Cottonwood, Ariz. 86326 None
(Address, City, State, Zip) (Phone No.)

2. The purpose(s) and extent of use(s) Irrigation
(Examples: Irrigation, Stockwater, Domestic)

3. The quantities of water used annually 3 acre ft. from January
(Gallons or Acre feet) (Day) (Month)
to January each year
(Day) (Month)

4. The date(s) the water was first used beneficially July 15 1959
(Month) (Day) (Year)

5. The Name(s) of the water course(s) or Water Source(s) being claimed Verde River
(Source Name)
Tributary to Salt River on the Verde River Watershed
(Leave Blank)

6. The point of diversion is within the NE ¼, SW ¼, Section 21, of Township 16N (N/S), Range 3 E (E/W), G&SRB&M, in the County of Yav. Co.

7. The Place(s) of use is in the NW ¼, SW ¼, Section 35, of Township 16 N, Range 3E, G&SRB&M, in the County of
All of Lot numbered One (1) and the North 77.33 ft. of Lot numbered Two (2), in Block numbered Six (6) of the Carroll Subdiv.

8. The legal basis for the claim Share of stock in the Cottonwood Ditch Association
(Attach copies of any documents being filed in support of Claim)

STATE OF ARIZONA)
) ss
County of Yavapai)

Thomas & Betty Scroggins being first duly sworn on oath, deposes and states that the foregoing Statement of Claim is true and correct of their own knowledge except as to any matters stated therein to be on information and belief and as to all such matters so stated believes the same to be true and correct.

REFILED May 29, 1979 AT 8:00 A.M.
[signature]
DIRECTOR, WATER RIGHTS DIVISION

[signatures]
(CLAIMANT(S))

Subscribed and sworn to before me this 9 day of June, 1978.

My Commission Expires:

______________, 19____
(SEAL)

[signature]
(NOTARY PUBLIC)

Filed in Water Rights Claim Registry No. 36-67599 of the State Land Department of June 20, 1978 at 10:30 a.m.

ARS 45-184 FILING OF CLAIM WITH THE DEPARTMENT NOT AN ADJUDICATION OF RIGHTS

[signature]
F. L. Ryan, Director
Water Rights Division

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

STATEMENT OF CLAIM OF RIGHT TO USE PUBLIC WATERS OF THE STATE

(Leave Blank)
NO. 36- 100224
FILED 8-29-89

1. NAME Viotti Investments TELEPHONE 634-8152
ADDRESS P.O. Box 1701, Cottonwood, AZ 86326

2. USE OF WATER AND EXTENT OF USE

TYPE OF USE	AMOUNT OF USE IN GALLONS OR ACRE FEET	MONTHS OF USE
Irrigation	4 acre feet	January 1 - December 31

3. TYPE OF SOURCE AND NAME Verde River
a tributary of Salt River
VERDE RIVER (Leave Blank) WATERSHED

4. LEGAL DESCRIPTION OF POINT OF DIVERSION County Yavapai
SE ¼ of the SW ¼, Section 21, Township 16 N, Range 3 E, G&SRB&M.

5. LEGAL DESCRIPTION OF PLACE(S) OF USE County Yavapai
NW ¼ of the NW ¼, Section 35, Township 16 N, Range 3 E, G&SRB&M.
¼ of the ¼, Section , Township N/S, Range E/W, G&SRB&M.

6. DATE OF FIRST BENEFICIAL USE OF WATER 1869 (Month / Date / Year)

7. LEGAL BASIS FOR CLAIM Notice of Appropriation filed December 10, 1877 and the Hayden Report (1960). Statement of Claim 36-48594

SUBMIT COPIES OF ANY DOCUMENTS FILED IN SUPPORT OF CLAIM

The foregoing Statement of Claim is true and correct to the best of my (our) knowledge except as to any matters stated herein to be upon information and belief and as to all matters so stated, I (we) believe the same to be true and correct.

STATE OF ARIZONA)
) ss.
County of YAVAPAI)

SUBSCRIBED AND SWORN to before me this 24th day of August, 19 89

My commission expires: My Commission Expires Sept. 7, 1991

Notary Public

ADWR-33-31-788 HPS 5689

APPENDIX B.—Early history based mostly on Whipple survey of 1853-54

Historic information mostly for the Big Chino Valley area based largely on the Whipple survey of is presented. Focus is on the perennial/intermittent tributary streams and Whipple's 35th Parallel Survey with his comments on streams within and near the Big Chino watershed in Arizona.

"Whatever may be the cause, the fact is evident that a large portion of the region south of the parallel of 35° 15' is well watered and fertile; while that north of it is the reverse. Ruins of ancient pueblos and evidences of former cultivation are abundant throughout the valleys leading towards the Gila." (Whipple, Part II, p. 29.)

This appendix is based on information in the following references. Unless otherwise noted, information is from Part 1 of Whipple's reports.

Barnes, Will C., 1935, Arizona Place Names, University of Arizona Bull. No. 2, 503p. (Later editions also used.)

Fewkes, Jesse W., 1912, Antiquities of the Upper Verde River and Walnut Creek Valleys, Arizona: Bureau of American Ethnology, 28th Annual Report, 1906-07, p. 185-220.

Moellhauser, B., 1858, Diary of a journey from the Mississippi to the coasts of the Pacific with a United States government expedition; translated by Mrs. Percy Sinnett., British Library, Historical Press Editions, 397p.

Whipple, A. W., 1855, Part 1. Report. Explorations for a Railway Route near the Thirty-Fifth Parallel of North Latitude. from the Mississippi River to the Pacific Ocean: By Lieutenant A W. Whipple. Corps of Topographical Engineers Assisted by Lieutenant J. C. Ives. Corps of Topographical Engineers.

Whipple, A. W., 1855, The Topographical Features and Character of the Country, EXPLORATIONS AND SURVEYS FOR A RAILROAD ROUTE FROM THE MISSISSIPPI RIVER TO THE PACIFIC OCEAN, Part II, WAR DEPARTMENT, 77p.

Whipple's notes for the Big Chino watershed area can be confusing. He was attempting to find a RR route across the Aztec Mtns (present Juniper Mtns) other than the previously surveyed route of Capt. Sitgreaves where there was little water. Whipple's guides (Leroux and Savedra), who previously had entered the area, were confused, possibly because of the cold stormy weather, about precise geography but assured Whipple there was no water along Sitgreaves' route. Leroux, for example, seems to have led Whipple down Hell Canyon to the west and then south thinking it was related to the Bill Williams watershed. Whipple eventually crossed over the Juniper Mtns into the Bill Williams watershed at Aztec Pass at the upper end of the Walnut Creek watershed where there was plenty of water. He found a route connecting the Verde area with the Colorado River that had been used by Indians for hundreds of years. While in the Big Chino Valley, Whipple's party experienced snow and cold winds that obviously made their assignment difficult to accomplish.

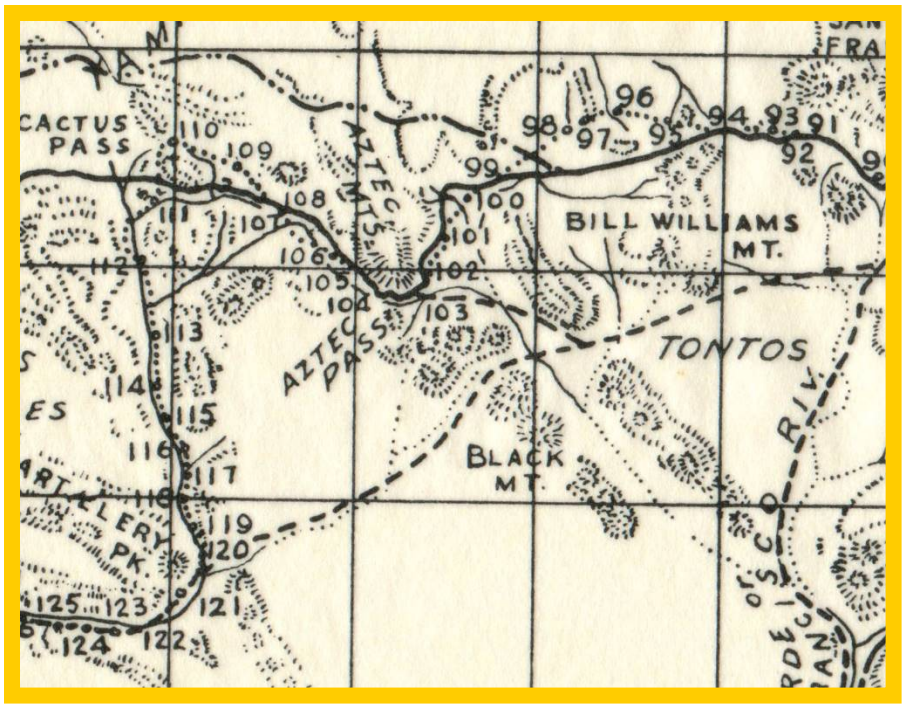
Also, it is important to realize that Whipple and a small party were exploring out ahead of the "train" for which the camps are numbered. Much of Whipple's notes for the Walnut Creek and Pine Creek areas are for reconnaissance while the train was several miles behind. They used smoke signals to communicate location. When they observed distant smoke from Indian fires they knew water was nearby.

Names of places

Present	Original Land Survey	Whipple
Partridge Creek	Partridge Creek	Partridge Creek
Big Chino Wash	Big Chino Creek	Partridge Creek
Walnut Creek	Walnut Creek	Pueblo Creek
Pine Creek	Pine Creek Wash	Turkey Creek
Big Chino Valley	Chino Valley (Also 'Big')	Val de Chino
Juniper Mtns	Juniper Mtns	Aztec Mtns
Big Black Mesa	Black Mesa	Black Mtn
Williamson Valley Wash	Verde River (lower reach)	--

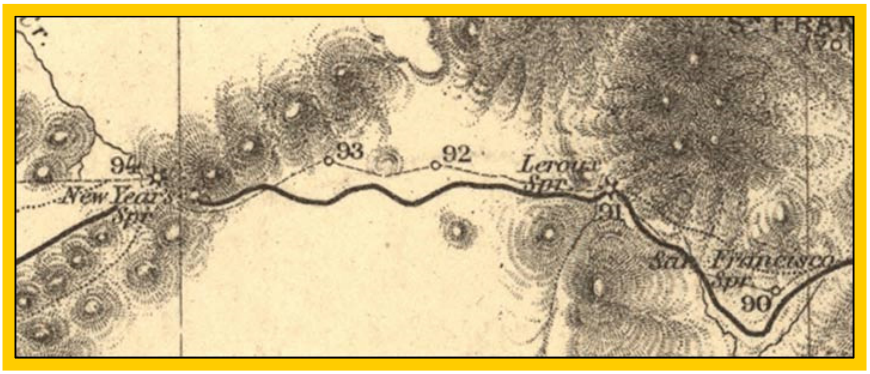
Note: Pueblo Creek is presently known as Walnut Creek and is discussed later in detail. The Aztec range is the Juniper Mountains. Mount Hope is about 8 miles west of the divide between the Big Chino Valley and the Bill Williams watersheds and on the divide between the Burro Creek and Big Sandy watersheds that lie within the Bill Williams watershed.

Whipple's route with camps crossed northern Arizona in the winter of 1853-1854. The Aztec Mtns. are the present Juniper Mtns. and Black Mtn. is the present Big Black Mesa. Also, Whipple's latitudes and longitudes were not very precise relative to later standards.



Aztec Pass Yavapai Co. U. S. G. S. Map, Prescott sheet, 1892; G. L. O., 1921.

Ten miles west of Juniper P. O. near lat. 34° 54′, long. 112° 58′. In Santa Maria mountains east of Baca grant, west side Williamson valley, which Wheeler called "Val de Chino." "From a fancy founded on the evident antiquity of the ruins, we have given the name Aztec Pass, to this place." Wheeler, Jan. 23, 1853.

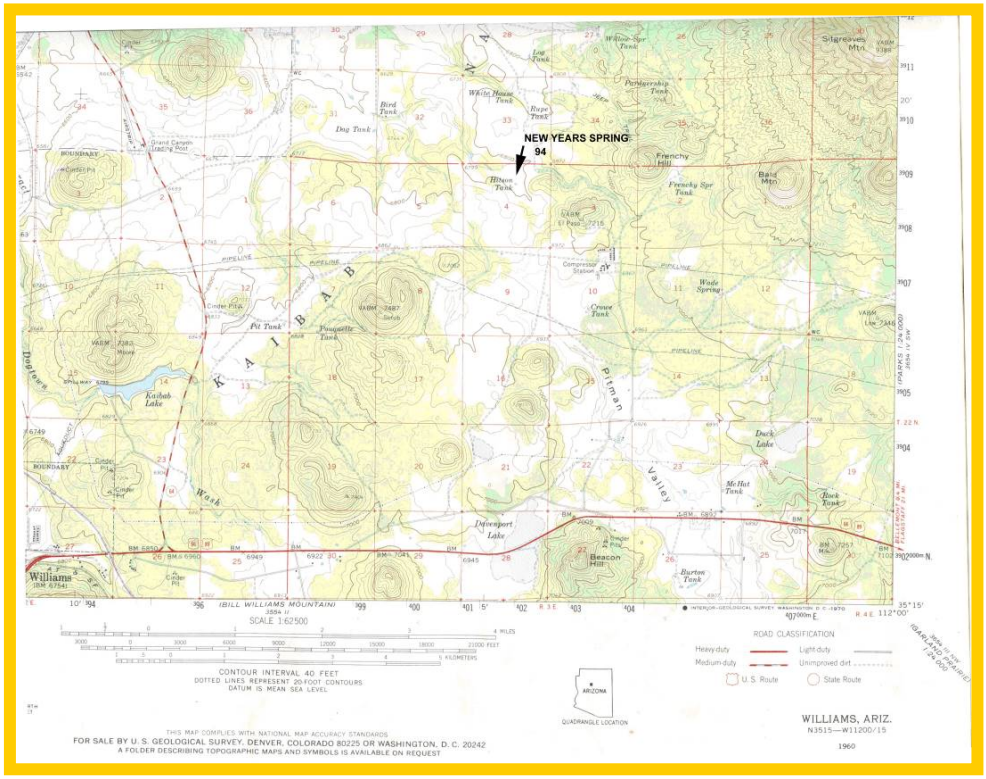


To the left is a piece of Whipple's Pacific RR map showing New Years Spring due west of Leroux Spring. A description is on the following page.

One mile east from New Year's spring there is a hill about 200 feet high, from the top of which is obtained an extensive view of the surrounding country. Towards the north and north-northwest appears an elevated plain, looking bleak, waterless and barren. It is dotted with conical hills of black volcanic rock. In a west-northwest direction, a broad open valley, dark with the foliage of cedar forests, extends to the mountains of La Laja, and for some distance is bounded upon the southwest by a low range of hills covered with trees excellent for timber. Towards the south-southwest lies the volcanic pile of mountains called "Bill Williams'," west of which is a succession of valleys and plains extending about 30 miles from New Year's spring to a conspicuous peak known as Picacho. This is the southern terminus of the range of La Laja; and at its base Partridge creek, which drains the intermediate country, empties into *Val de China*. The triangular space included between New Year's spring, Bill Williams' mountain, and Picacho, has the general appearance of a vast plain sloping gently to the southwest; examined more minutely, it is dotted with small hills and traversed by valleys, which in a few places are contracted, and enclosed by low walls forming cañons. There is good pine timber in the vicinity of New Year's spring, and also in the region of Bill Williams' mountain. East of Val de China lies an extensive tract covered with large cedars and piñons, forming the so called Black Forest.

(Whipple, Part II, p. 32). Note: The Black Forrest is presently known as Big Black Mesa. La Laja are the mountains at the north end of Big Chino Valley.

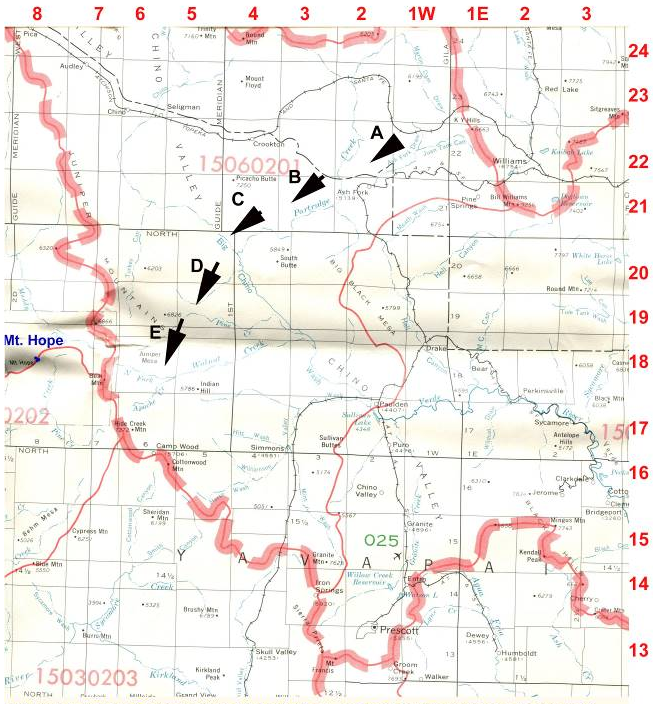
Below is from the USGS Williams 7.5 min. topographic map showing possible location of New Years Spring.



Heading into Big Chino watershed.

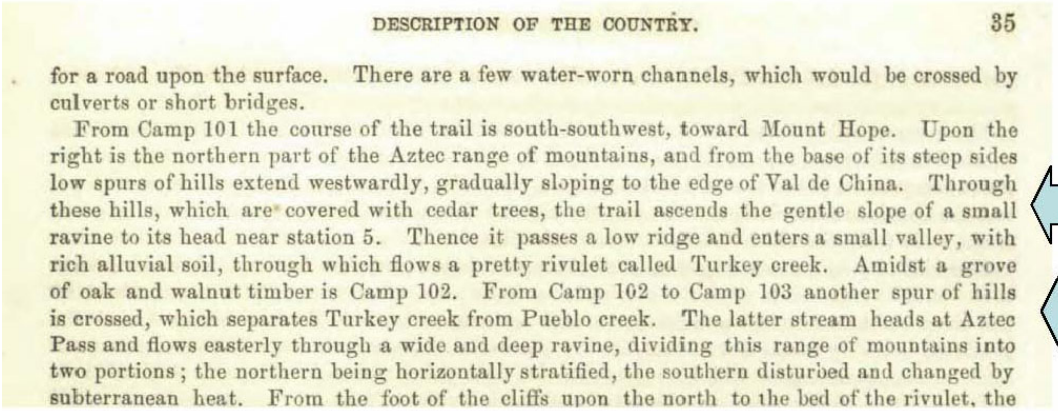
From Camp 98 to station 5, the trail follows the bed of the cañon. At that point the banks recede, leaving a good-sized valley between. The stream, however, makes a large bend toward the southeast; and, to avoid it, the line of survey took a direct course southwest across the nearly level prairie toward Picacho. Between stations 9 and 10 is a dry arroyo leading to Partridge creek. The ridge of Black Forest appears about fifteen miles to the left. Another chain of hills lies upon the right, about ten miles distant. From station 10 to 14 the country is level, producing a few scattered cedar trees; thence to Camp 99, the trail crossed a rolling prairie, intersected by a number of deep ravines, in which water was found. About three miles to the northwest is Picacho, with a gravelly spur extending to the vicinity of camp, and forming the southern terminus of the range of La Laja; the Black Forest range, from the south-southeast, ends about two miles southeast from the same point, leaving between the two ranges an opening through which Partridge creek flows into the great Val de China. The bed of this valley is about 200 feet below the general surface of the prairie, which borders Partridge creek, and ends in a bluff below Camp 99. Camp 100 is situated at the foot of it, about one mile distant from, and 188 feet below, Camp 99. By following Partridge creek from Camp 98 to its entrance to Val de China, the grades would be light. It would, probably, be equally practicable to construct a road along the trail, from station 5 to station 15—between Camps 98 and 99—and there entering a ravine, follow it to the confluence with Val de China, near Camp 100. The gradients would be favorable, except upon the latter portion, where they might amount to eighty feet per mile. The direct route from New Year's spring, referred to in the general description of this region, would take the northeast branch of Partridge creek, and unite with the survey near Camp 100.

Between Camps 100 and 101, a distance of seven and a half miles, the trail passes across the rich bottom-lands of Val de China, in a southwest course, nearly perpendicular to the general direction of the valley at this point. The country is smooth enough for the laying of tracks



Whipple's Pueblo Ck probably is Walnut Creek. His Turkey Creek may be the present Pine Ck.

USGS HYDROLOGIC UNIT MAP-1974



DESCRIPTION OF THE COUNTRY. 35

for a road upon the surface. There are a few water-worn channels, which would be crossed by culverts or short bridges.

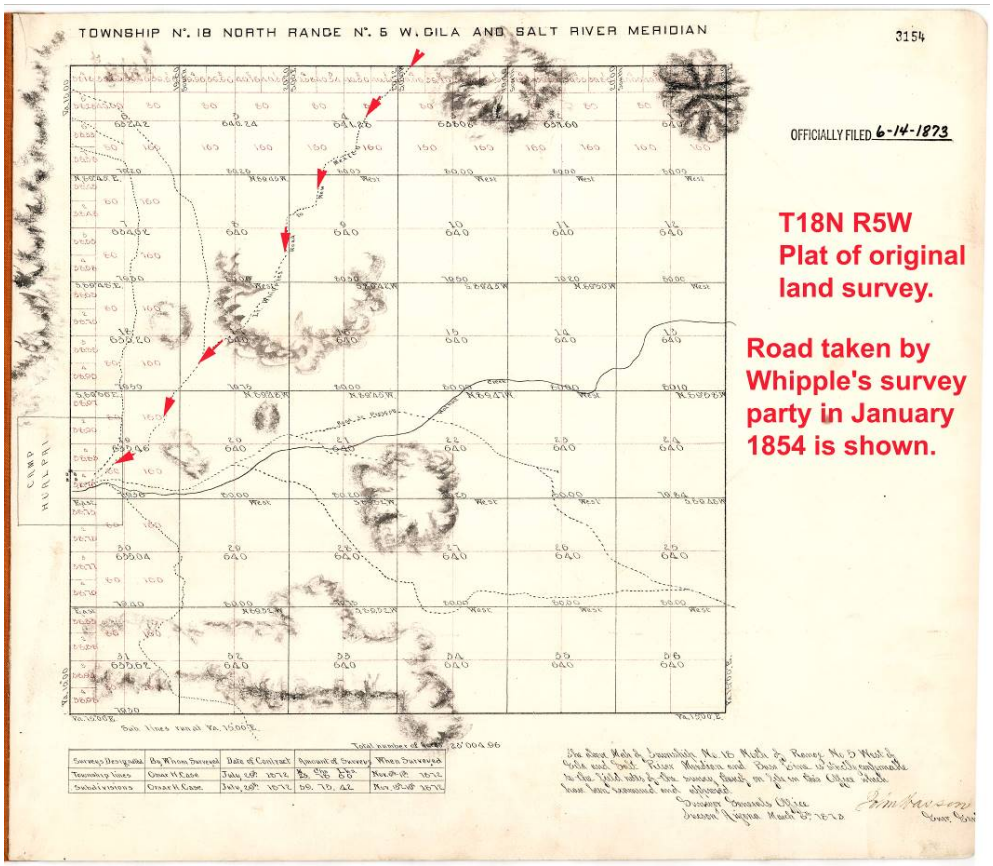
From Camp 101 the course of the trail is south-southwest, toward Mount Hope. Upon the right is the northern part of the Aztec range of mountains, and from the base of its steep sides low spurs of hills extend westwardly, gradually sloping to the edge of Val de China. Through these hills, which are covered with cedar trees, the trail ascends the gentle slope of a small ravine to its head near station 5. Thence it passes a low ridge and enters a small valley, with rich alluvial soil, through which flows a pretty rivulet called Turkey creek. Amidst a grove of oak and walnut timber is Camp 102. From Camp 102 to Camp 103 another spur of hills is crossed, which separates Turkey creek from Pueblo creek. The latter stream heads at Aztec Pass and flows easterly through a wide and deep ravine, dividing this range of mountains into two portions; the northern being horizontally stratified, the southern disturbed and changed by subterranean heat. From the foot of the cliffs upon the north to the bed of the rivulet, the

D

E

(Whipple, Part II, P. 34). Note: Val de China is presently known as Big Chino Valley.

The map below is an interesting combination of historic surveys in Arizona. Lt. Whipple's survey road leading to Aztec Pass and eventually the Colorado River is shown on the plat of the original land survey of 1873. Note the location of Camp Hualpai on the left (west) side of the map. Camp Hualpai was built 4 years before the land survey.



The Whipple survey party for a railroad route along the 35th parallel did some serious looking for a way across the Juniper Mtns to reach the Colorado River. They were interested in a route with water and found plenty along Walnut Creek and also over the divide in the Bill Williams River watershed. They also found water in the upper Big Chino Valley a few miles south of Picacho Spring. This water probably was from Partridge Creek in the present Big Chino Wash because the Whipple party noted the wash upstream from Partridge Creek was dry.

The route to the north that was eventually used for the railroad relied on water at the town of Ash Fork that was piped 4 miles from Johnson's Canyon, an intermittent tributary stream of Partridge Creek. The 4 inch steel pipe originated at Ash Fork Steel Arch Dam that was built by the Santa Fe Railway in 1897-98.

Partridge Creek

Partridge Wash or Creek Coconino Co. U. S. G. S. Map, 1923; Tusayan N. F., 1927. Rises in T. 24 N., R. 2 W. Tusayan N. F. Flows southwest into Chino valley in T. 20 N., R. 4 W. Very old name. Ives called it "Partridge Ravine," 1858. Later he called it Partridge creek as does Whipple 1854. Mollhausen, *Diary of a Journey,* 1858, says: "So called from the numerous pretty creatures of that kind."
"January 10, 1854: Many partridges were killed today. Upon their heads are tufted plumes like those of the California partridges." Whipple Report. Evidently our common tufted quail. (AZ Place Names)

January 10, 1854 Camp 97. We traversed the fine valley of Cedar creek, and passed westwardly over an almost inappreciable ridge into a wide ravine; which, by a gradual descent led into the great basin of the Black Forest. Thence four miles south brought us to large pools of water in a rocky glen called Partridge creek. It is believed that water exists here at all seasons.

January 11. It appeared necessary to leave our late reconnoitering trail, and again explore towards the southwest. There seemed to be a break in the mountain range near Picacho, and it was decided to examine in that direction. Fearing, however, to move the whole train, with the uncertainty of finding water; with ten men for an escort, we recommenced the reconnaissance. Following Partridge creek, nearly south, six miles, we found large pools of water at distances of a quarter of a mile from each other, with numerous recent Indian lodges along the banks.

January 12. The water-hole at last night's camp, though smaller than many seen, was from two to three feet deep, some twenty feet long, and three or four feet wide. The botanist found there, and at other pools upon Partridge creek, the water-plant "Polygonum amphibium" which, he says, never grows except in places permanently moist. He believes that now the water is in its lowest stage. All the old hunters and trappers of the party find signs leading to the same conclusion. This is an important fact. Only springs or tanks can be depended upon for a supply of water in this region of volcanic rock.

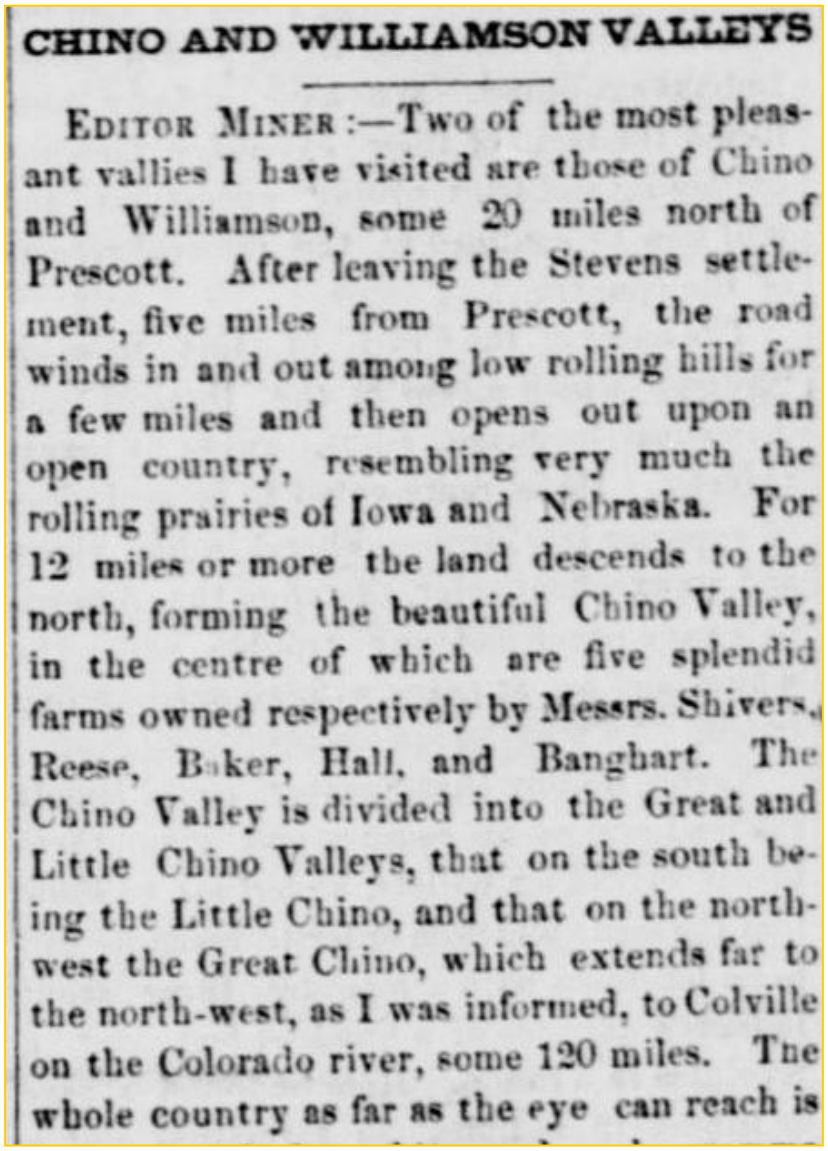
Partridge Creek appears to be perennial (or intermittent) based on opinions and observations of the Whipple party. Subsequent observations by Whipple also suggest Partridge Creek (Whipple also referred to Big Chino Wash as Partridge Creek) was perennial. It appears that the Santa Fe Railroad chose the drier route to the Pacific and thus need to build the Steel Dam in Johnson's Canyon, a perennial tributary to Partridge Creek, to supply water for Ash Fork and the railroad.

"Leaving Partridge creek, which flows south 65° east, and turned towards the southwest and west over a smooth prairie, about eleven miles to the southeast base of Picacho. There finding pools of water, we again bivouacked among our favorite cedars." "Within the last two miles we have crossed several arroyos, containing water in holes, which, about a mile below, seem to unite. From a spur of the Picacho the view is very extensive and beautiful. This mountain proves to be indeed the southern terminus of the range to which it belongs, and beyond is abroad smooth valley sweeping towards the south-southeast, and extending in that direction to the verge of the horizon. Westward of this is the long range of mountains which was before noticed from the head of Bill Williams' fork."

Chino Creek (post Whipple tidbits)

Chino Creek Yavapai and Coconino Cos. Map, Prescott N. F., 1927. Rises northwest of Mount Floyd southeast end Aubrey cliffs in T. 26 N., R. 6 W., runs through Chino valley entering Verde river in approximately T. 17 N., R. 1 W. See Chino. (AZ Place Names)

The following is from the Arizona Weekly Miner, Dec. 31, 1875, by H. C. Hodge. This article, by a reputable person, shows how settlers started ranches and farms in the area less than 20 years after Whipple. It's remarkable how quickly settlers (largely white) homesteaded the area considering the threat of the native Americans. Obviously, the presence of Fort Whipple and Camp Hualpai (completed in 1869) afforded protection.



CHINO AND WILLIAMSON VALLEYS

EDITOR MINER:—Two of the most pleasant vallies I have visited are those of Chino and Williamson, some 20 miles north of Prescott. After leaving the Stevens settlement, five miles from Prescott, the road winds in and out among low rolling hills for a few miles and then opens out upon an open country, resembling very much the rolling prairies of Iowa and Nebraska. For 12 miles or more the land descends to the north, forming the beautiful Chino Valley, in the centre of which are five splendid farms owned respectively by Messrs. Shivers, Reese, Baker, Hall, and Banghart. The Chino Valley is divided into the Great and Little Chino Valleys, that on the south being the Little Chino, and that on the north-west the Great Chino, which extends far to the north-west, as I was informed, to Colville on the Colorado river, some 120 miles. The whole country as far as the eye can reach is

covered with the white and curly gramma and other grasses, affording excellent pasturage. Mr. Shivers has a herd of 100 cattle, and milks from 15 to 30 cows. Mr. Banghart has 125 and milks 40 cows. Mr. Baker with whom is associated J. G. Campbell of Prescott, in stock, has a large band of brood mares, the finest in the Territory, numbering about 150, besides which the firm own 700 cattle and 2,500 sheep. On the Reese farm are the ruins of old Camp Whipple, and for some months in 1863 4 was the temporary headquarters of the Government Officials, soon after the organization of the Territorial Government.

In and around Chino Valley are many old and interesting ruins of the old pre-historic race, who, no doubt, many hundreds of years since cultivated the rich soil of the Valley.

The weekly Arizona miner. (Prescott, Ariz) 1877-1885, April 14, 1882

Mr. Puntney, who has a Well at the Upper end of Big Chino, has plenty of water.

The weekly Arizona miner. (Prescott, Ariz) 1877-1885, August 31, 1877

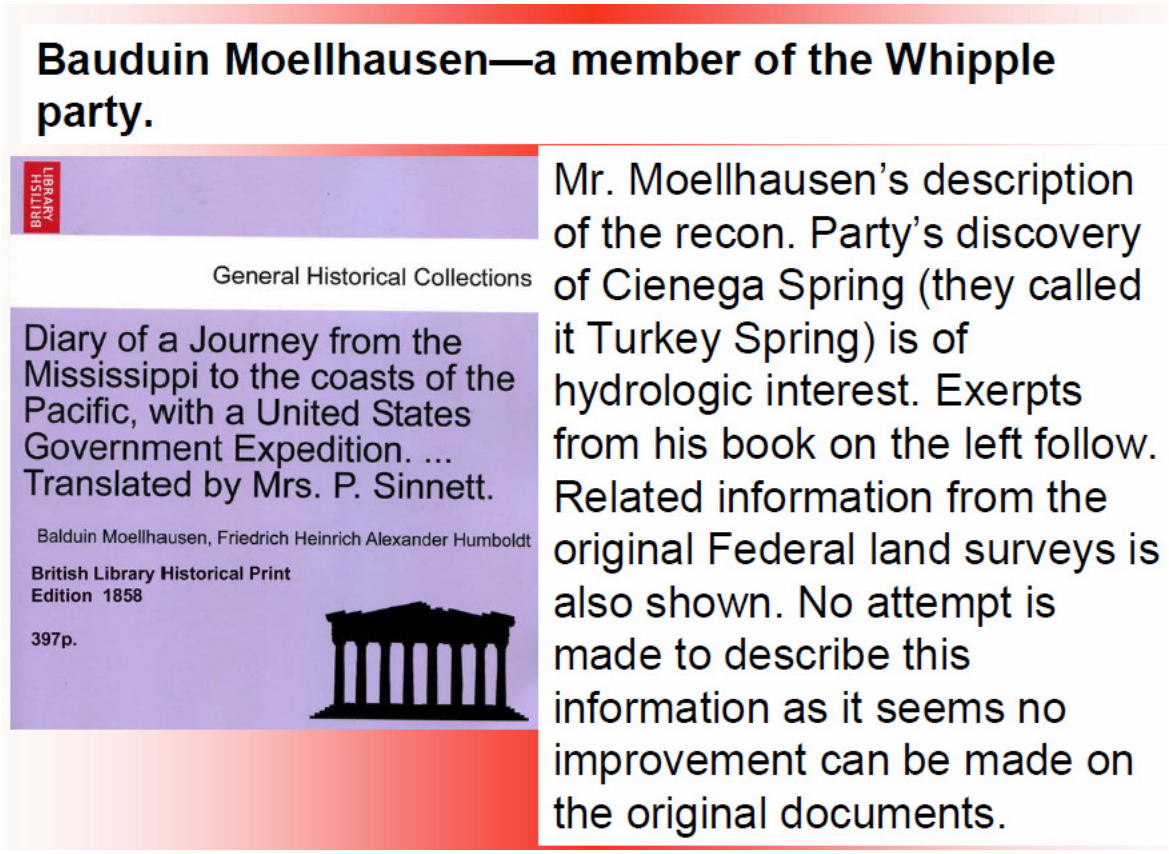
V. A. Stephens, wife and son, Johnny, left this morning in a carriage, propelled by two lively *little horses* for their stock ranch in Big Chino valley. They will return Friday, and will bring with them several head of fresh milk cows, when they will furnish as usual their old customers with the genuine fluid *de la baca*.

Pine Creek (Turkey Creek)

Pine Creek Yavapai Co. Map, Prescott N. F., 1927. In sec. 3 T. 16 N., R. 6 W. "Stream rising at Hide mountain near Camp Wood. Flows north and east into Chino valley. "Two Pine creeks are in this immediate vicinity. Other flows west to Colorado river." Letter, Forest Supervisor Grubb, Prescott. (AZ Place Names)

Turkey Creek, Yavapai Co. Surgeon Woodhouse of Sitgreaves party, 1852, in his report says: "We saw numerous flocks of wild turkeys near the head of the Bill Williams river." Two years later Wheeler camped here and named this stream. "Jan. 17, 1854. A large flock of turkeys was hunted in the grove and one killed. This suggested the name which was given to the stream. It was a clear and rapid stream flowing southeast." Wheeler Report. (AZ Place Names)

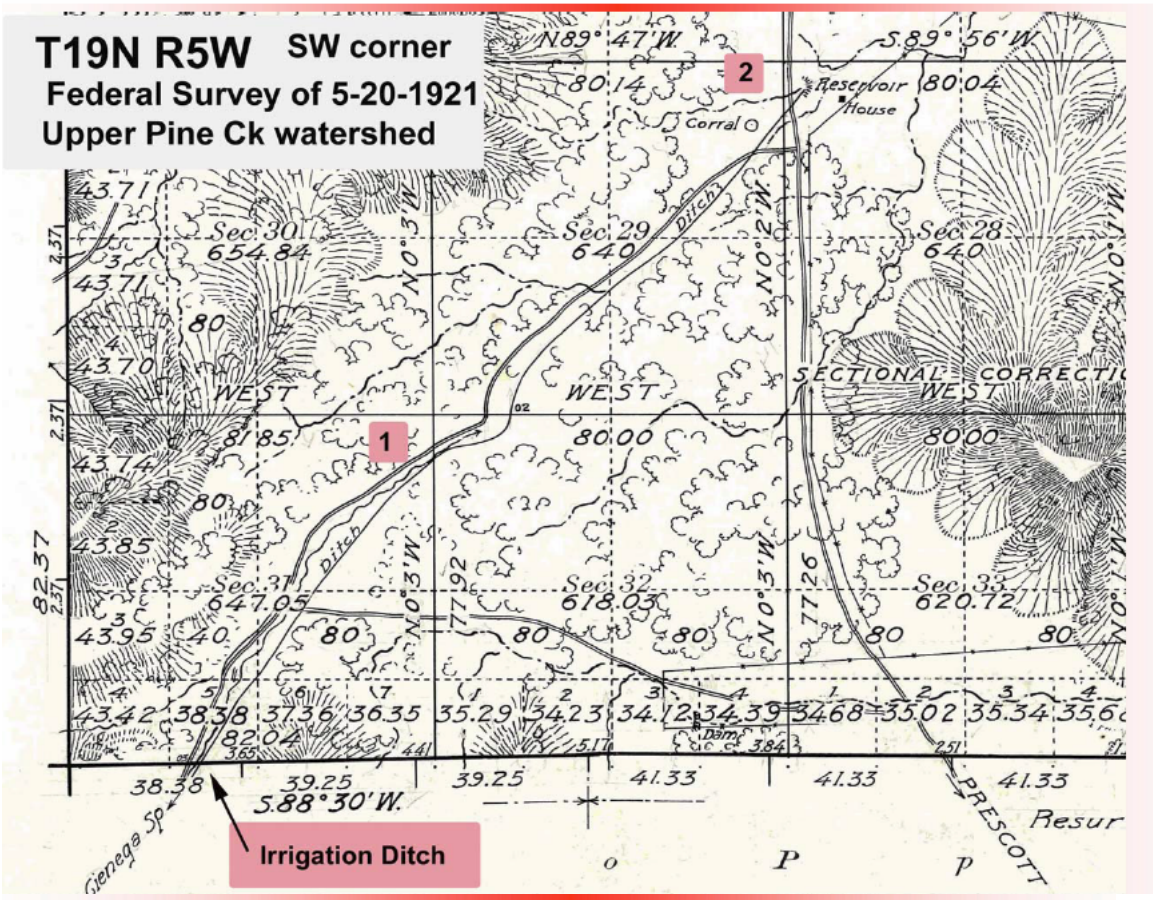
January 17.—"Continuing our march we passed a spur of granitic hills, and in two miles southwest struck a clear and rapid stream flowing southeast. Its banks were lined with rushes and a basin-like valley was covered with a thick growth of timber—cotton-wood, walnut and ash. A large flock of turkeys was hunted in the grove and one killed. This suggested name which was as given to the stream, 'Turkey Creek.'"

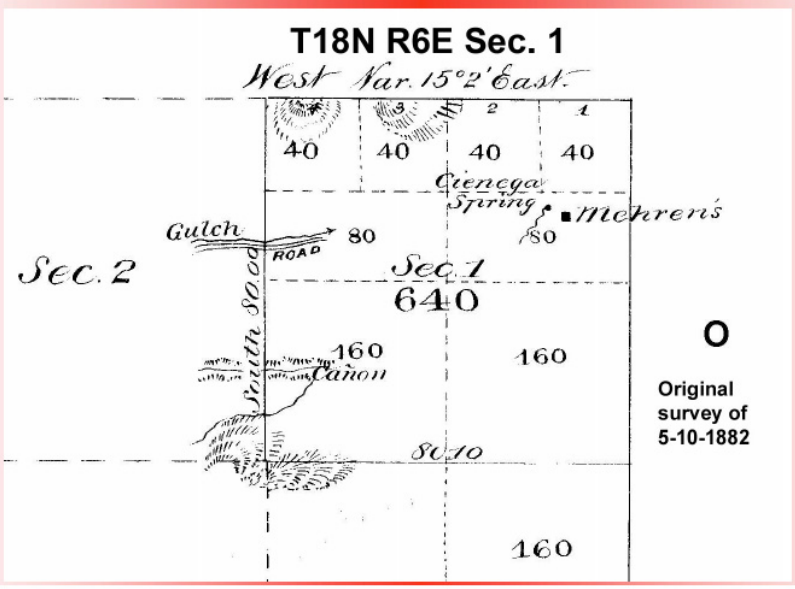


THE sun shone brightly over the hard frozen ground and the frosted vegetation, as we pursued our way along the foot of the mountains, up and down the hills connected with the mountain chain; and we had not gone many miles before our attention was powerfully attracted by a row of cottonwood trees; and on coming nearer we discovered the dry bed of a stream that appeared to proceed from the mountains. Some closely-growing willows that we saw in a ravine led us to infer the neighbourhood of water; and we accordingly turned the steps of our mules in that direction.

As we rode through the long withered grass that covered an opening in the wood, we suddenly came in sight of a numerous flock of wild turkeys, which, startled at our approach, were running at a great rate towards a hiding-place. The shots fired among them were eminently successful; but when several of them fell, the rest spread their wings and flew away as fast as

they could. The birds killed had fallen in the neighbourhood of water that gushed out of the ground over an area of some acres in extent, and turned it into a kind of marsh, with occasional pools; only at one place did it flow bright and clear, towards the above-mentioned bed, and was there lost again after a short course. The turkeys we had shot suggested a name for the newly-discovered spring, which was forthwith entered in everybody's journal as Turkey Spring. At the place where we watered our cattle, and where natives appeared to have encamped only a few days before our arrival, we filled our leathern flasks; and then, after a short rest, continued our journey. By our visit to Turkey Spring we had got deeper into the mountains, which much increased the difficulty of our progress. The heights that we had to cross were more abrupt, the ravines deeper, and as the chain of mountains ran in an easterly direction, and we had not changed our course, we were soon surrounded by them, though those lying towards the east might certainly rather be called hills.





The Federal survey notes for sites 1 and 2 follow. Also see the original survey map for T18N R5E shown previously in this report.

Note 1

From the cor. of secs. 29, 30, 31 and 32,
S.0°3'E., on a random line, bet. secs. 31 and 32.
40.00 Set temp. ¼ sec. cor.
77.92 Intersect the reestablished cor. of secs. 31 and 32, on the S. bdy. of Tp., hereinbefore described.
Thence
N.0°3'W., bet. secs. 31 and 32.
Over rolling land, through heavy timber and dense undergrowth.
Desc. gradually.
28.86 Wash, course E.
31.72 Road, brs. E. and W.
37.92 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap

¼
S31 | S32
1918

From which
A cedar, 12 ins. diam., brs. East
7 lks. dist., marked ¼S32 BT.
A cedar, 12 ins. diam., brs. N.83½°W.,
9 lks. dist., marked ¼S31 BT.
A sandstone boulder, 1 X 2 X 3 ft. above ground, marked Cross (X) on top, brs. S.35°E., 22 lks. dist.
Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
69.00 Ditch from Cienega Spring, course NE.
69.15 Stream of water from Cienega Spring, 2 lks. wide, course NE.
71.00 Road, brs. NE. to Seligman and SW. to Cienega Spring.
77.92 The cor. of secs. 29, 30, 31 and 32.
Land, rolling.
Soil, fine and black, covered with malpais rocks, 3rd rate.
Timber, cedar and pinion.
Undergrowth, scrub oak, young cedar and buck brush.

Note: 1 link of survey chain = 0.66 ft.

Note 2

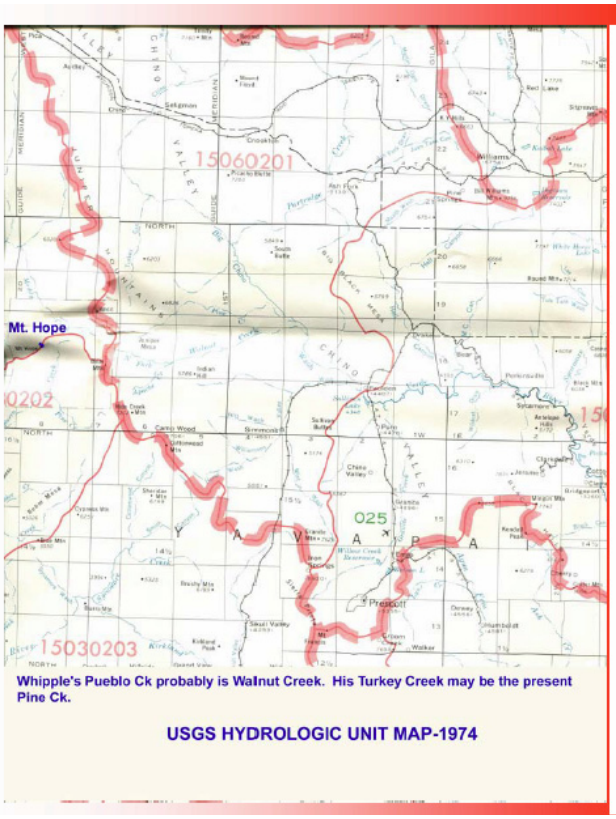
From the cor. of secs. 28, 29, 32 and 33,
West on Sectional Correction Line, bet. secs. 29 and 32.
Over rolling land, through heavy timber and dense undergrowth.
0.70 Wash, course NE.
19.20 Same wash, course SE.
28.10 Same wash, course NE.
40.00 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for ¼ sec. cor., marked on brass cap

S29
¼ S32
1918

From which
A cedar, 10 ins. diam., brs.N.20¾°E.,
28 lks. dist., marked ¼S29 BT.
A cedar, 6 ins. diam., brs. S.79½°W.,
18 lks. dist., marked ¼S32 BT.
67.90 Stream of water from Cienega Spring, 2 lks. wide, course N.
68.10 Road, brs. N. to Seligman and S. to Cienega Spring.
80.00 Set an iron post, 3 ft. long, 2 ins. diam., 24 ins. in the ground, for cor. of secs. 29, 30, 31 and 32, marked on brass cap

T19N | R5W
S30 | S29
S31 | S32
1918

From which
A cedar, 12 ins. diam., brs. N.7°E.,
17 lks. dist., marked T19N R5W S29 BT.
A cedar, 20 ins. diam., brs. S.31°E.,
30 lks. dist., marked T19N R5W S32 BT.
A cedar, 14 ins. diam., brs. S.25½°W.,
18 lks. dist., marked T19N R5W S31 BT.



Whipple's Pueblo Ck probably is Walnut Creek. His Turkey Creek may be the present Pine Ck.

USGS HYDROLOGIC UNIT MAP-1974

January 17 (cont.)--As we proceeded about three miles from south to southwest we encountered another stream, somewhat larger than the last, flowing through a fine valley towards the southeast. We ascended its left bank two miles . Here two branches formed a fork, within which was a smooth grassy hill about 50 feet high. Upon the top were the remains on an ancient pueblo. It commanded a fine view.

Walnut Creek (Pueblo Creek)

Walnut Creek Yavapai Co. U. S. G. S. Map, 1923. Rises east side Santa Maria mountains, flows northwest into Chino creek near Fritchie, in T. 18 N., R. 3 W. "In early days this stream was lined with fine walnut trees. This is a regular stage station on Prescott-Mohave road, kept by Ed Soholey. There was a P. 0. in 1880 with M. B. Cullenber, P. M." Hinton. Whipple, in 1853, called this Pueblo creek because of the numerous prehistoric ruins along the stream. See Aztec pass. (AZ Place Names)

After leaving Turkey Creek Mr. Moellhausen wrote the following about Pueblo Ck.:

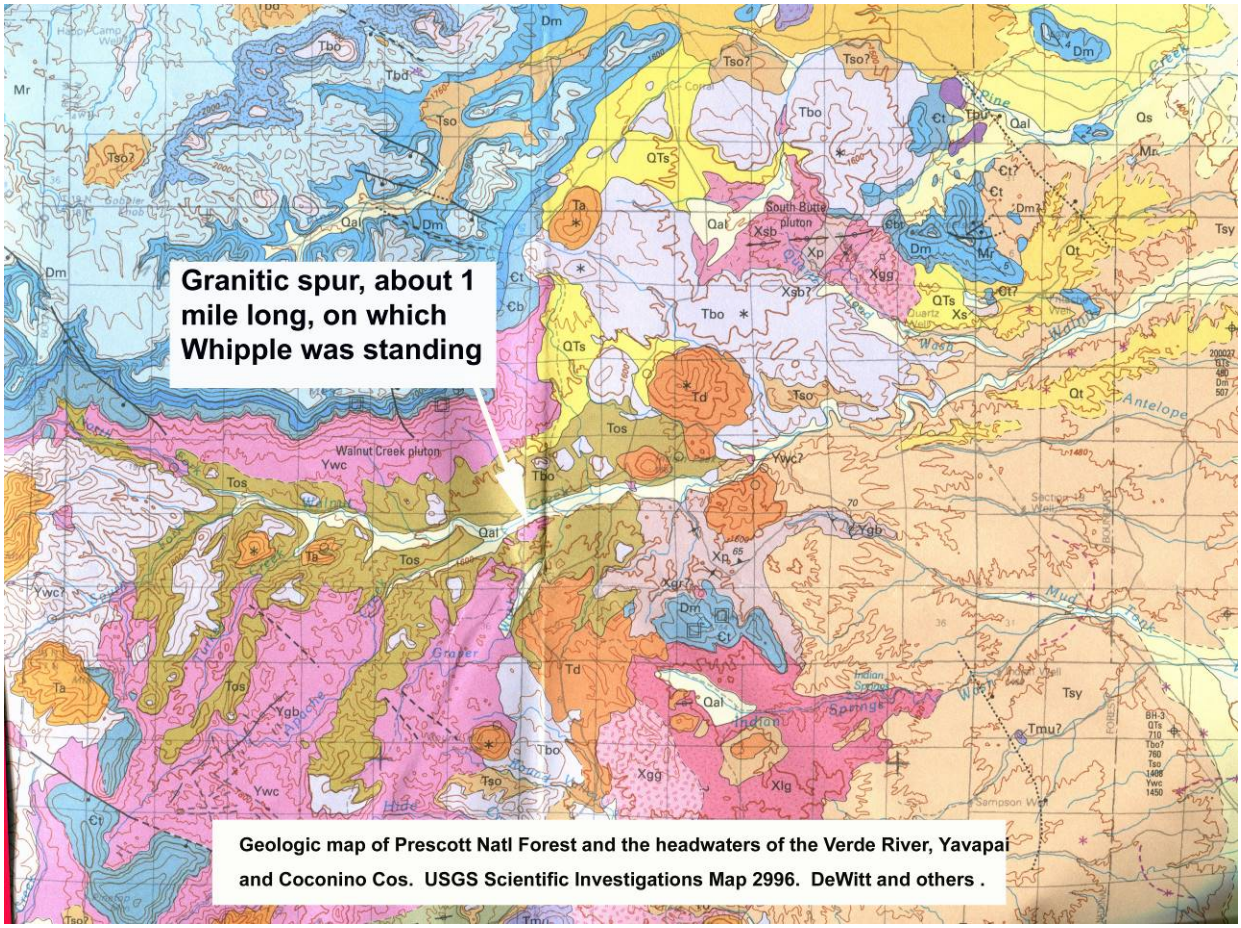
We came to another row of leafless cotton-wood trees, but this time not on the banks of a dry river bed, but, to our great satisfaction, by a swiftly running stream; and as it must have made a long course from the mountains, it seemed very possible that its valley might be the pass for which we had been seeking so long. • • •

• • • • for the Pueblo Creek watered a charming little valley, that, by its situation and its fertility, might well have tempted the former inhabitants of these ruins to plant a town in it.

We crossed the Pueblo Creek, whose breadth varies here from ten to twenty-five feet, and sought on its southern bank for a path into the mountains, in the hope that, by keeping to the south, we should discover some valley or pass by which the chain was broken.

January 17.—Continuing our march, we passed a spur of granitic hills, and in two miles southwest struck a clear and rapid stream flowing southeast. Its banks were lined with rushes, and a basin-like valley was covered with a thick growth of timber—cotton-wood, walnut, and ash. A large flock of turkeys was hunted in the grove, and one killed. This suggested the name which was given to the stream, "Turkey creek." Here were huts and trails, and stone ovens where mezcal had been recently baked; seeming to indicate a near approach to the winter homes of Indians. As we proceeded, about three miles from south to southwest we encountered another stream, somewhat larger than the last, also flowing through a fine valley towards the southeast. We ascended its left bank two miles. Here two branches formed a fork, within which was a smooth grassy hill about fifty feet high. Upon the top were remains of an ancient pueblo. It commanded a fine view. Above was a wide bottom-land, bearing faint traces of former cultivation, although now partly covered with a beautiful grove of ash trees. Below, timber of walnut and oak fringed the stream, rendering the spot a pleasant site for a settlement. Upon each side flowed a clear sparkling rivulet, forming the delta of the valley. One appeared to come from the southwest, taking its source in the region of Mount Hope. The other proceeded from the west, and seemed to divide, by a narrow gap, the range of stratified mountains north, from the pile of volcanic-looking peaks that could be traced thence southwestwardly to Mount Hope. Although other mountains overlapped, the quick eye of Mr. Campbell at once marked those features as promising a passage through the range. We then noted the course of the streams, and the spurs of hills that bounded the valley below. We saw where the ridge became less, probably forming an entrance for Turkey creek; and where some six miles distant it disappeared, allowing Pueblo creek to unite with Partridge creek, in Val de China. There was a possibility that this valley, having collected its affluents, might yet break through the Sierra near the Black mountain, some twenty miles south, and, forming the headwaters of Bill Williams' fork, flow towards Rio Colorado. To decide that point, we determined

to continue the reconnaissance farther south. Proceeding to the bottom, with some difficulty we made our way through rank grass and thick willows, about a quarter of a mile, to the right-hand branch. Having forded this, we ascended the bank to a high hill, which overlooked the pueblo. Upon the summit we found a square redoubt, five paces in the clear. The mass of stones forming the walls was six feet thick, and still several feet in height, although in ruins. Broken pottery and obsidian were abundant. Part of an arrow-head of amorphous quartz was found. Before broken it must have been two inches and a half in length. Farther from the river we passed a few deserted huts, constructed most rudely by stretching bark over the broken limb of a tree. Crossing low spurs from the eastern base of the mountains, we continued our exploration south-southwest about six miles, and bivouaced near pools of water that oozed from granite hills. Then, ascending to a high peak, we had a view of Val de China, extending still far towards the southeast. Upon the left was the Black Forest; and upon the right were mountains, which, on account of the ruins found at their base, were called the Aztec range. The slopes all appeared to tend in the direction of that valley, destroying our hopes of reaching the Colorado by any stream that we had crossed. However, near the Black mountain, some twenty miles distant, there seemed to be an overlapping of two ranges, denoting a break in the Aztec chain, and the probability of a good passage through it. But the time which its examination would cost us, we could not now afford to lose; and much as we desired to make that reconnaissance, it was deemed better to return to Pueblo creek, and first explore that stream to its source. It is evident that if we can find a passage to the western slope of this mountain range, we must discover streams flowing into Bill Williams' fork.


Granitic spur, about 1 mile long, on which Whipple was standing
Geologic map of Prescott Natl Forest and the headwaters of the Verde River, Yavapai and Coconino Cos. USGS Scientific Investigations Map 2996. DeWitt and others .

January 18.—Turning back, we reached the old pueblo. It being a good place for camping, we sent back to Picacho, with orders to Lieutenant Ives to bring the train to this place, determining meanwhile to explore for a pass westward through the Aztec range. Pursuing the main fork, seven or eight miles, we encamped near the headwaters of the creek, where grass and wood were abundant. Before us was a sharp ridge that seemed to close the passage. Mr. Campbell and myself walked to the top, and found ourselves upon the summit dividing the waters flowing west from those of Pueblo creek. The western slope was not steep, but wide and smooth, descending to an open valley that appeared to extend far towards the west-northwest. Upon the right was the abrupt southern termination of the lofty granitic range, from whence came down the low spur, about a mile in length, upon which we were standing. The stream of Pueblo creek passed down a rocky glen, some 500 feet in a third of a mile, to camp; whence to the old pueblo the slope was gradual, probably eighty feet to the mile. But the course was nearly direct, due east; and to the ravine in which it flowed, there was a gradual slope from the foot of the northern mountains, which seemed to have been cut down by some convulsion of nature, in the formation of this passage. Upon that slope, it would not be difficult to select such a line for a railway as, proceeding from Val de China by a spur, could keep a favorable grade at a height that would enable it to pass the summit without a tunnel. The granitic mountain referred to was crowned by variegated red sandstone in horizontal layers; and below it, in the perpendicular cliffs, was seen an immense vein of gold-bearing quartz, fragments of which were scattered through the valley. No gold has been discovered in any of these, but one piece was found to contain a metal which resembled silver.

Turkeys and deer have been plenty since leaving Picacho. We have followed to-day a fresh Indian trail. It passes over the summit westward.

According to Fewkes (1912) the Indians had a system of trails that connected central Arizona to the Colorado River and trails up Pueblo Creek (Walnut Creek) were an important part of this route.

Fewkes' study of the area confirmed that Whipple's Pueblo Creek was the Present Walnut Creek. However, Fewkes (next slide) observed that stream flow of lower Walnut Creek was lost to infiltration before reaching Big Chino Wash. Whipple seemed to imply that Partridge Creek (Big Chino Wash) was perennial/intermittent and there was stream flow from Walnut Creek entering the former.

The following from Fewkes (1912) is a description of Walnut Creek in 1906 and that also supports Whipple's observations.

RUINS ON WALNUT CREEK

Walnut Creek is a small stream the waters of which at times flow into the Chino, but which, on the occasion of the writer's visit, were lost in the sands about 8 miles below old Camp Hualapai. In the report of Whipple's reconnoissance the stream bears the name of Pueblo Creek, from certain "pueblos" on the hills overlooking it, which he described, but the name is no longer applied to it. The ruins of Walnut Creek are of two kinds, one situated on the low terrace bordering the creek, the other on the hilltops. The stream is formed by the junction of two branches and the valley is continuous from Aztec Pass to the point where it merges into Chino Valley.

There is evidence that Walnut Valley had a considerable aboriginal population in prehistoric times. A number of forts and many remains of settlements strewn with pottery fragments and broken stone artifacts were found. Here and there are mounds, also irrigation ditches and pictographs.

A few years ago Walnut Valley had a number of white settlers and a post office,[1] but the families have now dwindled in number to three or four, and the place is characterized chiefly by abandoned houses. Camp Hualapai is deserted, the adobe houses shown in the accompanying illustration (pl. 92) being almost the only reminder of its former existence.

Historical Account

Whipple was the first to mention the numerous ruins ("pueblos" and forts) and other evidences of a former aboriginal population in Walnut Creek Valley. Subsequent to his visit no new observations on them appear in published accounts of the ruins of Arizona, and no archeologist seems to have paid attention to this interesting valley, a fact which gave the author new enthusiasm to visit the region and inspect its antiquities. These seemed of special interest, as Whipple's account was inadequate as a means of determining their relations with other aboriginal ruins in the Southwest. Who built the

January 20.—The morning was bright, but cold and windy. Continuing down the creek for a mile and a half, we came to an affluent not before referred to. It was from the southwest, and nearly the size of the main stream. Above, as well as below this junction, the valley we traversed was rocky, and in one place too much so to admit of the passage of wagons without ascending some distance upon the mountain slope. Having continued the descent to the pueblo, we encamped to await the train. A person was sent to make signal-smokes from a high point of the ridge, which here bounds the valley, and found upon the summit the dilapidated walls of a tower. The ground-plan was an ellipse, with axes twenty-five and fifteen feet, partitions dividing it into three apartments. The walls must have been large, as they yet remained five feet in height, and six feet wide. The hill is two hundred and fifty feet above the river. This has been the coldest day we have had, the thermometer at noon reading 21° Fahrenheit. The barometer indicated a descent along the bed of the creek of about eighty feet to the mile. These streams seem to be fed by many springs at a higher temperature than that of the atmosphere, inasmuch as no ice has formed upon the surface, even as low down as the pueblo.

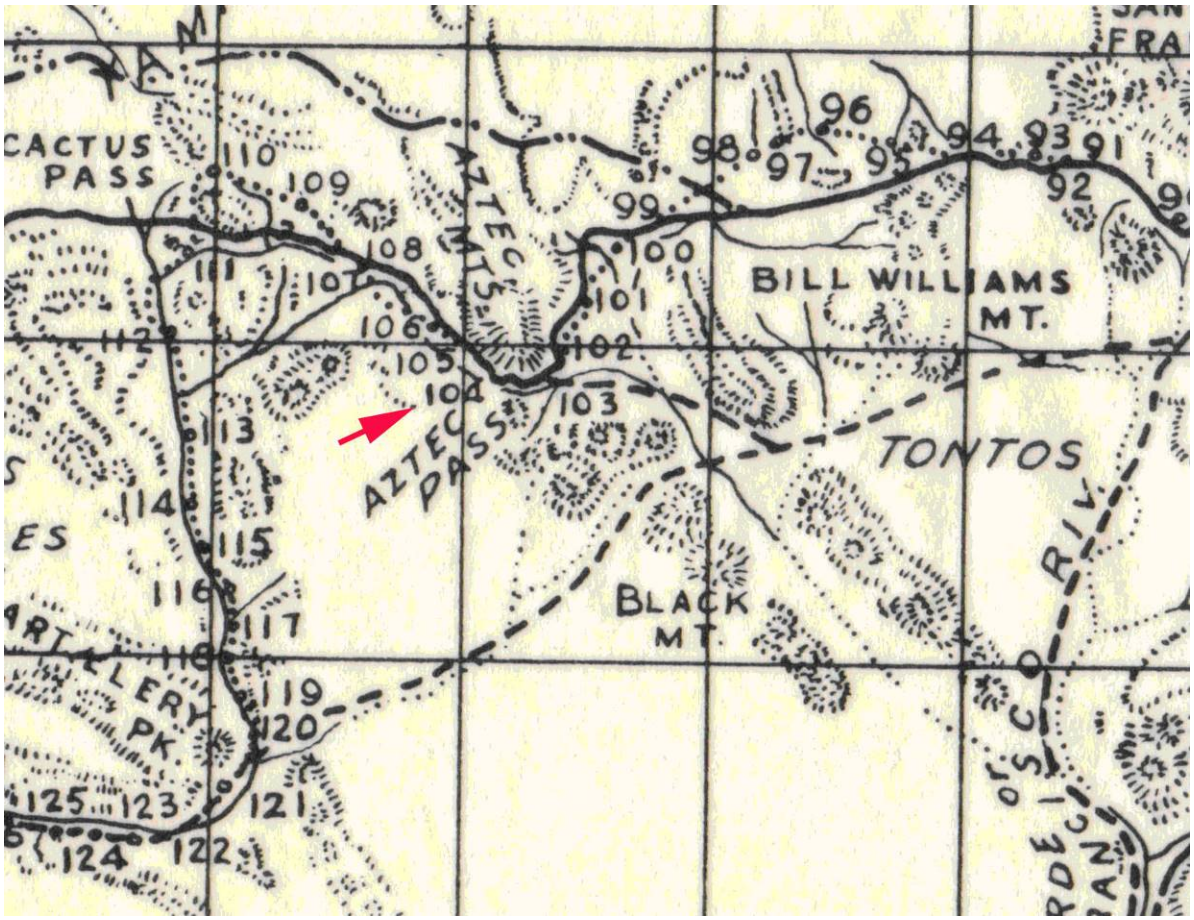
January 21.—The rear party not having yet arrived, two Mexicans were despatched on foot to meet it, and conduct it to us. They were instructed to proceed east of the direct line, where the sloping spurs from the mountains appeared to afford a more favorable passage. A few hours after their departure, Lieutenant Ives, with the train, arrived. He had left Picacho on Thursday, having seen our signal-smoke upon the evening previous. During the storm of that day he crossed the great valley to the entrance among the cedars, where the men we had

first sent met him. The next day the survey was carried on as far as Turkey creek. On the way the guide became bewildered, and led the train over rough and rocky ground up a wrong arroyo. It was obliged to go back several miles. One wagon was broken and abandoned. From Turkey creek to this place, four miles, it was necessary to cut away cedars and cross a ridge of hills, but no further difficulty was experienced. The two Mexicans sent on foot this morning for the train have to-night returned. They walked to the wagon-camp of night before last, (No. 101,) upon the edge of the China valley, finding among the low hills an excellent wagon route. Water was found in Partridge creek, several miles below Picacho spring.

(Partridge Ck apparently is the present Big Chino Wash)

It has been already remarked that, at the old pueblo, two branches unite to form the stream that flows eastward to join Partridge creek. That which comes from the southwest has been explored to-day. It is but a small brook, which takes its rise among high hills at the foot of Mount Hope.

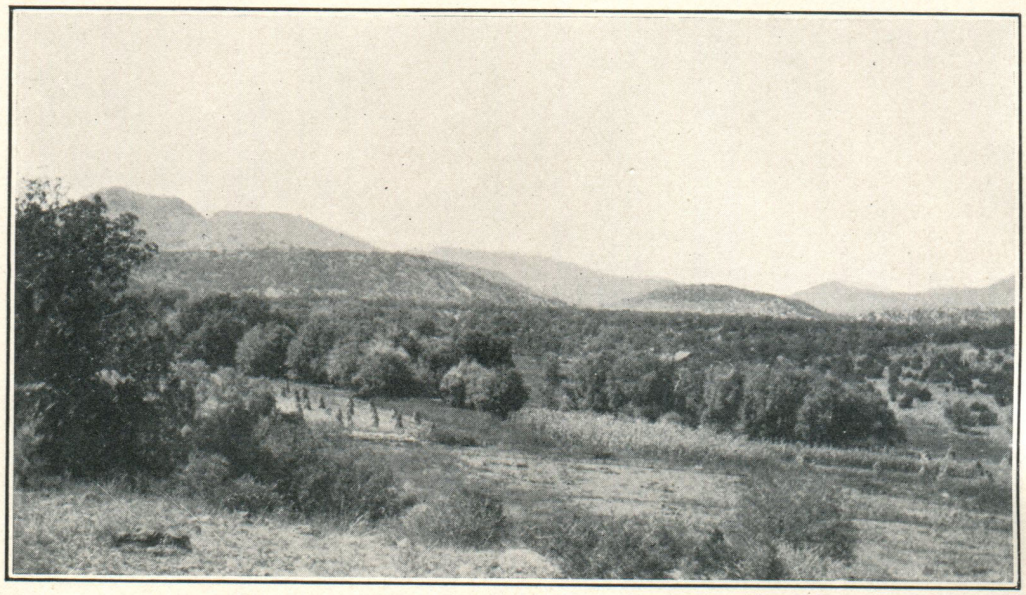
So it's clear that during the winter Whipple says both Partridge Creek (Big Chino Wash) and Pueblo Creek (Walnut Creek) were flowing and joined to form the present Big Chino Wash. Knowing the sediment along Big Chino Wash below Pine Creek and along lower Walnut Creek, it seems possible all the base flow could seep beneath the sediments during dry periods of high evapotranspiration. Or, in the absence of direct runoff with below normal precipitation, it's possible the streams were intermittent in a few sandy reaches during summer periods. It's also possible that during typical years the streams were perennial to the Verde River. Thus, It seems safe to say the streams were intermittent or perennial to the Verde River.



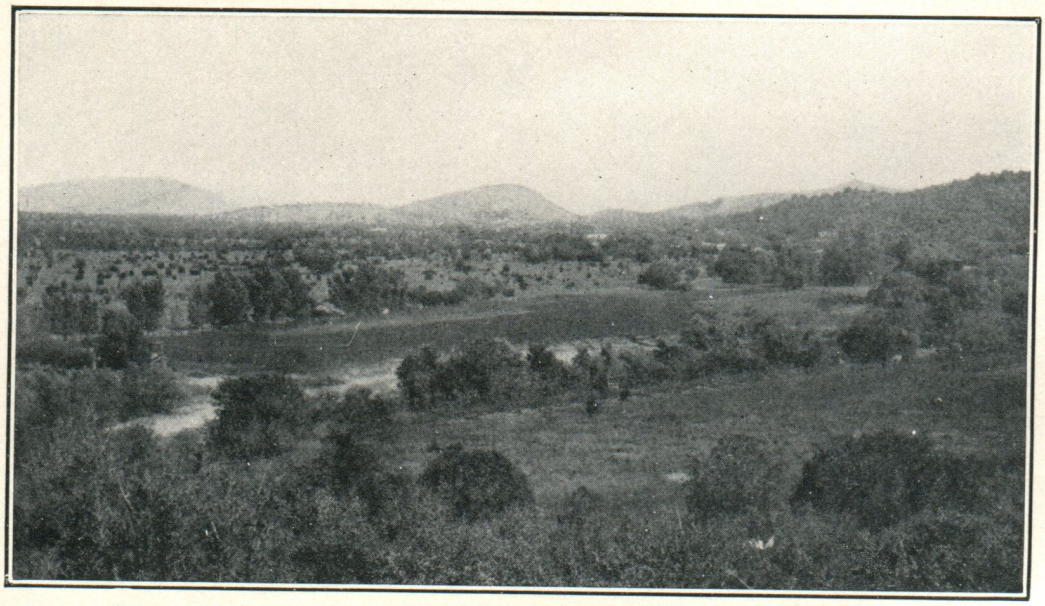
January 22—*Camp* 104.—Striking tents, we followed the creek westward. For the first four miles the road was good. Above, to avoid a rocky ravine, we were obliged to ascend the slope which came down from the foot of the mountain upon our right. That was not difficult; but, in crossing an arroyo, which was rough, two wagons upset, thus creating a long delay. Then, having passed around the narrow gorge, we descended to the banks of the stream, and encamped. The barometer indicates an ascent of 560 feet in seven miles.

The following two photographs that I scanned from my personal book by Fewkes (1912) show Walnut Creek in 1906. It's important to realize that several settlers had small farms/gardens with diversions from Walnut Creek when these photos were taken. Also, of significant importance with respect to historic accounts of base flow in the area, the original Federal land survey noted on page 36 of book 1690 that there "were several farms under cultivation in the valleys of Walnut Creek" (Omar Case, November 11, 1872).

Obviously, any diversions by early settlers deplete the base flow downstream. Diversions impact the amount of water in streams and there is a lesser amount of water that would be present in the stream had there been no diversions. Thus, the accounts of the streams and Verde River from early settlers around that time frame (post 1860s) do not describe them in the "natural condition."



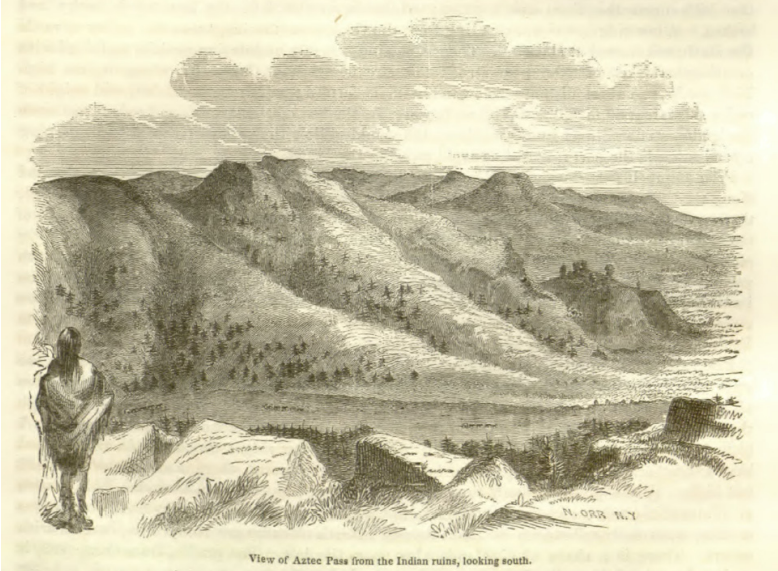
NEAR AINSWORTH'S RANCH



AZTEC PASS

VIEWS IN WALNUT VALLEY

Fewkes, Jesse W., 1912, Antiquities of the Upper Verde River and Walnut Creek Valleys, Arizona: Bureau of American Ethnology, 28th Annual Report, 1906-07, p. 185-220.



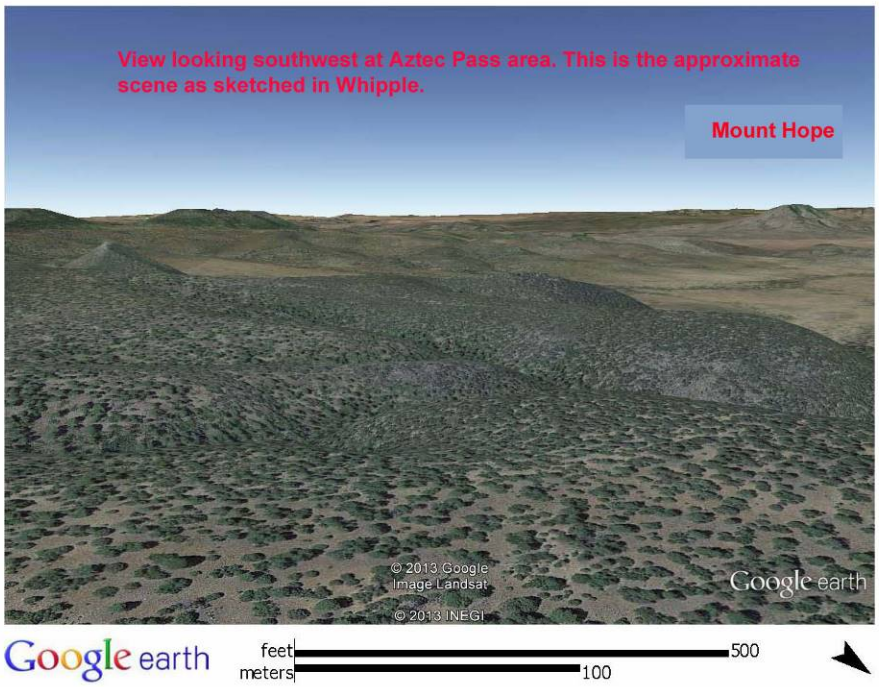
View of Aztec Pass from the Indian ruins, looking south.

Aztec Pass is between Camps 104 and 105. It is upon the top of a low granitic spur, which

seems to connect the northern with the southern portion of the Aztec range. At its junction with the steep slopes of the southern peaks, two water-courses are formed. The eastern falls down a steep ravine, half a mile to the foot of the hill, and then, joined by a ravine from the

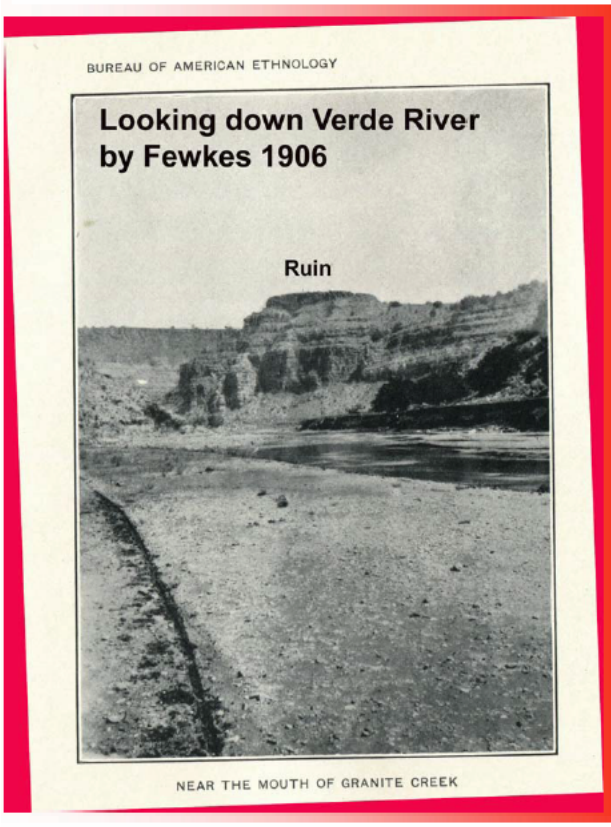
north, forms the head of Pueblo creek. The second follows the gentle slope of a wide and smooth valley towards the west-northwest, and becomes tributary to Williams' river.

(Whipple, A. W., Part II)



Google earth feet 500 meters 100

Verde River below Granite Creek in 1906.



Fewkes, Jesse W., 1912, Antiquities of the Upper Verde River and Walnut Creek Valleys, Arizona: Bureau of American Ethnology, 28th Annual Report, 1906-07, p. 185-220.

AZ Weekly Miner 12/31/1875

ed hair. One mile to the east of Mr. Banghart's, on Granite Creek, is the fine sheep ranch of J. H. Marion, who has the finest flock of 2,200 I have yet seen in Arizona. The yield of wool this year averaged six pounds per head. One mile north-east of Mr. Marion, on the south side of the Verde river, is the most perfect ruins of an old fort I have ever seen in my rambles. It is on the top of a circular hill 500 feet high and almost enclosed by an abrupt and perpendicular ledge of basaltic rock in places from 50 to 100 feet. On the south-east these rocks are much lower, and here and at other places the old ancients had erected a stone wall a foot thick and from 10 to 25 feet high, thus making the fort almost impregnable. The enclosure is 250 feet long north and south, and 150 feet wide east and west, and in this inclosure were nine rock houses.

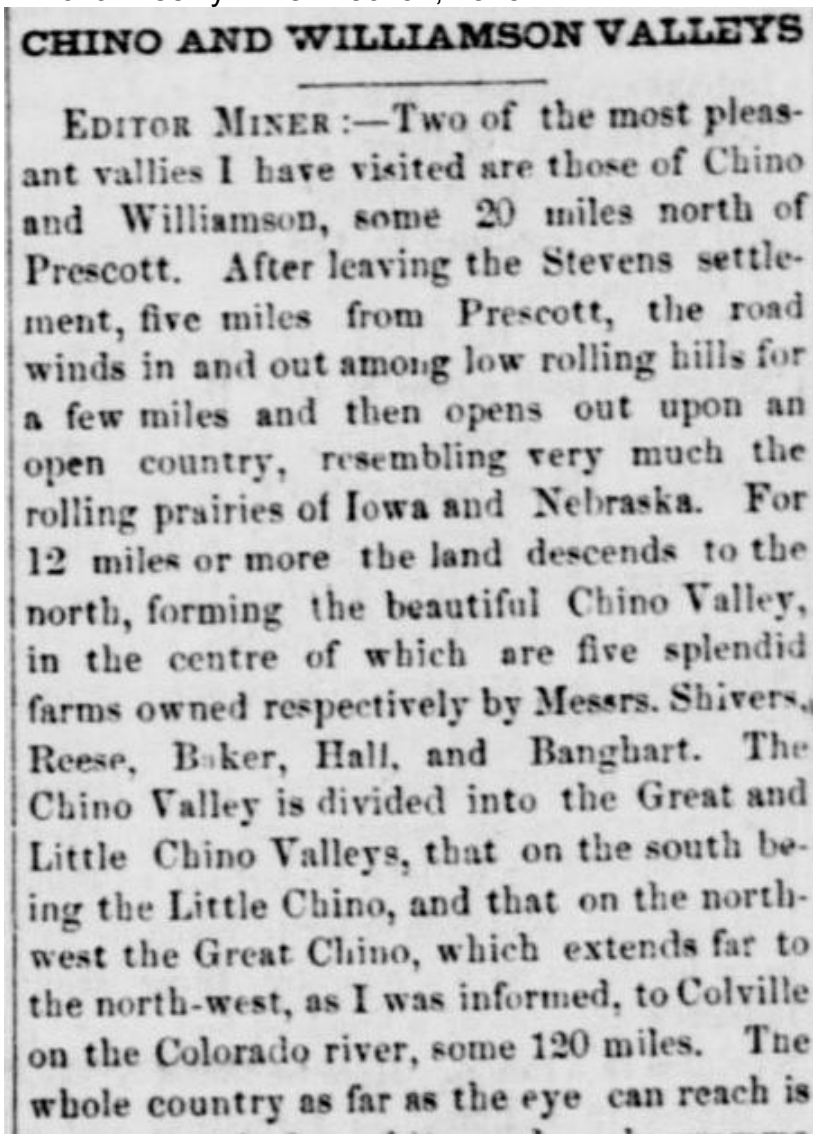
Figure A5. Photograph of ancient fort ruin on bluff overlooking the upper Verde River. Photograph by M. Collier.

Wirt, L., 2005, The Verde River headwaters, Yavapai Count, Arizona *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-CentralArizona: U.S Geological Survey Open-File Report 2004-1411, 33 p.

Williamson Valley Creek

Williamson Valley Yavapai Co. G. L. G. Map, 1921. East slope Santa Marias opening into Chino valley, west of Del Rio. Probably named after Lieut. Williamson of Ives party, 1858. P. 0. called Williamson established Oct. 9, 1873, Mrs. Betsy Zimmerman, P. M. Called Wilson, 1875, q.v. Changed to Simmons on July 5, 1881. (AZ Place Names)

Arizona Weekly Miner Dec. 31, 1875



CHINO AND WILLIAMSON VALLEYS

EDITOR MINER:—Two of the most pleasant vallies I have visited are those of Chino and Williamson, some 20 miles north of Prescott. After leaving the Stevens settlement, five miles from Prescott, the road winds in and out among low rolling hills for a few miles and then opens out upon an open country, resembling very much the rolling prairies of Iowa and Nebraska. For 12 miles or more the land descends to the north, forming the beautiful Chino Valley, in the centre of which are five splendid farms owned respectively by Messrs. Shivers, Reese, Baker, Hall, and Banghart. The Chino Valley is divided into the Great and Little Chino Valleys, that on the south being the Little Chino, and that on the north-west the Great Chino, which extends far to the north-west, as I was informed, to Colville on the Colorado river, some 120 miles. The whole country as far as the eye can reach is

covered with the white and curly gramma and other grasses, affording excellent pasturage. Mr. Shivers has a herd of 100 cattle, and milks from 15 to 30 cows. Mr. Banghart has 125 and milks 40 cows. Mr. Baker with whom is associated J. G. Campbell of Prescott, in stock, has a large band of brood mares, the finest in the Territory, numbering about 150, besides which the firm own 700 cattle and 2,500 sheep. On the Reese farm are the ruins of old Camp Whipple, and for some months in 1863 4 was the temporary headquarters of the Government Officials, soon after the organization of the Territorial Government.

In and around Chino Valley are many old and interesting ruins of the old pre-historic race, who, no doubt, many hundreds of years since cultivated the rich soil of the Valley.

From Chino to Williamson Valley, which is a south-west arm of the Chino, the distance is 12 miles nearly west. Williamson Valley is the finest grass and hay valley in the Territory, and over 1,000 tons of hay was put up there this year. The climate is cool in winter and in summer is delightful. Over 200 tons of corn was raised there this year. The first stage station of the C. & A. Stage Co. out of Prescott is kept here by W. J. Simmons who is now finishing off a large and commodious house. Mr. A. Zimmerman has a good dairy ranch, and Mrs. Z. has this year made 3,500 pounds of excellent cheese. The Valley contains 24 families, and 36 land claims are located in and around it. A good school has been started here, but not having time to visit it, will have to defer my description to my next visit. In the foot-hills but a few miles from Chino and Williamson Valleys are large quantities of cedar, juniper

Big Chino Valley 1864

The following is a description of the Big Chino Valley located to the west of the "Black Forest" (the present Big Black Mesa) as described by Mowry (Mowry, S., 1864, Arizona and Sonora, Geography, History and Resources, Silver Region of North America; Harpee Brothers Pub., 251p.).

planting. Throughout the whole of Utah irrigation has been resorted to with the greatest success. The soil in Utah, in no place that the writer saw it, could in any way be compared to that of the bottom lands of Arizona. Captain Whipple, in his valuable report of exploration for the Pacific Railroad, published by order of Congress, crossed the upper part of the region alluded to, and which is watered by the Rio Verde and Salinas. He fully sustains me in my remarks on those rich valleys:

"We are in the pleasantest region we have seen since we left the Choctaw country. Here are clear rivulets, with fertile valleys and forest trees. The wide belt of country that borders the Black Forest, and probably extends along the Rio Verde to the Salinas and Gila, bears every indication of being able to support a large agricultural and pastoral population. The valley of the Rio Verde is magnificently wooded with firs and oaks, affording excellent timber. Ancient ruins are said by trappers to be scattered over its whole length to the confluence with the Salinas. We therefore seem to have skirted the boundary of a country once populous, and worthy of becoming so again. Besides the advantages already enumerated, the mountains in this vicinity bear indications of mineral wealth."—Vol. iii., p. 93.

APPENDIX C.—Granite Creek

This appendix presents historic and current information along Granite Creek that is related to the assessment of navigability of the Upper Verde River. The information includes the original Land Surveys, early newspaper accounts, reports by the USBR, USFS and USGS and aerial photographs.

Federal Land Survey maps (plats) with information, such as channel widths, from selected associated survey field notes for the reach of Granite Creek from Prescott to the Verde River are used. The maps and survey notes, when used together, provide valuable morphology, hydrology and hydraulic information for the assessment of navigability for ANSAC. These maps and field notes were obtained from the Bureau of Land Management (BLM) in 2013.

The Department of the Interior, that included the General Land Office (GLO), was created in March 3, 1849. In 1946, the GLO was merged with U.S. Grazing Service to form the Bureau of Land Management (BLM) in the Department of the Interior. In the process, BLM became the custodian of the official land records of the United States.

The natural Granite Creek was perennial until it left the bedrock area near the southern edge of Little Chino Valley roughly north of section 1 T14N R2W. It also was perennial north of about section 36 T17N R2W. Across Little Chino Valley streamflow seeped into the stream sediments as groundwater and was perched above the underlying basin fill (Pool and others 2011). There may have been seasonal perennial flow across the valley but the evidence suggests the Granite Creek was both seasonally and spatially intermittent. Of importance for this study of navigability is the fact that there was a supply of water throughout a typical year that was above the basin fill and that reached the natural Verde River.

Pool, D.R., Blasch, K.W., Callegary, J.B., Leake, S.A., and Graser, L.F., 2011, Regional groundwater-flow model of the Redwall-Muav, Coconino, and alluvial basin aquifer systems of northern and central Arizona: U.S. Geological Survey Scientific Investigations Report 2010-5180, 101 p.

Most of the following is from the U. S. Bureau of Reclamation, *1946, Chino Valley Project, Project planning report no. 3-8b.9-0, 115p. (Material is scanned into computer and has not been edited) Win Hjalmarson 1999*

Granite Creek: The first known attempt to utilize the waters of Granite Creek for purposes of irrigation was made in about 1866. Various small tracts were brought under irrigation after that time but the first organized attempt at large scale development was made by the Arizona Land and Irrigation Company, forerunner of the present Chino Valley Irrigation District.

Willow Creek: Development along this stream paralleled that along Granite Creek. The construction of the Willow Creek reservoir in 1937 was the first major development.

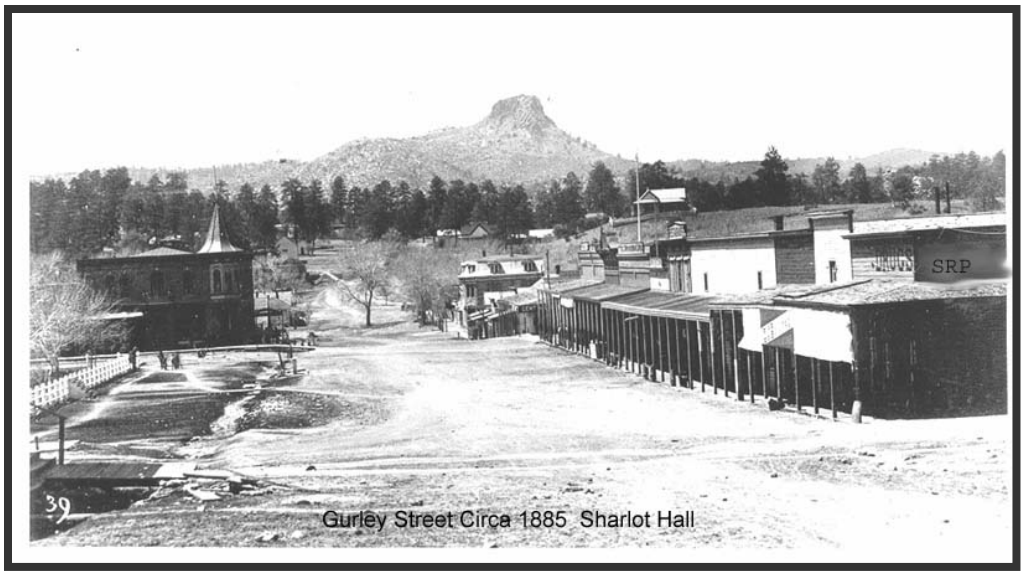
Verde River: The first known attempt of white men to utilize the waters of the Verde River for irrigation purposes was made in 1865 when a group of pioneers established a settlement on the Verde River near Clear Creek. Development progressed continuously since that time, until the completion of the Bartlett Dam for the Salt River Valley Water Users Association in 1939.

Run-off Characteristics

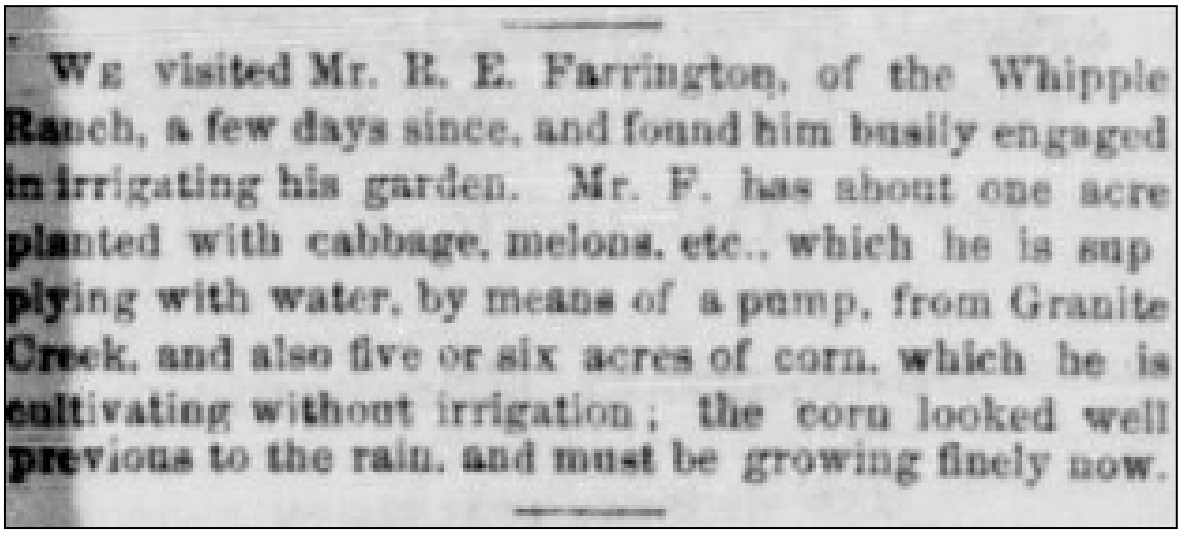
Granite Creek: Granite Creek may be classified as being normally an interrupted stream, being perennial in its upper reaches and intermittent in its lower stretches until about one mile above its confluence with the Verde River when it becomes perennial due to the effluence of ground water. The normal flow of the stream is very small, but comparatively high sustained floods frequently occur during the months of February and March when melting snows on the higher elevations of the watershed augment the normal flow. During the summer months of July and August scattered thundershowers with a high intensity of precipitation and of short duration frequently occur on the watershed. Run-off resulting from these storms is often heavy, but localized and brief.

Willow Creek: Prior to the construction of the existing reservoir on Willow Creek this was an intermittent stream with a very small perennial flow, in its lower reaches, which was augmented from time to time by spring run-off and summer rains in the same manner as Granite Creek.

SOURCE: Chino Valley Project, Bureau of Reclamation, U. S. Dept. of Interior, Project Planning Report No. 3-8b.9-0. April, 1946.



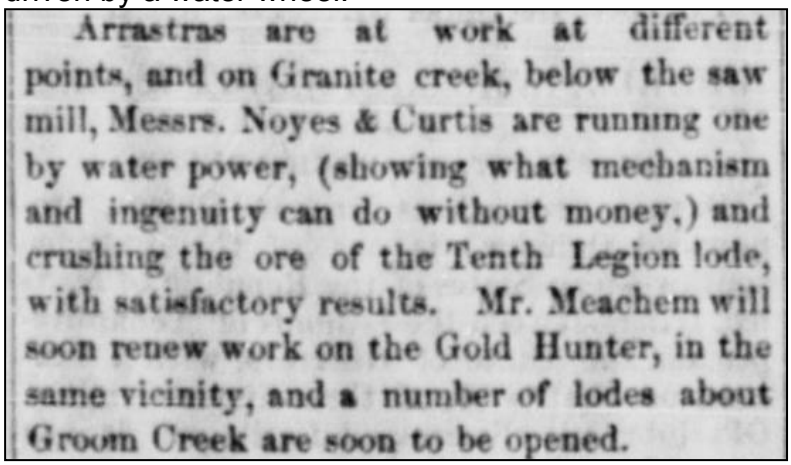
An example of a small pump from Granite Creek. Also, cultivation without irrigation.



We visited Mr. R. E. Farrington, of the Whipple Ranch, a few days since, and found him busily engaged in irrigating his garden. Mr. F. has about one acre planted with cabbage, melons, etc., which he is supplying with water, by means of a pump, from Granite Creek, and also five or six acres of corn, which he is cultivating without irrigation; the corn looked well previous to the rain, and must be growing finely now.

Arizona miner. (Fort Whipple, Ariz.) 1864-1868, July 20, 1864,

An **Arrastra** is a primitive mill for grinding and pulverizing (typically) gold or silver ore driven by a water wheel.

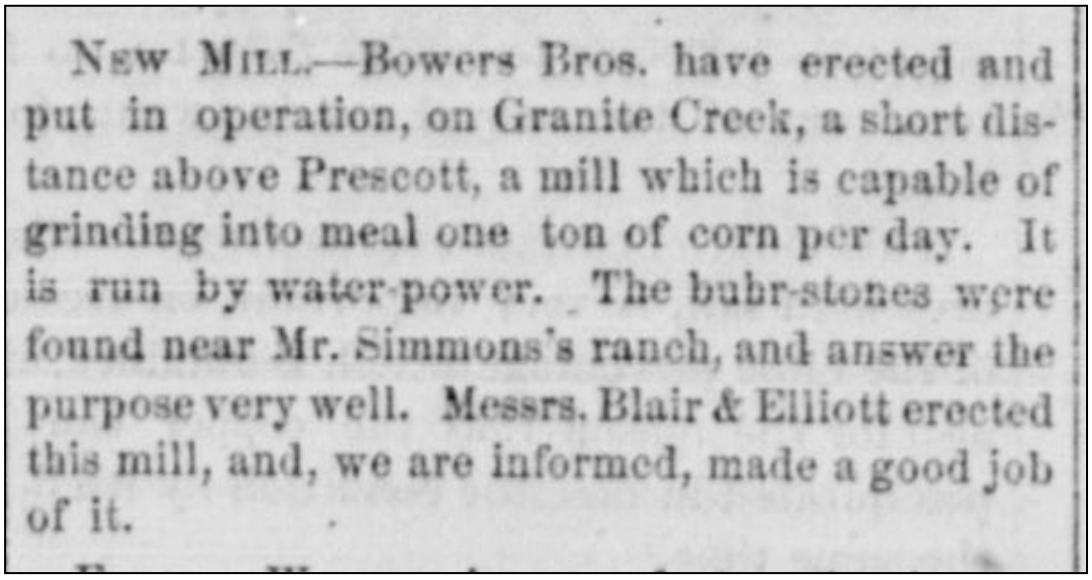


Arrastras are at work at different points, and on Granite creek, below the saw mill, Messrs. Noyes & Curtis are running one by water power, (showing what mechanism and ingenuity can do without money,) and crushing the ore of the Tenth Legion lode, with satisfactory results. Mr. Meachem will soon renew work on the Gold Hunter, in the same vicinity, and a number of lodes about Groom Creek are soon to be opened.

Arizona miner. (Fort Whipple, Ariz.) 1864-1868, June 13, 1866,

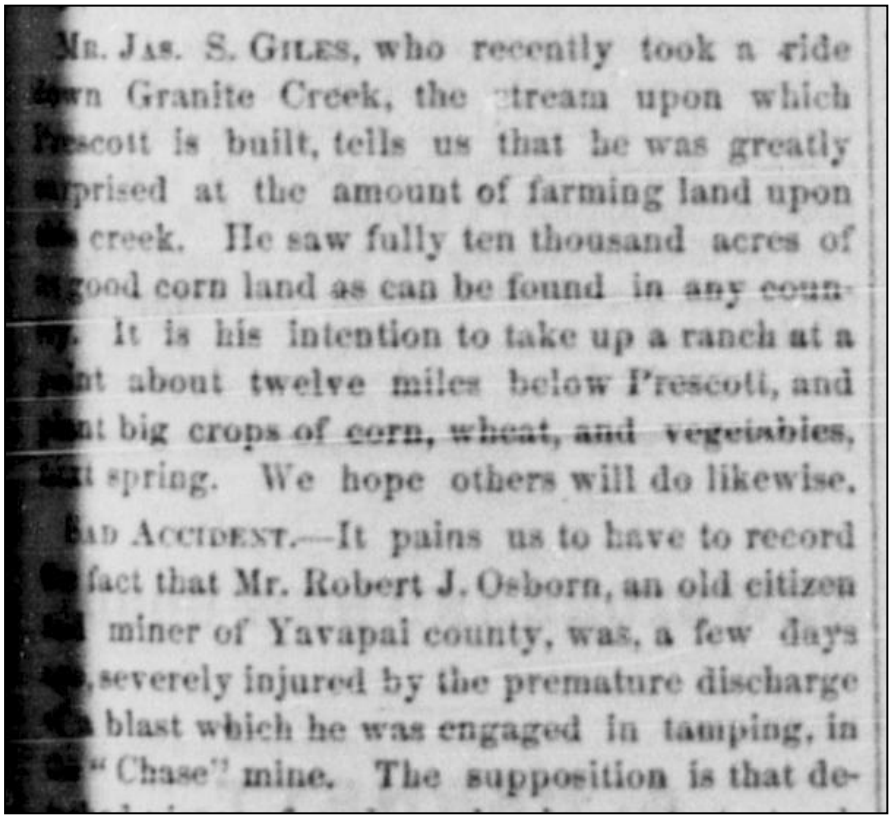
There was enough base runoff for a Grist Mill upstream of Prescott. There were other mills for grinding to concentrate ore. There was also a Grist Mill at Del Rio Springs.

For a mill to be successful, the quantity of flow and the natural uniformity of flow are important, particularly in the summer time. The success of a mill implies natural storage of sufficient size to yield a sufficient uniform quantity of water to power the mill at nearly all times. Therefore, the powering of a grist mill and arrastras on Granite Creek a short distance above Prescott implies a good-steady base runoff.



NEW MILL.—Bowers Bros. have erected and put in operation, on Granite Creek, a short distance above Prescott, a mill which is capable of grinding into meal one ton of corn per day. It is run by water-power. The buhr-stones were found near Mr. Simmons's ranch, and answer the purpose very well. Messrs. Blair & Elliott erected this mill, and, we are informed, made a good job of it.

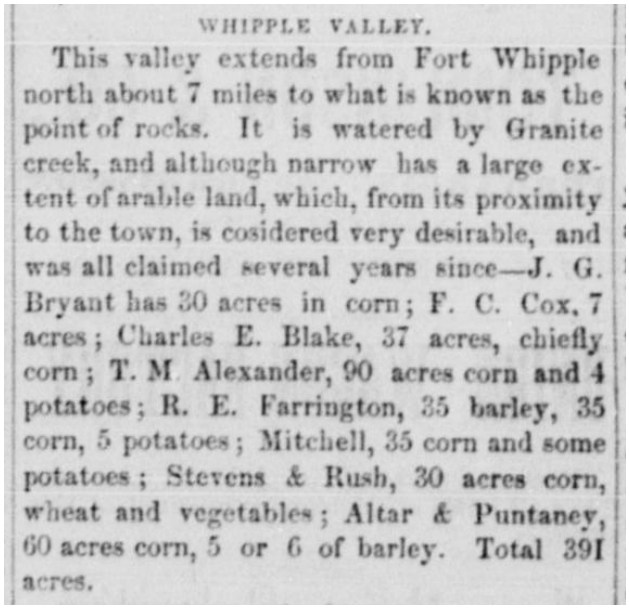
Arizona miner. (Fort Whipple, Ariz.) 1864-1868, December 21, 1867,



Mr. Jas. S. Giles, who recently took a ride down Granite Creek, the stream upon which Prescott is built, tells us that he was greatly surprised at the amount of farming land upon this creek. He saw fully ten thousand acres of as good corn land as can be found in any country. It is his intention to take up a ranch at a point about twelve miles below Prescott, and plant big crops of corn, wheat, and vegetables, next spring. We hope others will do likewise.

Bad Accident.—It pains us to have to record the fact that Mr. Robert J. Osborn, an old citizen and miner of Yavapai county, was, a few days ago, severely injured by the premature discharge of a blast which he was engaged in tamping, in the "Chase" mine. The supposition is that de-

Arizona miner. (Fort Whipple, Ariz.) 1864-1868, December 28, 1867,



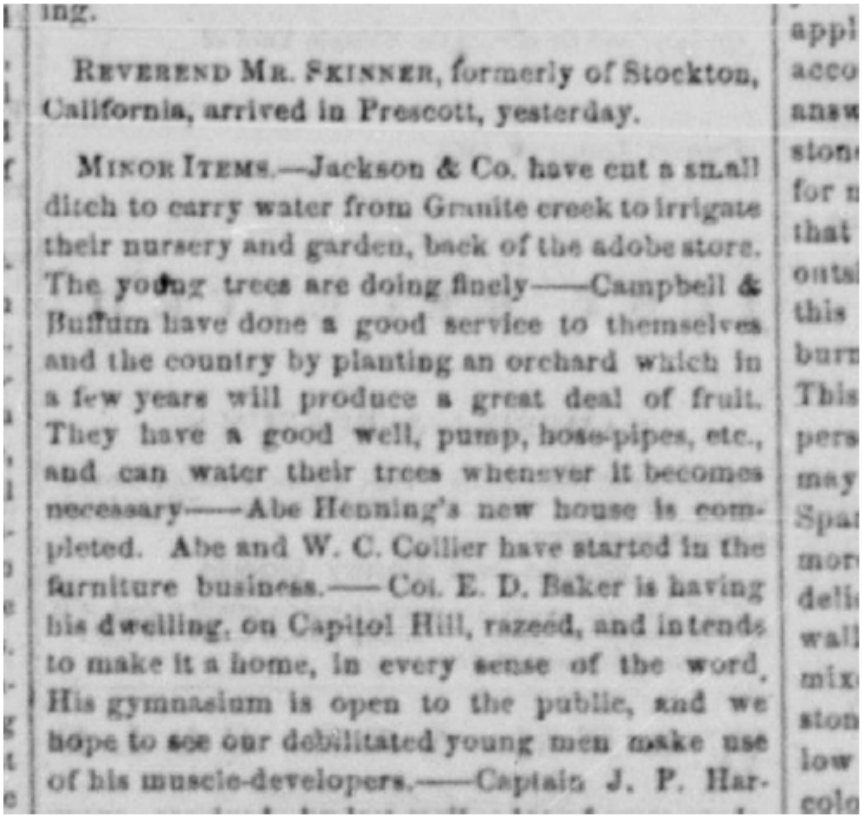
WHIPPLE VALLEY.

This valley extends from Fort Whipple north about 7 miles to what is known as the point of rocks. It is watered by Granite creek, and although narrow has a large extent of arable land, which, from its proximity to the town, is cosidered very desirable, and was all claimed several years since—J. G. Bryant has 30 acres in corn; F. C. Cox, 7 acres; Charles E. Blake, 37 acres, chiefly corn; T. M. Alexander, 90 acres corn and 4 potatoes; R. E. Farrington, 35 barley, 35 corn, 5 potatoes; Mitchell, 35 corn and some potatoes; Stevens & Rush, 30 acres corn, wheat and vegetables; Altar & Puntaney, 60 acres corn, 5 or 6 of barley. Total 391 acres.

Arizona miner. (Fort Whipple, Ariz.) 1864-1868, July 13, 1867,

Small ditch to carry water from Granite Creek to orchard.

The weekly Arizona miner. (Prescott, Ariz.) 1868-1873, May 01, 1869, Image 3

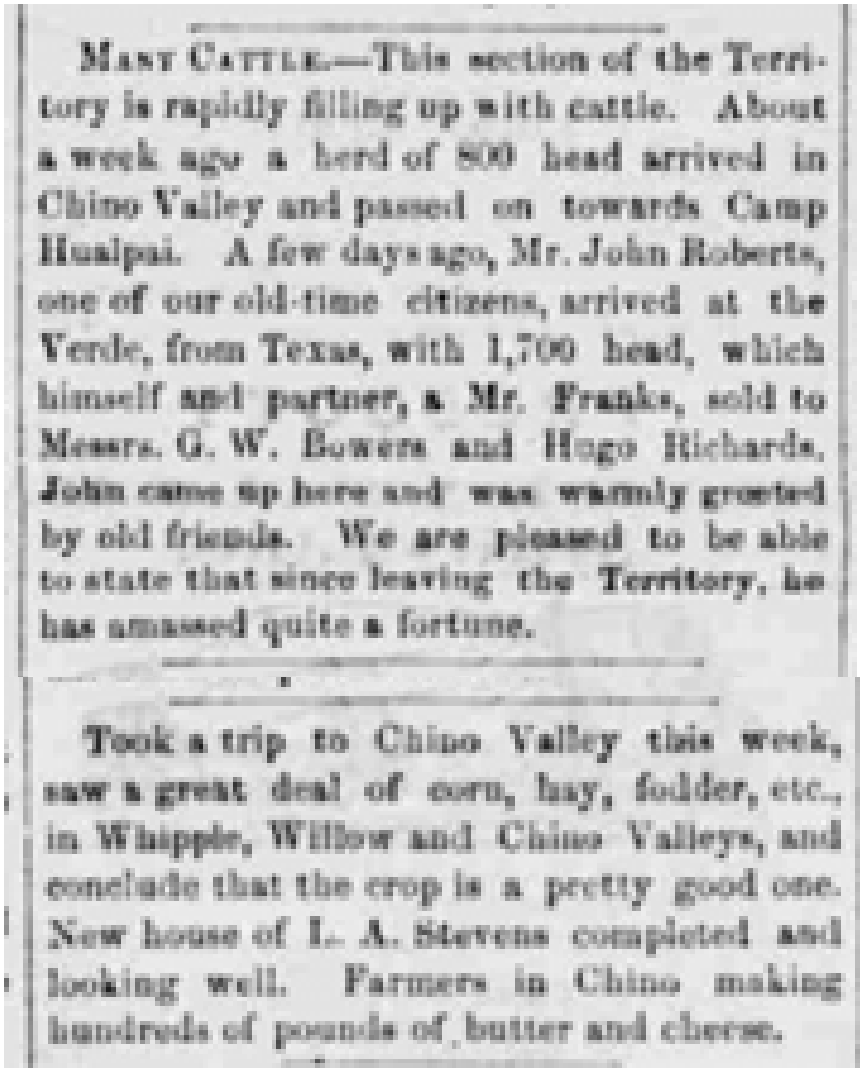


ing.

REVEREND MR. SKINNER, formerly of Stockton, California, arrived in Prescott, yesterday.

MINOR ITEMS.—Jackson & Co. have cut a small ditch to carry water from Granite creek to irrigate their nursery and garden, back of the adobe store. The young trees are doing finely——Campbell & Buffum have done a good service to themselves and the country by planting an orchard which in a few years will produce a great deal of fruit. They have a good well, pump, hose-pipes, etc., and can water their trees whenever it becomes necessary——Abe Henning's new house is completed. Abe and W. C. Collier have started in the furniture business.——Col. E. D. Baker is having his dwelling, on Capitol Hill, razeed, and intends to make it a home, in every sense of the word. His gymnasium is open to the public, and we hope to see our debilitated young men make use of his muscle-developers.——Captain J. P. Har-

Water was diverted from perennial/intermittent streams using low rock dams. Also, shallow wells in the stream sediments (subflow zone) with eventual centrifugal pumps were also used. The first wells in the area typically were shallow hand dug wells of large diameter. In the late 1800's and early 1900's, most wells were along the flood plain of perennial streams in the Verde watershed. Because centrifugal pumps were the type commonly available at that time for lifting large quantities of water, pumping for irrigation generally was in areas of shallow ground water.

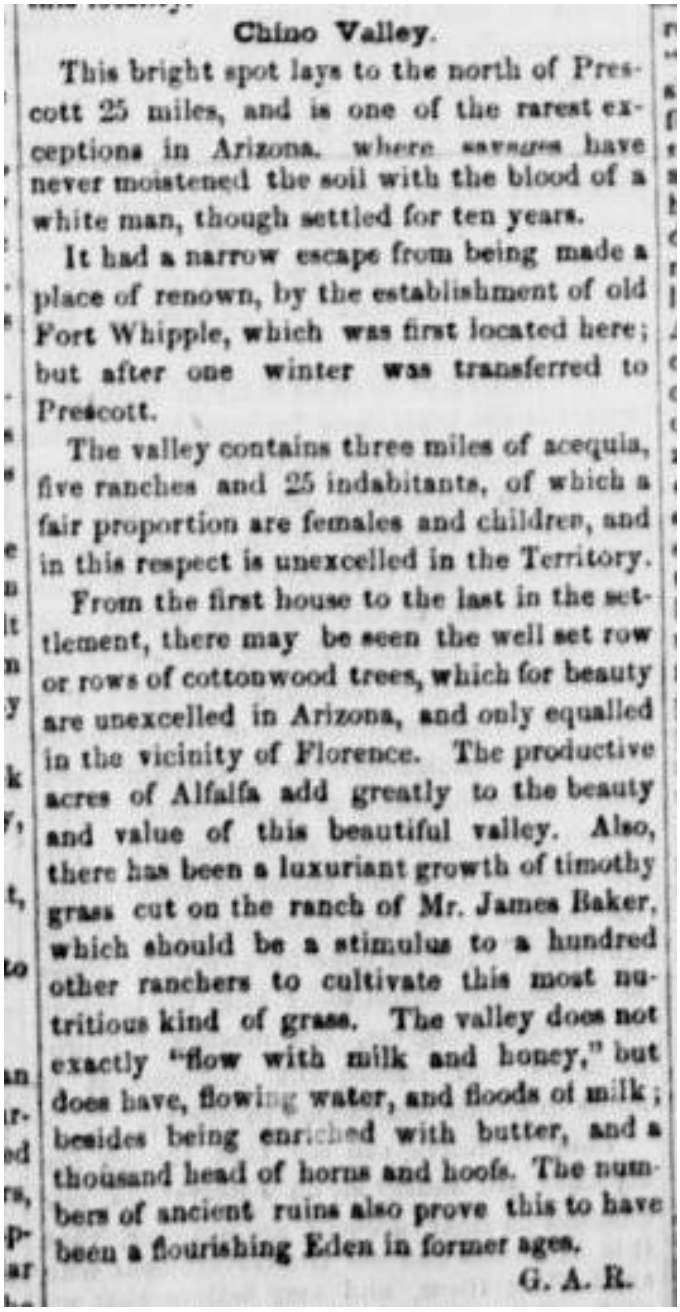


MANY CATTLE.—This section of the Territory is rapidly filling up with cattle. About a week ago a herd of 800 head arrived in Chino Valley and passed on towards Camp Hualpai. A few days ago, Mr. John Roberts, one of our old-time citizens, arrived at the Verde, from Texas, with 1,700 head, which himself and partner, a Mr. Franks, sold to Messrs. G. W. Bowers and Hugo Richards. John came up here and was warmly greeted by old friends. We are pleased to be able to state that since leaving the Territory, he has amassed quite a fortune.

Took a trip to Chino Valley this week, saw a great deal of corn, hay, fodder, etc., in Whipple, Willow and Chino Valleys, and conclude that the crop is a pretty good one. New house of L. A. Stevens completed and looking well. Farmers in Chino making hundreds of pounds of butter and cheese.

WEEKLY ARIZONA MINER: PRESCOTT, NOVEMBER 1, 1873.

“The valley does not exactly ‘flow with milk and honey,’ but it does have flowing water….”



Chino Valley.

This bright spot lays to the north of Prescott 25 miles, and is one of the rarest exceptions in Arizona, where savages have never moistened the soil with the blood of a white man, though settled for ten years.

It had a narrow escape from being made a place of renown, by the establishment of old Fort Whipple, which was first located here; but after one winter was transferred to Prescott.

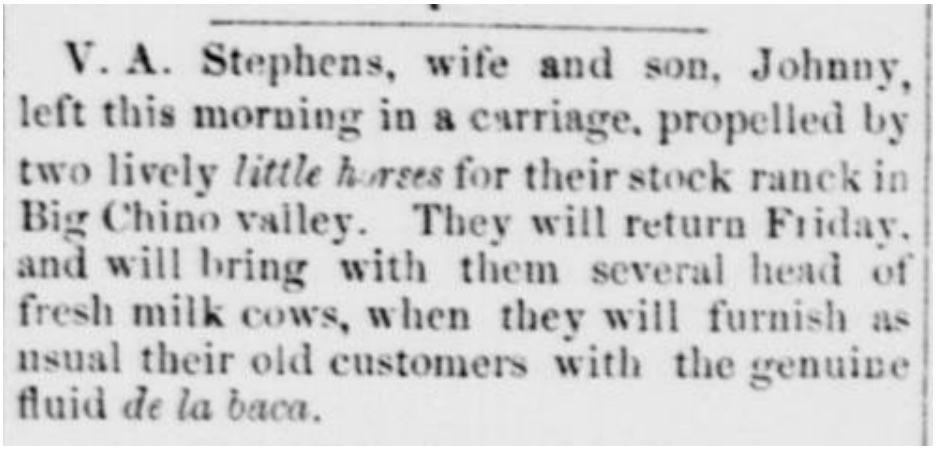
The valley contains three miles of acequia, five ranches and 25 indabitants, of which a fair proportion are females and children, and in this respect is unexcelled in the Territory.

From the first house to the last in the settlement, there may be seen the well set row or rows of cottonwood trees, which for beauty are unexcelled in Arizona, and only equalled in the vicinity of Florence. The productive acres of Alfalfa add greatly to the beauty and value of this beautiful valley. Also, there has been a luxuriant growth of timothy grass cut on the ranch of Mr. James Baker, which should be a stimulus to a hundred other ranchers to cultivate this most nutritious kind of grass. The valley does not exactly "flow with milk and honey," but does have, flowing water, and floods of milk; besides being enriched with butter, and a thousand head of horns and hoofs. The numbers of ancient ruins also prove this to have been a flourishing Eden in former ages.

G. A. R.

Chino Valley-- The weekly Arizona Miner., September 13, 1873

Now this is fresh milk!



V. A. Stephens, wife and son, Johnny, left this morning in a carriage, propelled by two lively *little horses* for their stock ranch in Big Chino valley. They will return Friday, and will bring with them several head of fresh milk cows, when they will furnish as usual their old customers with the genuine fluid *de la baca*.

The weekly Arizona miner. (Prescott, Ariz) 1877-1885, August 31, 1877

CENSUS REPORT.

A bulletin of the Twelfth Census on the "Agriculture of Arizona" contains much matter of interest pertaining to irrigation. Herewith is table No. 19 therefrom:

IRRIGATION DITCHES IN ARIZONA, NOT INCLUDING INDIAN RESERVATIONS.

Counties.	Number ditches.	Length in miles.	Cost of construction.	Acres under ditches.	Acres irrigated in 1899.	Average acres irrigated per mile of canal.
Yavapai	167	298	$ 151,191	22,778	8,730	29
Maricopa	31	442	3,080,000	643,743	109,655	248
Apache	37	80	73,756	15,335	7,372	92
Cochise	36	51	27,561	7,565	4,989	98
Coconino	7	8	9,280	1,359	1,114	139
Gila	40	64	18,767	7,051	3,924	61
Graham	35	138	127,286	29,928	18,297	133
Mojave	34	35	10,670	1,807	1,419	41
Navajo	12	39	127,200	7,645	3,007	77
Pima	42	106	40,340	9,732	8,617	81
Pinal	41	127	521,200	35,281	11,297	89
Santa Cruz	29	40	20,907	5,295	2,562	64
Yuma	8	64	200,000	96,221	4,413	69
Total	519	1492	$4,408,158	883,140	185,396	124

In Yavapai County, of the 167 ditches above given, all are reported as located upon the Verde and its tributaries, with the exception of a dozen or so which irrigate little garden patches on the headwaters of creeks, dry a large part of the year.

Mr. F. H. Newell, Hydrographer of the U. S. Geological Survey, sends us the following information: "Acreage in cultivation on the Verde River in the vicinity of Camp Verde, Cottonwood, Aultman and Cornville, 8,306 acres; Oak Creek, 2,423; Beaver Creek, 725, and Clear Creek, 700 acres. Total, 12,154 acres. Also on Granite and Walnut Creeks in the vicinity of Prescott and Juniper, 431 acres, making in all 12,585 acres." We are positive that Mr. Newell has received erroneous information. We are convinced the maximum acreage irrigated has never exceeded 9,000 acres.

Turney, O. A., 1901, Water Supply and Irrigation on the Verde River and Tributaries, Cleveland Daily Record, 20p.

RECORDED APPROPRIATIONS.

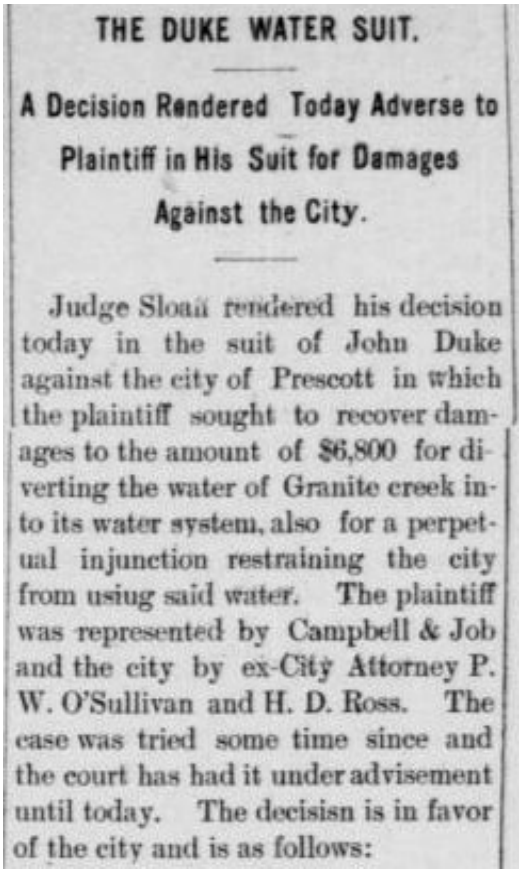
There are other small ditches on other streams emptying into the Verde and on its own head waters, but their value is small. Many of the appropriations on the Verde are not of record; the following in addition to those heretofore given are of record:

ON GRANITE CREEK.

All water of Granite Creek, R. A. Farrington, Jan. 4, 1866; b. 1, p. 8.
All water of Granite Creek and Willow Creeks at Point Rocks, Mar. 27, 1872; b. 1, p. 81.
75 inches, M. H. Yearborn, Aug. 23, 1873; b. 1, p. 87.
800 Peter Marx, Aug. 1, 1873; b. 1, p. 94.
200 J. H. Lee, July 24, 1875; b. 1, p. 155.
500 M. Maur, Dec. 20, 1887; b. 1, p. 446.

Turney, O. A., 1901, Water Supply and Irrigation on the Verde River and Tributaries, Cleveland Daily Record, 20p.

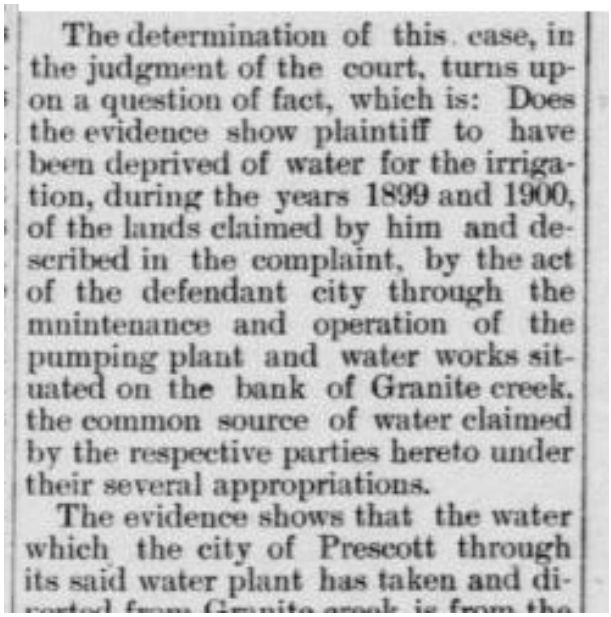
Lawsuits had started and been settled in court as Judge Sloan, for example, had decided against John Duke and in favor of Prescott where Duke claimed Prescott was diverting his water along Granite Creek. So as early as 1899 and 1900 Prescott was accused of "taking" water used for irrigation.



THE DUKE WATER SUIT.

A Decision Rendered Today Adverse to Plaintiff in His Suit for Damages Against the City.

Judge Sloan rendered his decision today in the suit of John Duke against the city of Prescott in which the plaintiff sought to recover damages to the amount of $6,800 for diverting the water of Granite creek into its water system, also for a perpetual injunction restraining the city from using said water. The plaintiff was represented by Campbell & Job and the city by ex-City Attorney P. W. O'Sullivan and H. D. Ross. The case was tried some time since and the court has had it under advisement until today. The decisisn is in favor of the city and is as follows:



The determination of this case, in the judgment of the court, turns upon a question of fact, which is: Does the evidence show plaintiff to have been deprived of water for the irrigation, during the years 1899 and 1900, of the lands claimed by him and described in the complaint, by the act of the defendant city through the mnintenance and operation of the pumping plant and water works situated on the bank of Granite creek, the common source of water claimed by the respective parties hereto under their several appropriations.

The evidence shows that the water which the city of Prescott through its said water plant has taken and di-

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, July 17, 1901

Accession	Names	Date	Doc #	State	Meridian	Twp - Rng	Aliquots	Sec. #	County
AZAZAA 023956	DUKE, JOHN	1/11/1892	419	AZ	Gila-Salt River	014N - 002W	SE¼SE¼	13	Yavapai
						014N - 002W	S½NE¼	24	Yavapai
						014N - 002W	NE¼NE¼	24	Yavapai
AZAZAA 023960	DUKE, JOHN	2/27/1901	17	AZ	Gila-Salt River	014N - 002W	NE¼SW¼	24	Yavapai
						014N - 002W	NW¼SE¼	24	Yavapai

Land Patents in BLM land survey files

Title : John Duke Ranch, Granite Dells Area, Prescott, Arizona, C.1900
Date of Photograph : 1900

Arizona miner. (Fort Whipple, Ariz.) 1864-1868, July 13, 1867, Image 2

ranch, 25 acres in corn and vegetables. Total, 177 acres.

WHIPPLE VALLEY.

This valley extends from Fort Whipple north about 7 miles to what is known as the point of rocks. It is watered by Granite creek, and although narrow has a large extent of arable land, which, from its proximity to the town, is cosidered very desirable, and was all claimed several years since—J. G. Bryant has 30 acres in corn; F. C. Cox, 7 acres; Charles E. Blake, 37 acres, chiefly corn; T. M. Alexander, 90 acres corn and 4 potatoes; R. E. Farrington, 35 barley, 35 corn, 5 potatoes; Mitchell, 35 corn and some potatoes; Stevens & Rush, 30 acres corn, wheat and vegetables; Altar & Puntaney, 60 acres corn, 5 or 6 of barley. Total 391 acres.

GILES' VALLEY.

Original land survey maps (red) along Granite Creek to follow.

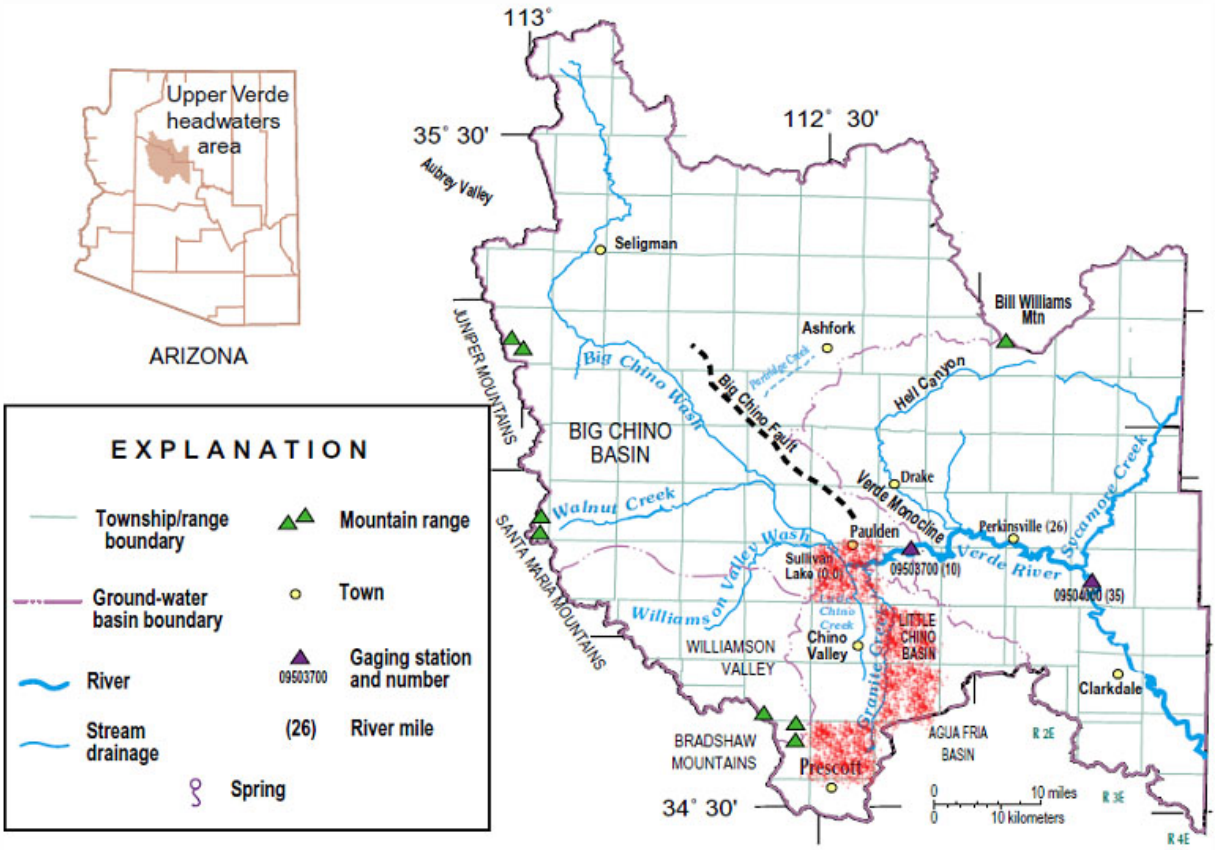
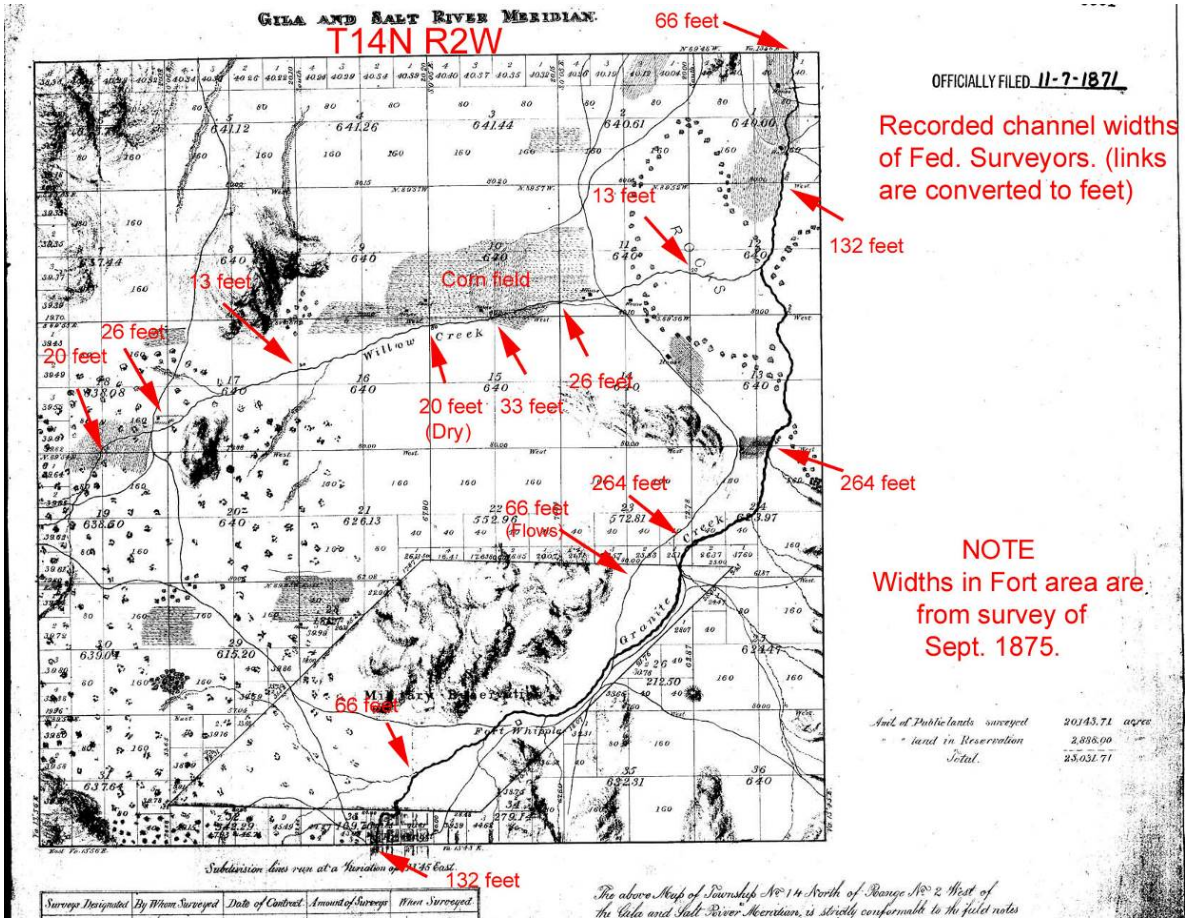
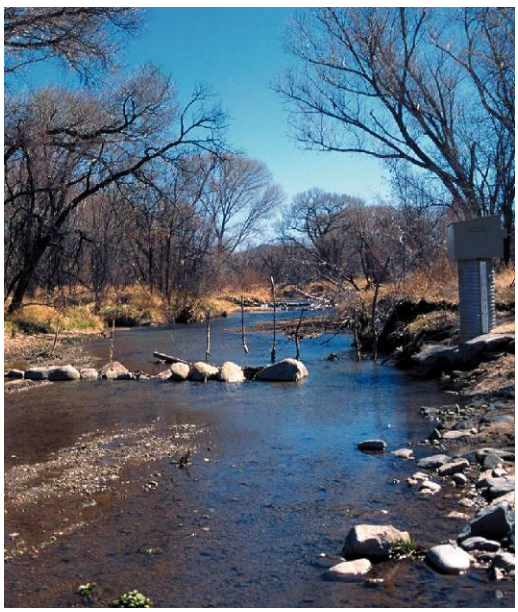


Figure 1. Major geographical features of the Verde River headwaters area.

Wirt, L. and Hjalmarson, H. W., 2000, Sources of springs supplying base flow to the Verde River headwaters, Yavapai County, Arizona: U. S. Geological Survey Open-File Report 99-378, 50 p.



Recent USGS study shows base flow and plenty of groundwater storage along upper Granite Creek at the Yavapai-Prescott Indian Reservation.
Findings are consistent with accounts and use of the streamflow by early settlers.



Littin, G. R., Truini, M., Pierce, M., *and* Baum, B., 2000, Occurrence and Quality of Surface Water and Ground Water within the Yavapai-Prescott Indian Reservation, Central Arizona, 1994–98; Water-Resources Investigations Report 00—4144, 109p.

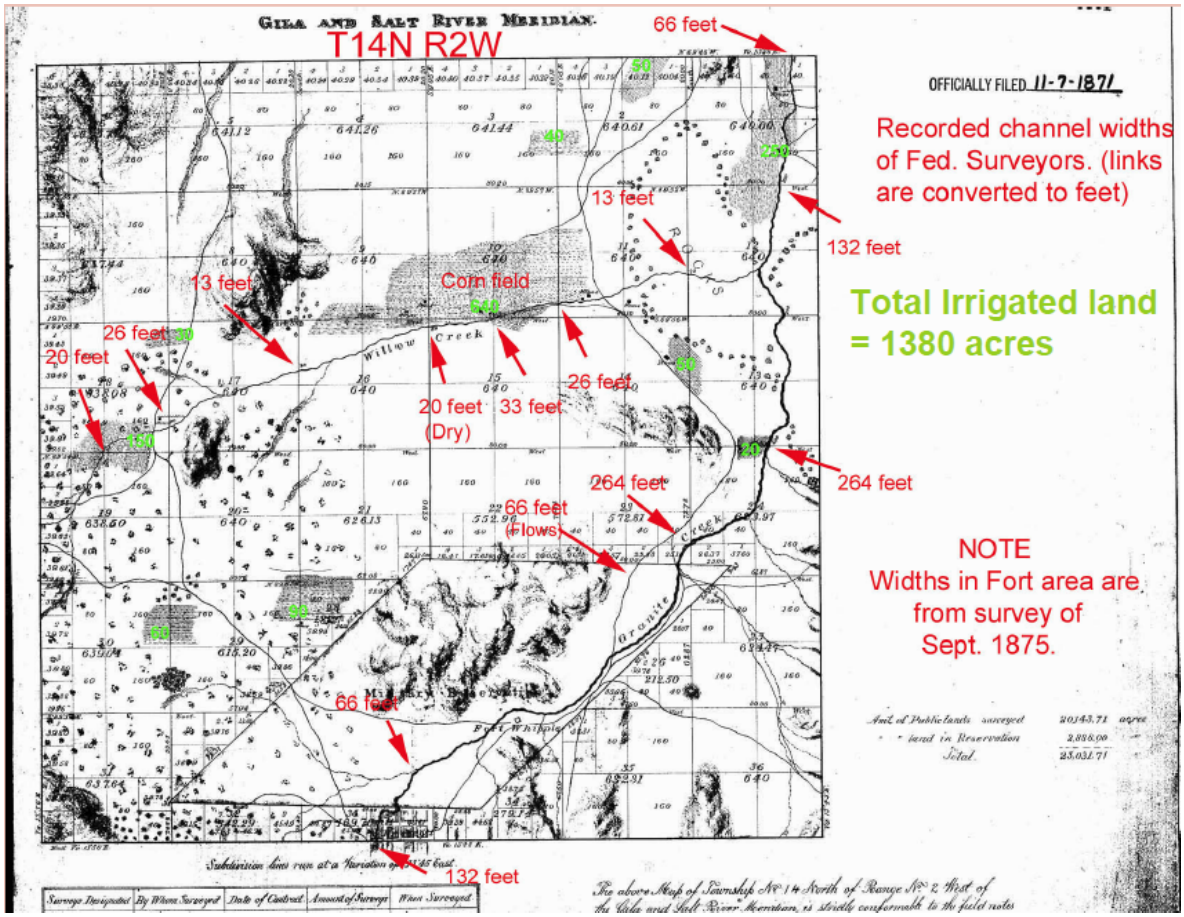
"The Yavapai-Prescott Indian Reservation encompasses about 1,395 acres in central Arizona adjacent to the city of Prescott. From October 1994 to September 1997, the annual average rainfall was 14.9 inches and the total annual streamflow leaving the reservation along Granite Creek was about 430 acre-feet more than the amount of streamflow entering the reservation.

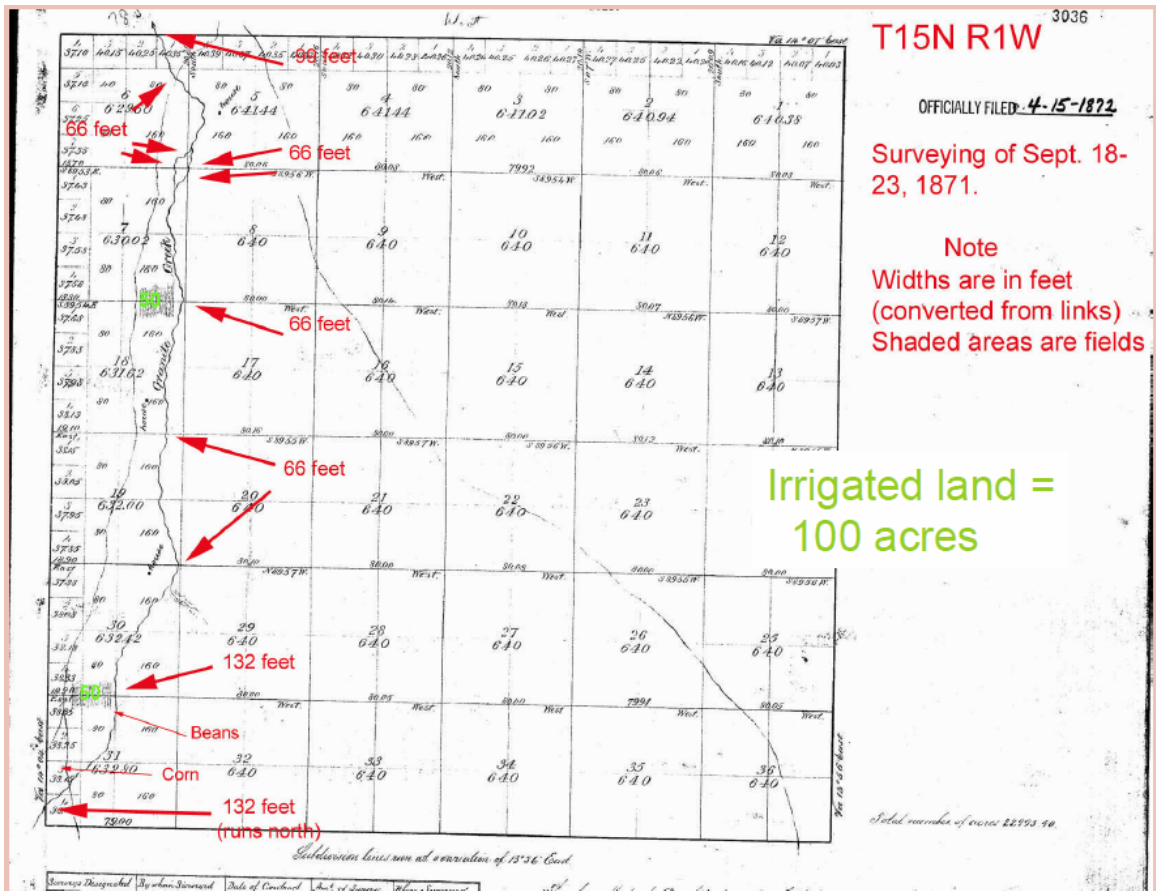
The channel-fill and valley-fill sediments within the flood plain of Granite Creek make up the principal aquifer. The only ground-water development is from spring discharge that is being contained for livestock and wildlife use. About 29 acre-feet of ground water leaves the reservation each year after discharging into Granite Creek. Water levels in wells throughout the reservation reflect seasonal variations in rainfall and snowmelt."

The channel-fill and valley-fill sediments along the flood plain of Granite Creek make up the principal aquifer. The estimated total storage potential for the aquifer west of U.S. Highway 89 is 8,080 acre-ft and the estimated effective storage is about 3,760 acre-ft.

Littin, G. R., Truini, M., Pierce, M., and Baum, B., 2000, Occurrence and Quality of Surface Water and Ground Water within the Yavapai-Prescott Indian Reservation, Central Arizona, 1994–98; Water-Resources Investigations Report 00—4144, 109p.

Land Survey map. Widths (red) from field notes. Irrigated acres (green) from mapped areas.





10/3/13 Chronicling America • The Library of Congress

The weekly Arizona miner. (Prescott, Ariz.) 1868-1873, February 05, 1870, Image 3

Image provided by Arizona State Library, Archives and Public Records; Phoenix, AZ

Persistent link: http://chroniclingamerica.loc.gov/lccn/sn82014899/1870-02-05/ed-1/seq-3/

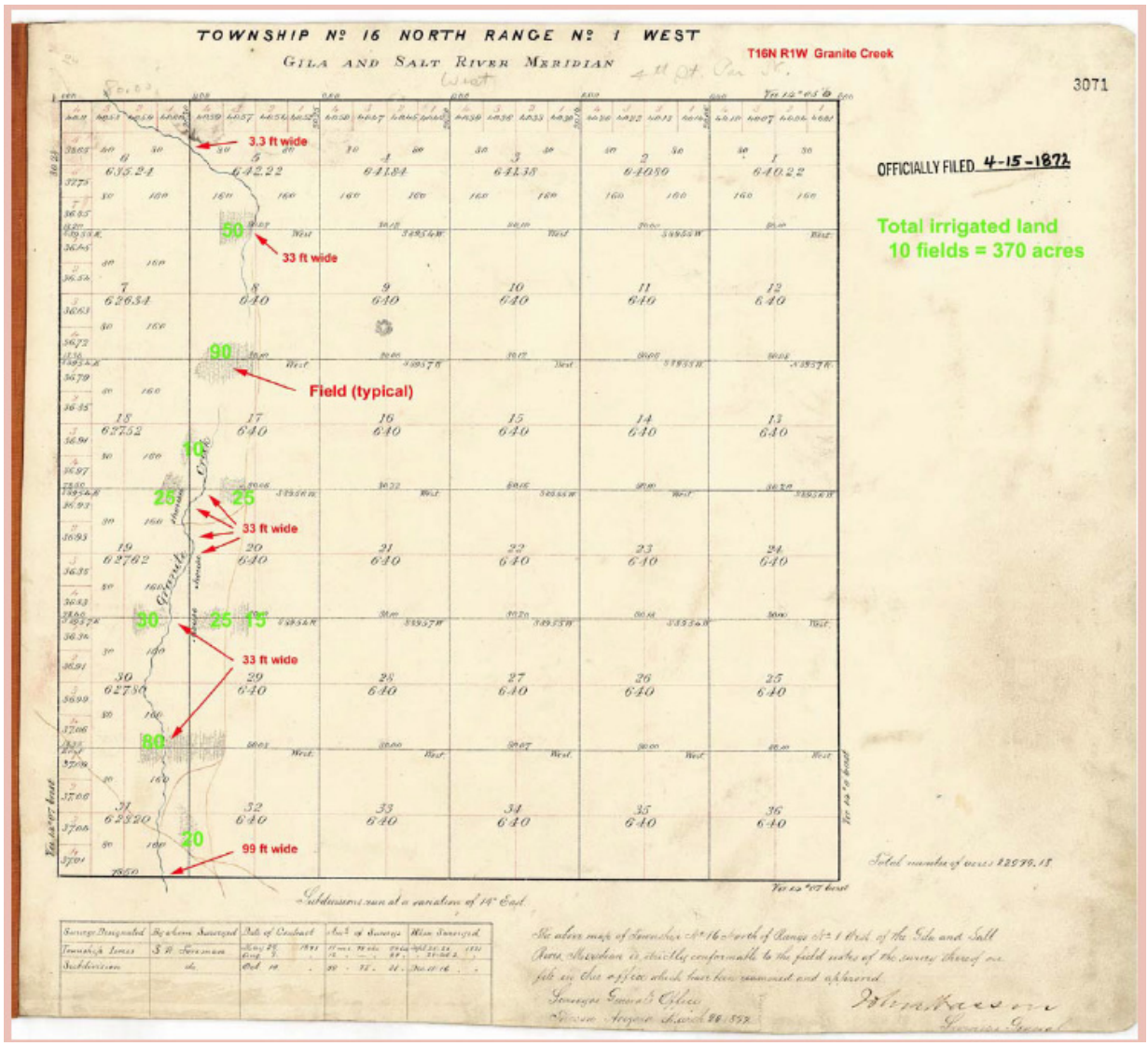
Print this image | Download this image

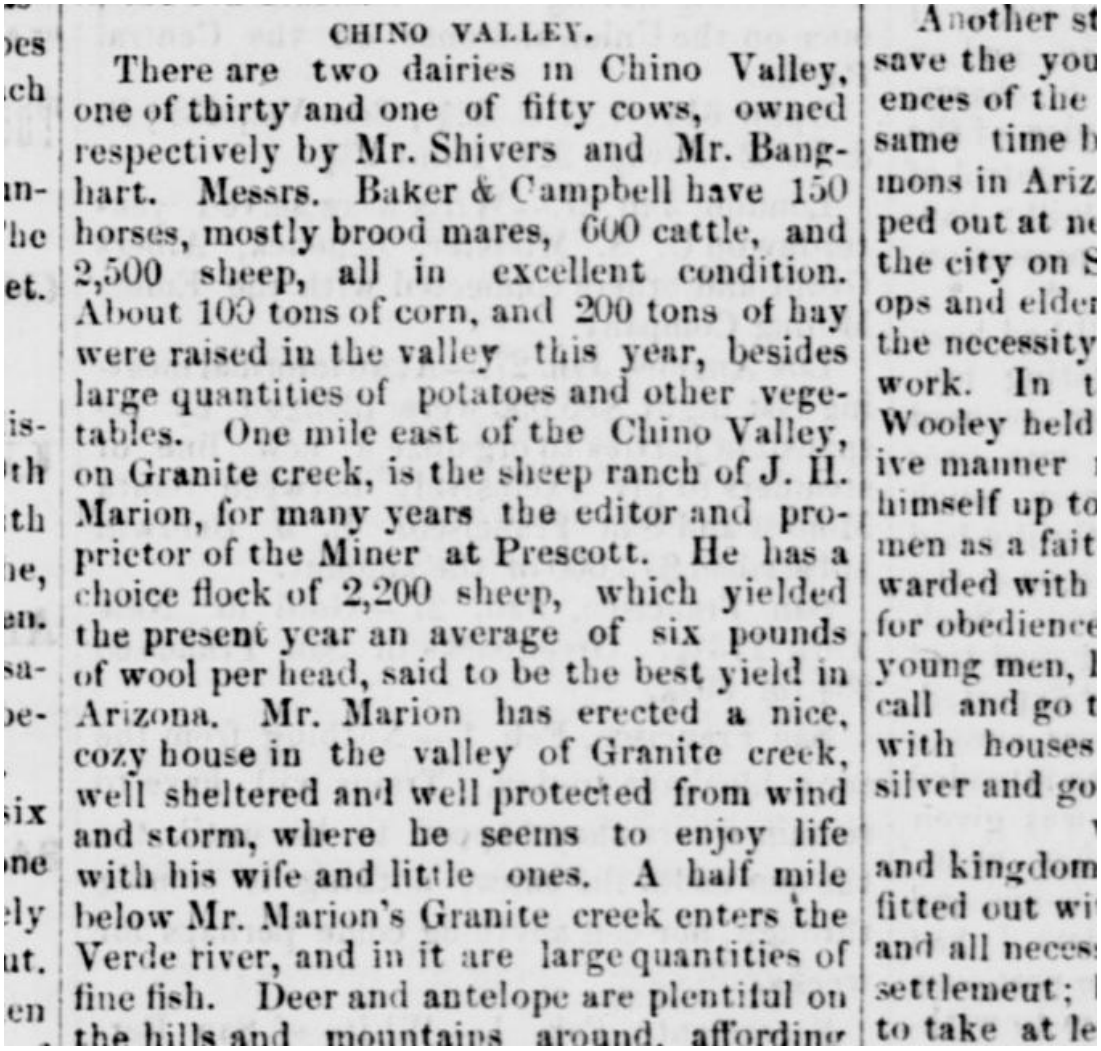
Up to the present time but four ranches have been cultivated in Chino Valley — Baker & Campbell's Robt. Postle's, G. W. Banghart's and Mr. Shiver's. These ranches have produced corn, wheat, potatoes, etc. The owners usually irrigate, there being an abundance of water at all seasons for that purpose. Mr. Baker informed us that a great many ranches have of late been located down the valley, by persons who intend settling upon and working them the coming season. There is plenty of good arable land in the vicinity, yet open to settlement and should the troops at Camp Toll-Gate be moved to Williamson Valley, and a post be there established, the day is not far distant when the farmers of that part of the country will be numbered by the hundred.

FRUIT.—Mr. McFoster got in, Sunday last, from California, with a wagon load of apples,

chroniclingamerica.loc.gov/lccn/sn82014899/1870-02-05/ed-1/seq-3/print/image_681x947_from_844%2C2837_to_1756%2C3704/ 1/1

Abundance of water
at all seasons
for irrigation


TOWNSHIP Nº 16 NORTH RANGE Nº 1 WEST
GILA AND SALT RIVER MERIDIAN
T16N R1W Granite Creek
3071
OFFICIALLY FILED 4-15-1872
Total irrigated land
10 fields = 370 acres
3.3 ft wide
50
33 ft wide
90
Field (typical)
10
25
25
33 ft wide
30
25
15
33 ft wide
80
20
99 ft wide
Gila River
Granite Creek



CHINO VALLEY.

There are two dairies in Chino Valley, one of thirty and one of fifty cows, owned respectively by Mr. Shivers and Mr. Banghart. Messrs. Baker & Campbell have 150 horses, mostly brood mares, 600 cattle, and 2,500 sheep, all in excellent condition. About 100 tons of corn, and 200 tons of hay were raised in the valley this year, besides large quantities of potatoes and other vegetables. One mile east of the Chino Valley, on Granite creek, is the sheep ranch of J. H. Marion, for many years the editor and proprietor of the Miner at Prescott. He has a choice flock of 2,200 sheep, which yielded the present year an average of six pounds of wool per head, said to be the best yield in Arizona. Mr. Marion has erected a nice, cozy house in the valley of Granite creek, well sheltered and well protected from wind and storm, where he seems to enjoy life with his wife and little ones. A half mile below Mr. Marion's Granite creek enters the Verde river, and in it are large quantities of fine fish. Deer and antelope are plentiful on the hills and mountains around, affording

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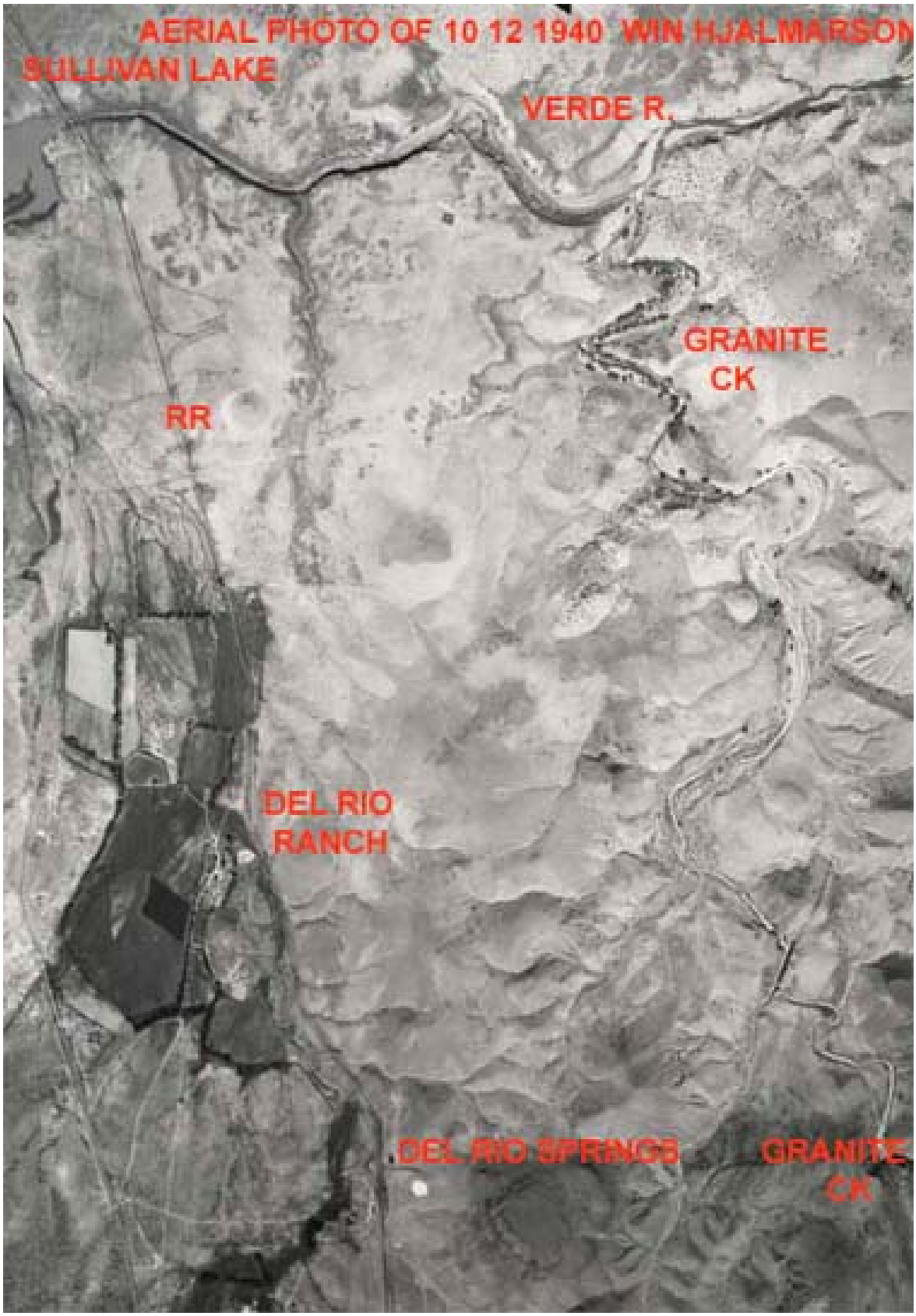
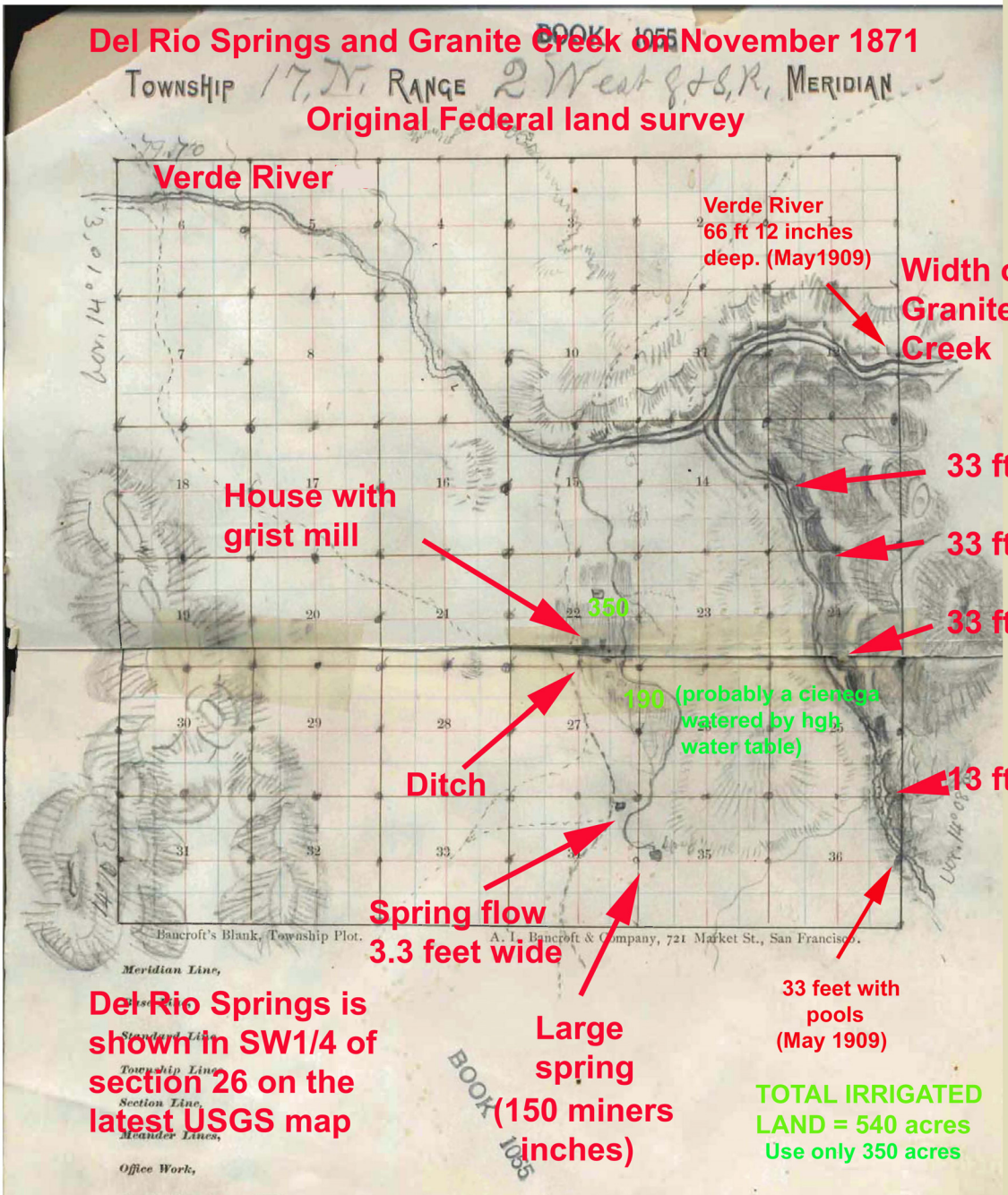
Arizona weekly miner. (Prescott, Ariz.) 1874-1877, February 04,1876,


AERIAL PHOTO OF 10 12 1940 WIN HJALMARSON
SULLIVAN LAKE
VERDE R.
GRANITE CK
RR
DEL RIO RANCH
DEL RIO SPRINGS
GRANITE CK



NOTE: In 1940 eighteen wells were noted in operation in the Del Rio Springs area, of thich fourteen were free flowing. Also, the springflow of 150 miners inches that is shown here does not include all the springflow because additional springflow occurs for a few hundred feet to the north. In 1940 the flow was a minimum of about 175 miners' inches at the rim of the basin. Also, in 140 about 175 miners Inches (4-1/2 cfs) was used for irrigation of about 140 acres. These springs are the natural overflow or spill from the basin and roughly represent the excess over the exact amount of water which must be fed into the basin to maintain the present water level and pressure. Hjalmar W. Hjalmarson, PE

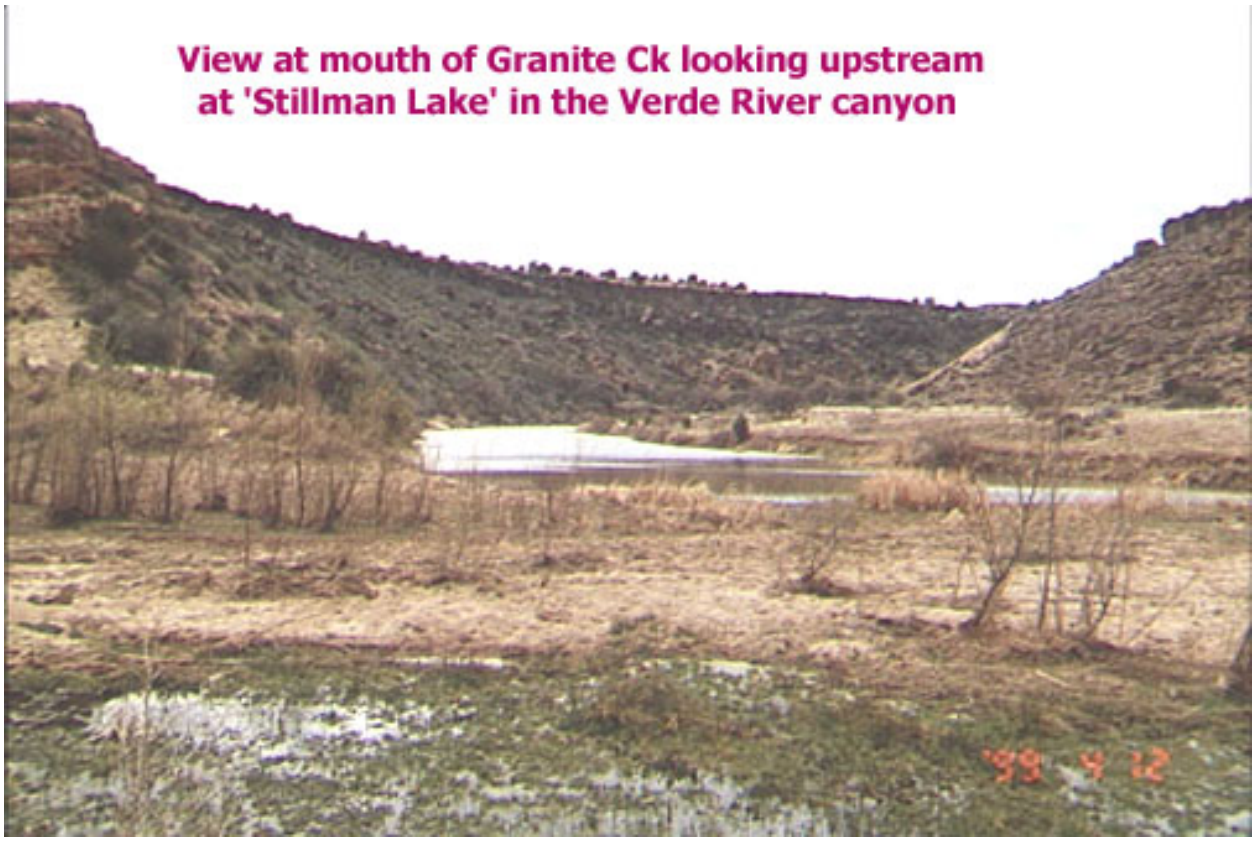


Photo by Win Hjalmarson

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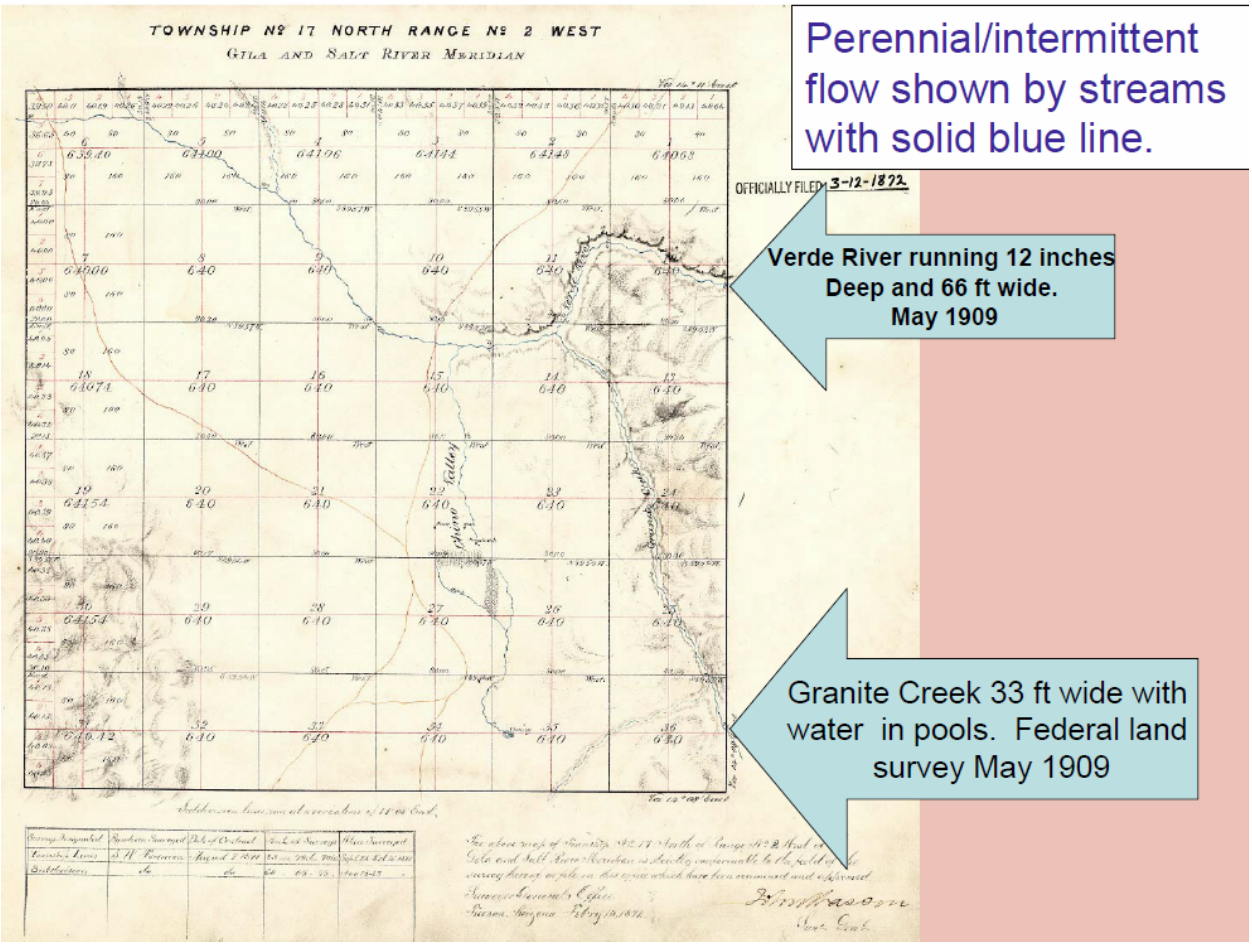


Title: Orchard and vineyards, Clough Ranch, Granite Dells, Prescott, Arizona, C.1900

Title: Unidentified orchards, Prescott, Arizona, C.1920

Title : Orchard and vineyards, Clough Ranch, Granite Dells, Prescott, Arizona, C.1900
Date of Photograph : 1900

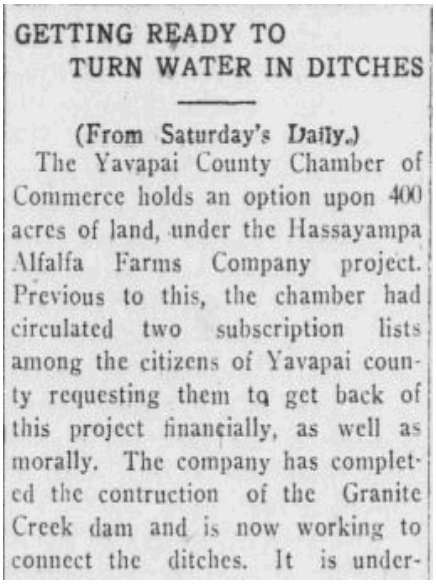
Title Jerome Junction depot and yard near Chino Valley, Arizona, 1900

Sharlot Hall Museum/Courtesy photo

The first train heads into Prescott on Jan. 1, 1887

The early 1900s was a transition period to deeper and more wells and larger dams. It was a period of human impact on GW in basin fill (layer 1 of the USGS GW model). (Pool, D.R., Blasch, K.W., Callegary, J.B., Leake, S.A., and Graser, L.F., 2011, Regional groundwater-flow model of the Redwall-Muav, Coconino, and alluvial basin aquifer systems of northern and central Arizona: U.S. Geological Survey Scientific Investigations Report 2010-5180, 101 p.)

Watson Lake then Willow Lake dams with new lands under irrigation.



GETTING READY TO TURN WATER IN DITCHES

(From Saturday's Daily.)

The Yavapai County Chamber of Commerce holds an option upon 400 acres of land, under the Hassayampa Alfalfa Farms Company project. Previous to this, the chamber had circulated two subscription lists among the citizens of Yavapai county requesting them to get back of this project financially, as well as morally. The company has completed the contruction of the Granite Creek dam and is now working to connect the ditches. It is understood between the Chamber of Commerce and the company that the land to be selected must be taken in a block tract and that it is unimproved land. The selection is to be made from Sections 21, 22, 26, 27, 28, 35 and the West ½ of the N. W. ¼ and the West ½ of the S. W. ¼ of Section 23, in Township 16, N. Range 2, W. Some time ago, a committee was appointed by the Chamber of Commerce to investigate and report as to the obligations to be assumed by a purchaser of lands, under this irrigation project. Following is their report in full:

Weekly Arizona Journal-Miner. (Prescott, Ariz.) 1908-1929, July 21, 1915, Page 2.

Chino Valley, Del Rio Springs and Granite Creek

Del Rio Springs was a landmark known to pioneers as a permanent and plentiful source of water. It is located just beyond the northern limit of the artesian area. In 1863 Whipple Barracks was located at this site and then moved to Prescott. In 1904 the City of Prescott built a pumping station at Del Rio Springs and pumped water from a shallow well for a distance of 21 miles into the city through an 8-inch pipe line. The operation was discontinued in 1926.

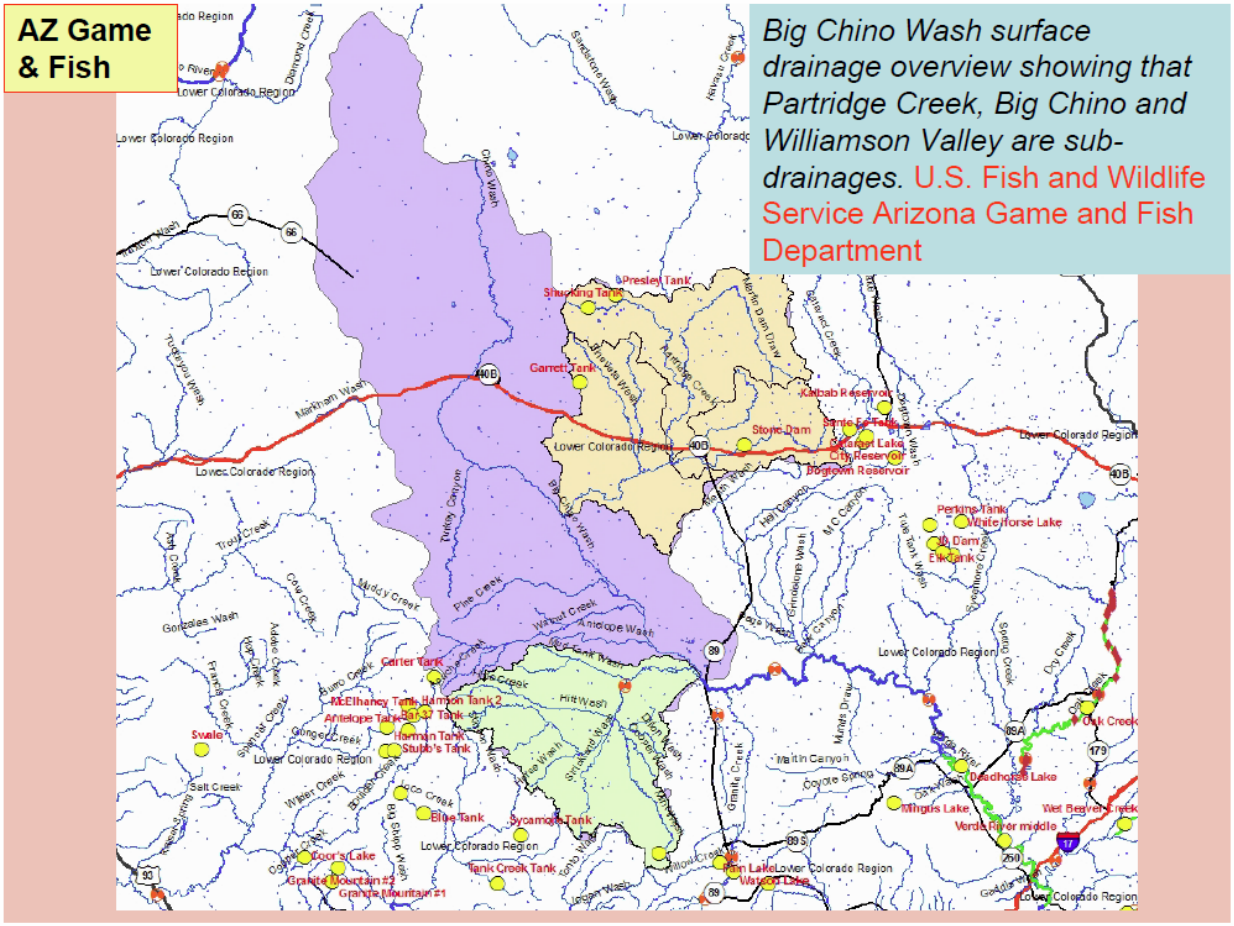
Site of pumping plant for Prescott Water Works

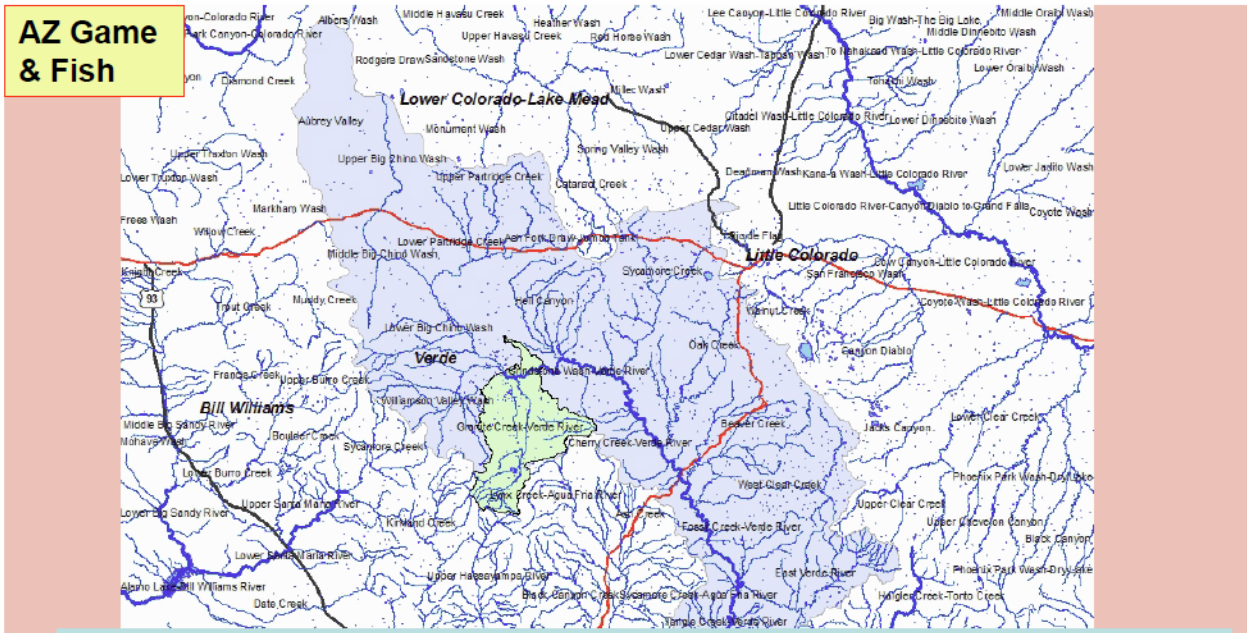
Photo by Win Hjalmarson

In 1910 the Santa Fe Railroad purchased the 3,520 acres of Del Rio Ranch to serve as a dairy ranch for the Fred Harvey hotels and to provide winter pasture for the mules from the Grand Canyon. At one time the Santa Fe hauled water from the deep wells at Del Rio to the Grand Canyon, one hundred thirty miles away.

In 1926 the first well to tap the artesian aquifer, four feet in diameter and 150 feet to water, was drilled at the Mormon Church. An irrigation well was put down by a group of local farmers in Chino Valley in 1930. Before the discovery of flowing artesian water in Little Chino Valley, irrigation in the valley was limited to lands in the Chino Valley Land and Irrigation Company. From 1915 to 1926, farmers in the area got a surface water supply from the Lake Watson Reservoir on Granite Creek about 5 miles below Prescott.

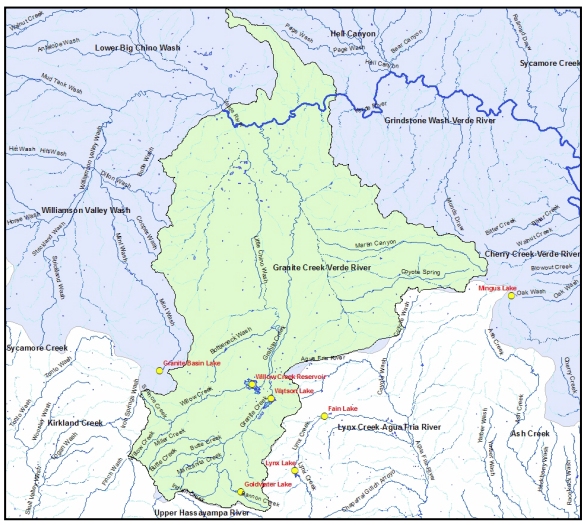
By 1937, there were fourteen irrigation wells in the area. In 1940, the depth to static water level of the well at the Mormon Church was measured at 158 feet. By 1974 it had dropped to 228 feet. The decrease in static water level may be explained, in part, by an increase in the number of irrigated acres, from 1,004 acres in 1939 to 2,758 acres in 197l. However, in 1948, the City of Prescott bought and retired agricultural land from production in Little Chino Valley to obtain a municipal supply of water. In 2000, the citizens of Prescott voted to purchase Watson Lake from the Chino Valley Irrigation District.





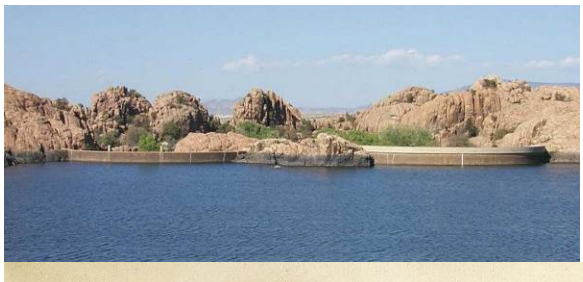
GRANITE CREEK

Granite Creek has a drainage area of 359 square miles (approximately 229,829 acres) and drains into the upper Verde River approximately 2 miles downstream from Sullivan Dam. The drainage begins at 6,237 feet in elevation along the northeast slopes of the Sierra Prieta range, southwest of Prescott and flows northeast towards the Verde River.



Goldwater Lake is in the upstream or southern part of the Granite Creek watershed. Created in the 1930's as a water supply reservoir for the City of Prescott (City), Goldwater Lake sits at approximately 6,800 feet in elevation nearly 4 miles south of downtown Prescott. Two dams situated in the headwaters of Granite Creek on a

drainage known as Bannon Creek create an upper 22 acre reservoir and a lower 8.5 acre reservoir.

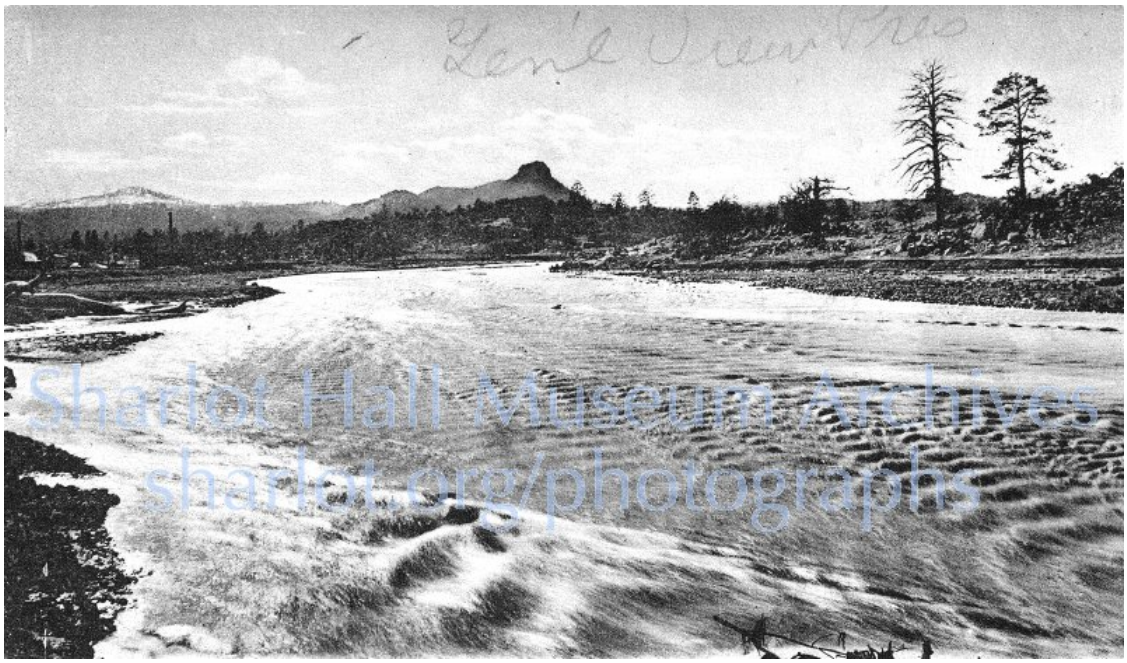


Willow Lake Dam

Construction in 1935

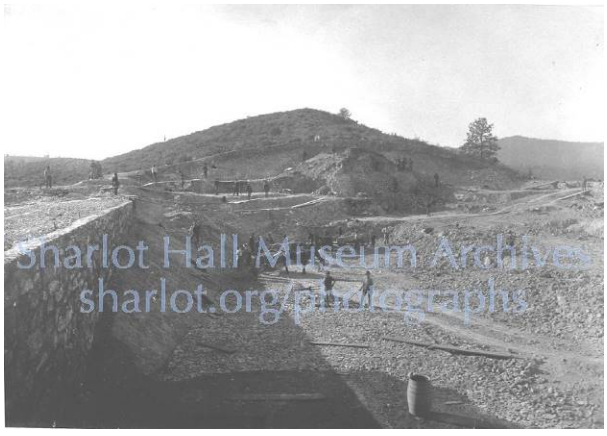
Title : Fred Harvey Dairy Ranch, Del Rio, Arizona, 1900
Date of Photograph : 1900

Title : Clough Ranch, Granite Dells, Arizona, 1900
Date of Photograph : 1900



Title : Granite Creek and Thumb Butte, Prescott, Arizona, C.1910

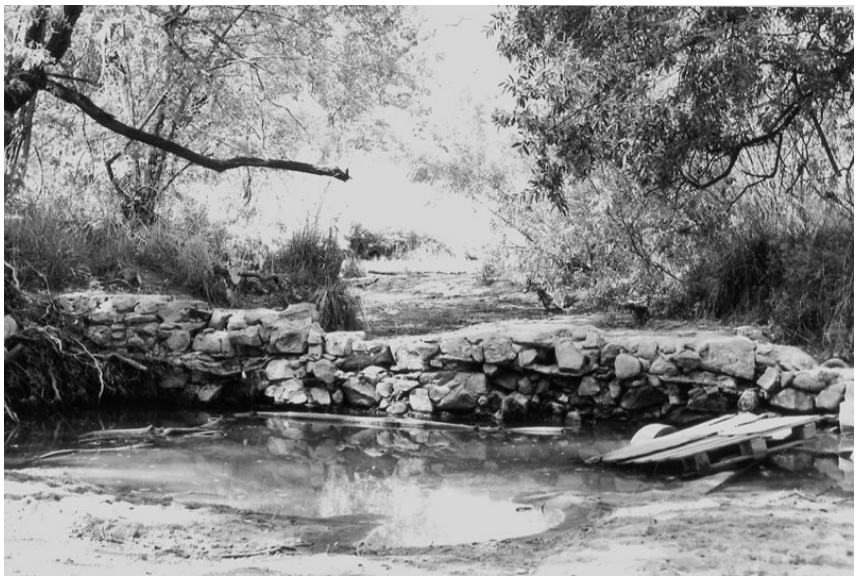
Watson Lake on Granite Ck. Photo by Hjalmarson 1999.



Construction of Miller Creek Dam, c.1885, one of Prescott's first attempts to impound surface water for use by the town

Miller Valley Dam, c.1909.

Title: Water plant and old city dam, Prescott, Arizona, September, 1928
Date of Photograph: 1928



Title: Water plant and old city dam, Prescott, Arizona, September, 1928
Date of Photograph 1928

Title: Construction of Goldwater Dam, Prescott, Arizona, C.1934
Date of Photograph: 1934

Title: Construction of Goldwater Dam, Prescott, Arizona, C.1934
Date of Photograph: 1934

Title: Granite Creek near Granite Dells, Prescott, Arizona, C.1920

Title: Granite Dells Lake, Prescott, Arizona, 1906

PRESENT:

> **Granite Creek**—A major tributary that affects the headwaters of the UVR is Granite Creek. The creek originates in the Bradshaw Mountains southwest of Prescott and flows north toward its confluence with the UVR east of Sullivan Lake. It is intermittent over much of its reach, and the braided channel system is the major source of bedload for the UVR headwaters during infrequent storm events (Wirt and Hjalmarson 2000; fig. 2.19). Sand and gravel mining occurs in several locations in the Granite Creek channel about 5 km (3 mi) downstream from the location shown in fig. 2.19 and within 3 km (2 mi) of Granite Creek's confluence with the UVR.

Neary, Daniel G.; Medina, Alvin L.; Rinne, John N., eds. 2012. **Synthesis of Upper Verde River research and monitoring 1993-2008.** Gen. Tech. Rep. RMRSGTR-291. Fort Collins, CO: U.S. Department of Agriculture, Forest Service,Rocky Mountain Research Station. 296 p.

Del Rio Springs

USGS gage
Photos by Hjalmarson

Wirt, L., 2005, The Verde River headwaters, Yavapai Count, Arizona *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-CentralArizona: U.S Geological Survey Open-File Report 2004-1411, 33 p.

Swale north of Del Rio Springs that is now dry. Looking southeast from old Highway 89 bridge.

Photo by Hjalmarson 1999

Figure 2.19—(A) aerial view of Granite Creek drainage in July 1997, looking north (downstream) towards the Verde River and (B) ground view of the confluence of Granite Creek (upper drainage) with the Verde River (flows right to left). The pool-like water feature in the lower right is referred to as Stillman Lake. The "lake" is formed by the sediment deposits at the confluence and the inflow from groundwater upstream. (Photos by Alvin L. Medina.)

Lower Granite Creek
Q=0.5 cfs
(2005)

Wirt, L., 2005, Sources of Base Flow in the Upper Verde River: *in* Wirt, Laurie, DeWitt, Ed, and Langenheim, V.E., eds., Geologic Framework of Aquifer Units and Ground-Water Flowpaths, Verde River Headwaters, North-Central Arizona: U.S. Geological Survey Open-File Report 2004-1411-F, 34 p.

Verde River about 1 mile below confluence with Granite Creek.
"Verde River Springs" or
Big Chino Springs".
Photo by Hjalmarson 1999.

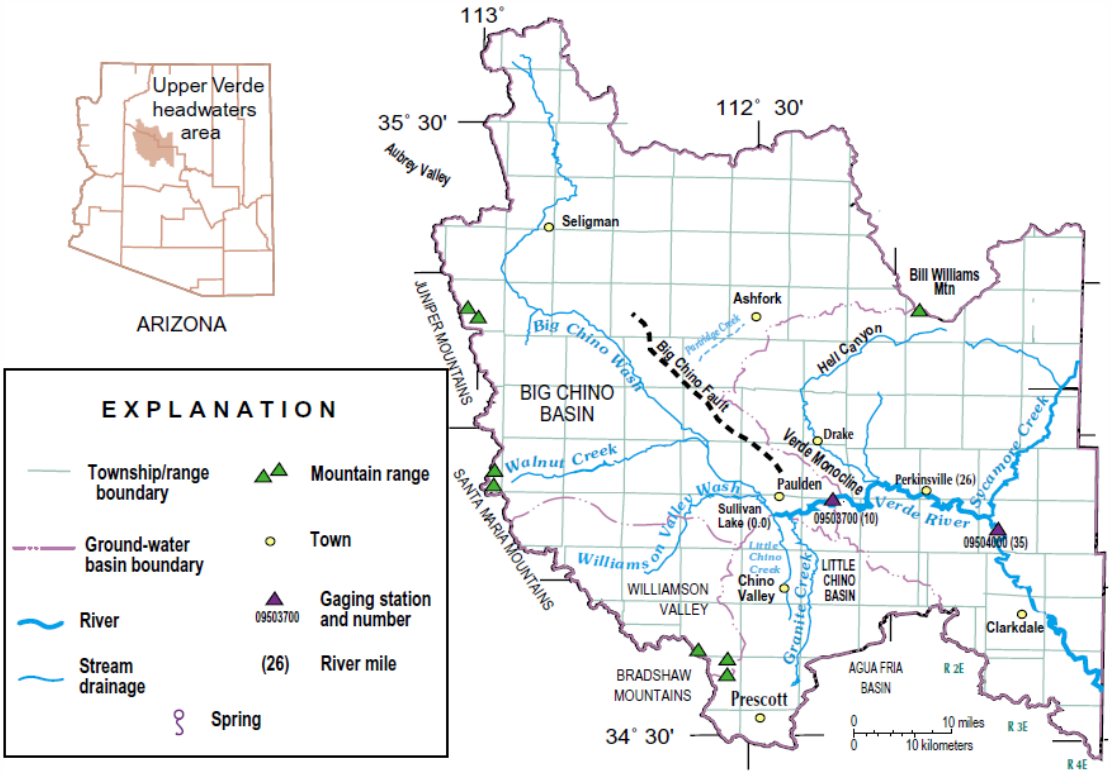


Figure 1. Major geographical features of the Verde River headwaters area.

Wirt, L. and Hjalmarson, H. W., 2000, Sources of springs supplying base flow to the Verde River headwaters, Yavapai County, Arizona: U. S. Geological Survey Open-File Report 99-378, 50 p.

Sullivan Lake Dam construction in 1935 showing base flow. Most of the base flow is from Big Chino Valley area but some is from Little Chino Valley.

Construction of Sullivan Lake Dam in 1935. Base flow is diverted around the construction area.

PRESCOTT CLUB RESERVOIR - T.17N., R.2W.

A small masonry dam has been built by Prescott sportsmen at the junction of Big and Little Chino washes at the head of the Verde, for shooting, fishing and recreational purposes. From 10 to 15 acres are flooded as follows:-

Sec. 22 - S 1/2 - SE 1/4)
Sec. 26 - W 1/2 - NW 1/4) 15 Acres approximately 1936.
Sec. 27 - NE 1/4)

Hayden, T. A., 1940

Prescott Club Reservoir (present Sullivan Lake).

View looking downstream and east at start of Verde River.
Photo by Hjalmarson 1999.

APPENDIX D. Williamson Valley

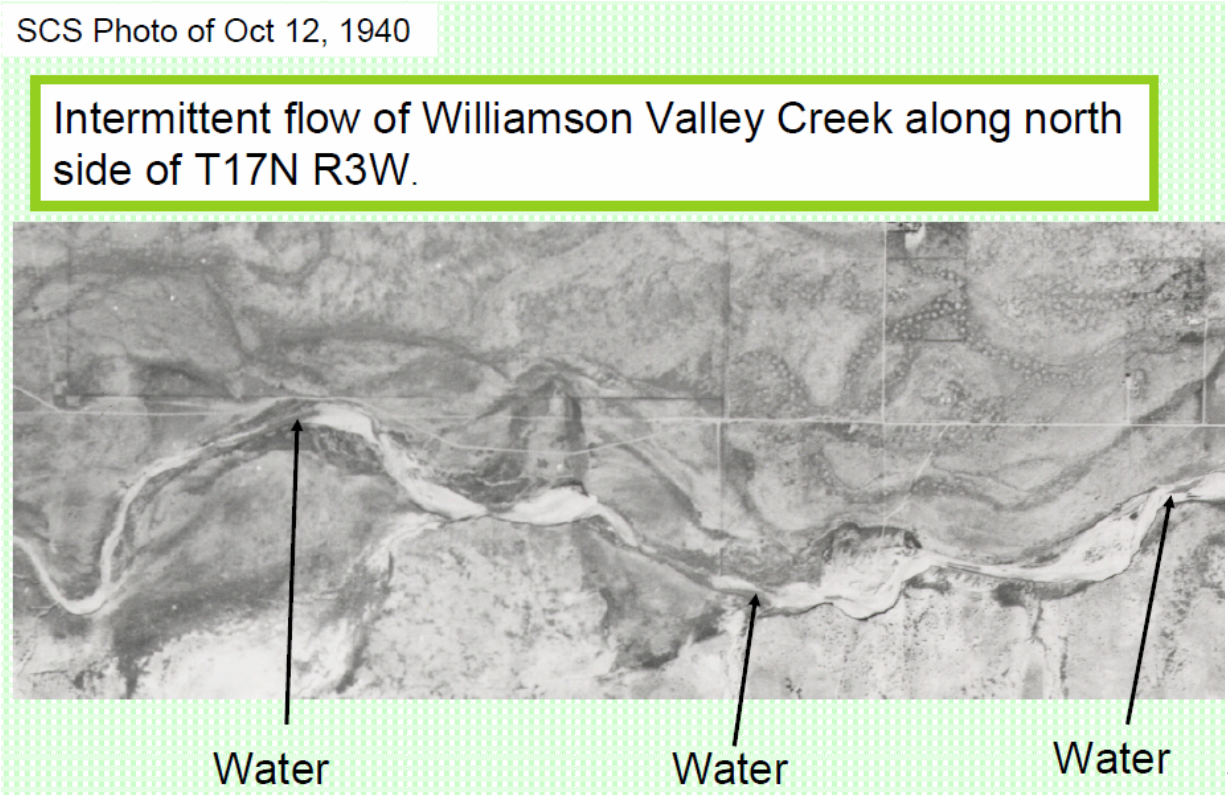
This appendix presents historic and current information along Williamson Valley Wash that is related to the assessment of navigability of the Upper Verde River. The information includes the original Land Surveys, early newspaper accounts, reports by the USBR, USFS and USGS, historic irrigation and aerial photographs.

View looking south
2001 Win Hjalmarson

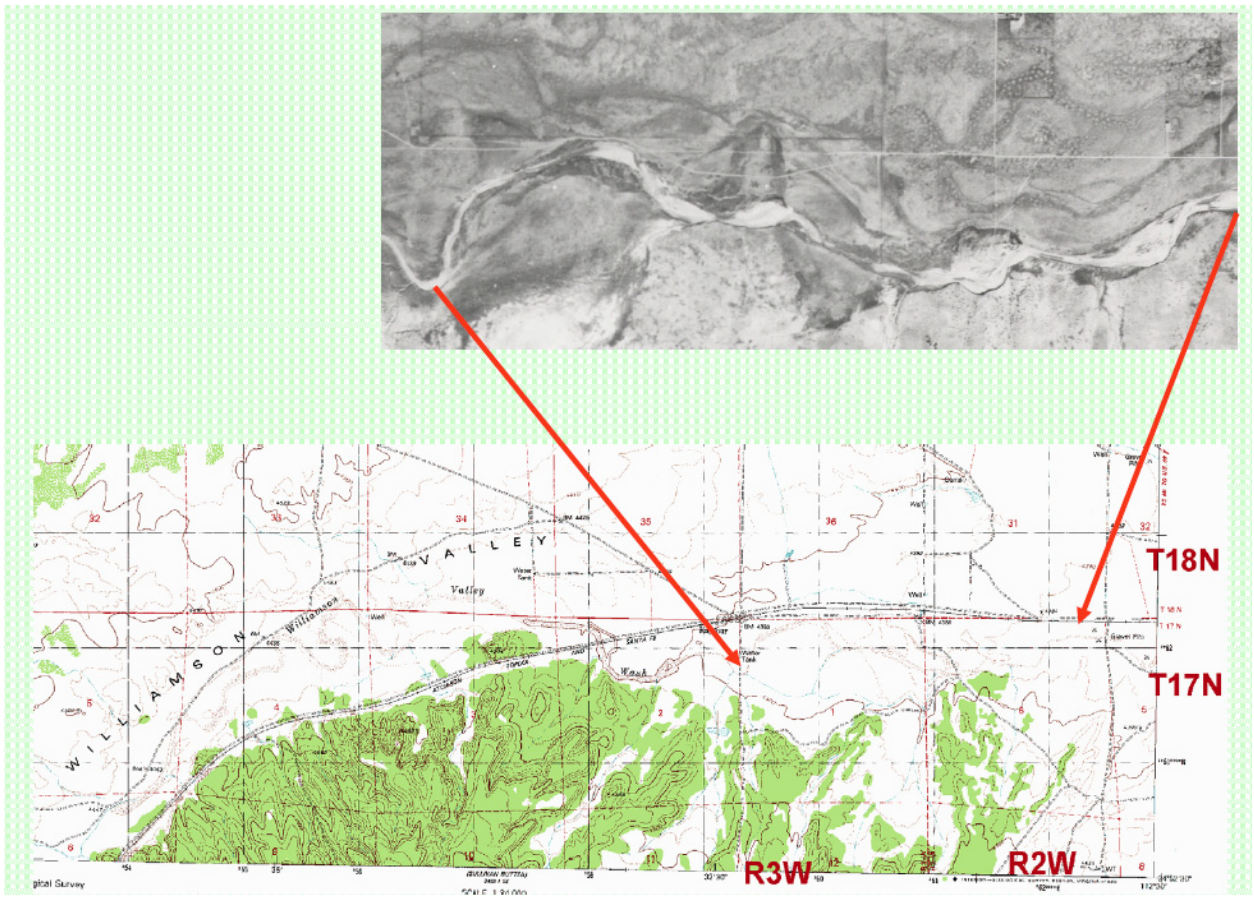
Title: Long Meadow Ranch, Williamson Valley, Arizona, 1966
Date of Photograph: 1966

Title: Seven V Guest Ranch, Williamson Valley, Arizona, 1930s

The natural Williamson Valley Creek (Wash) was perennial in places (spatially intermittent) such as in the area of sections 7 and 18 T17N R3W and to the east of section 1 T17N R3W to the confluence with Big Chino Creek. Across Williamson Valley, tributary streamflow seeped into the porous stream sediments as groundwater and was perched above the underlying basin fill (Pool and others 2011). There may have been perennial flow all along the natural creek and larger tributaries but the evidence suggests that it was affected by human diversions and as a result Williamson Valley Creek was both seasonally and spatially intermittent. Of importance for this study of navigability is the fact that there was a supply of water throughout a typical year that was above the basin fill that reached the natural Verde River.



,,



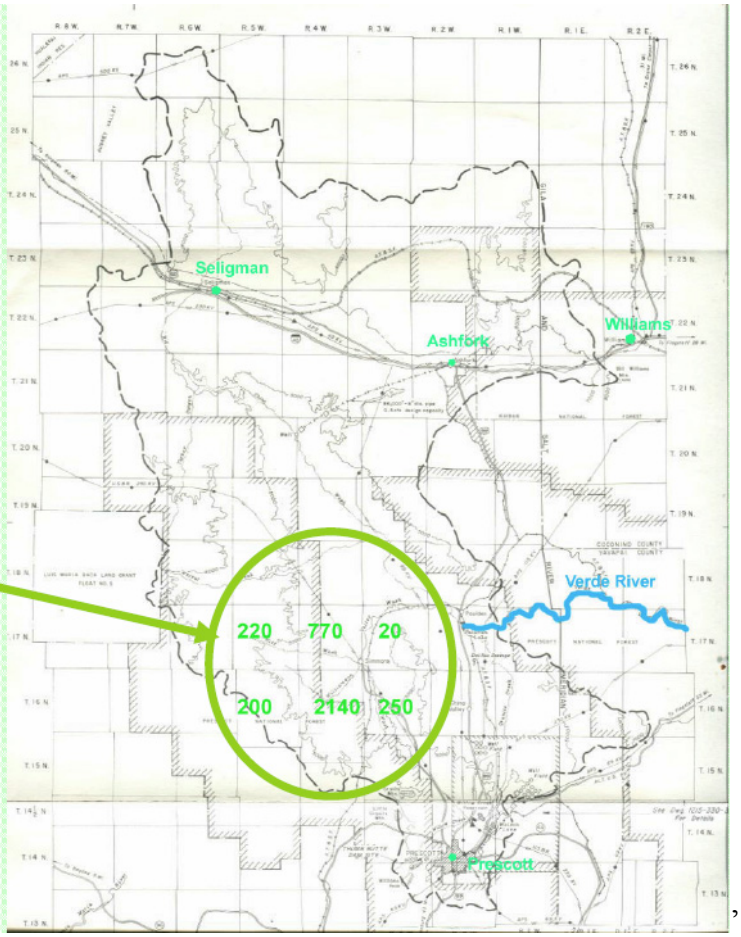
tor at the ranch.

WILLIAMSON VALLEY.

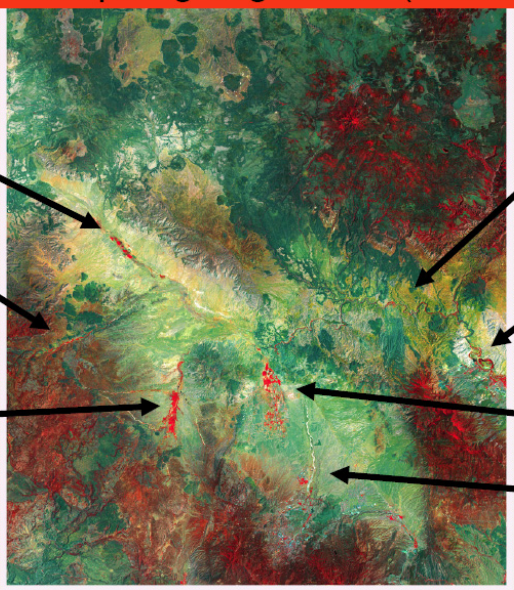
Williamson Valley is an arm of the great Chino Valley, coming in from the southwest. It is a large and beautiful upland valley or plain, over 6,000 feet above tidewater, and is no doubt the best hay valley yet settled in the Territory, besides being a fine grazing section and having some excellent farming lands. Over 200 tons of corn were raised here the present year, and 1,000 tons of hay. Over 20 families are settled here and a school has been opened the present year and is now in successful operation. Thirty-six land claims of 160 acres each have been located, and the settlement is becoming very prosperous. Mr. A. Zimmerman started a cheese dairy the present year, and his energetic wife has made during the year 3,500 pounds of excellent cheese, which sells readily in Prescott for 60 cents per pound. The foot-hills bordering on Chino and Williamson Valleys are

Arizona weekly miner. (Prescott, Ariz.) 1874-1877, February 04,1876,

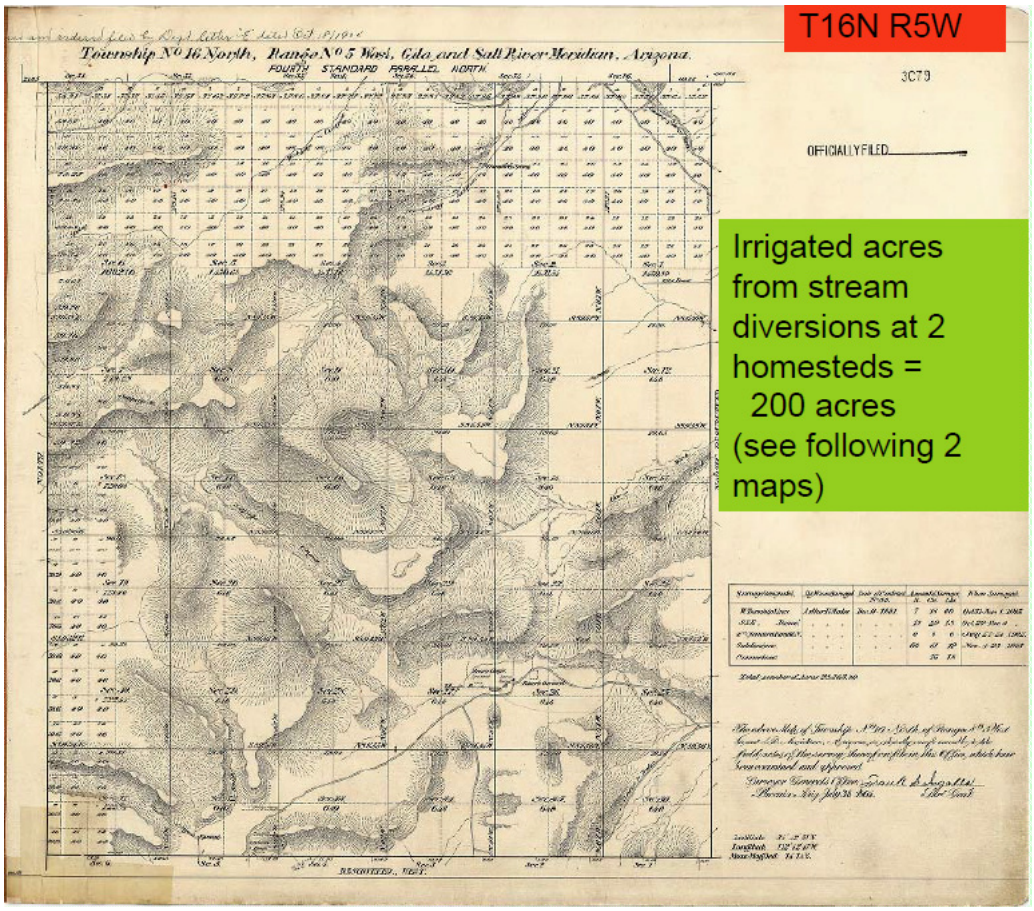
Williamson Valley area showing irrigated acres from early diversions along streams. Diversions used small rock dams and/or shallow wells (typically with centrifugal pumps) in the stream sediments.
Source of data: Original Federal Land Office Surveys.

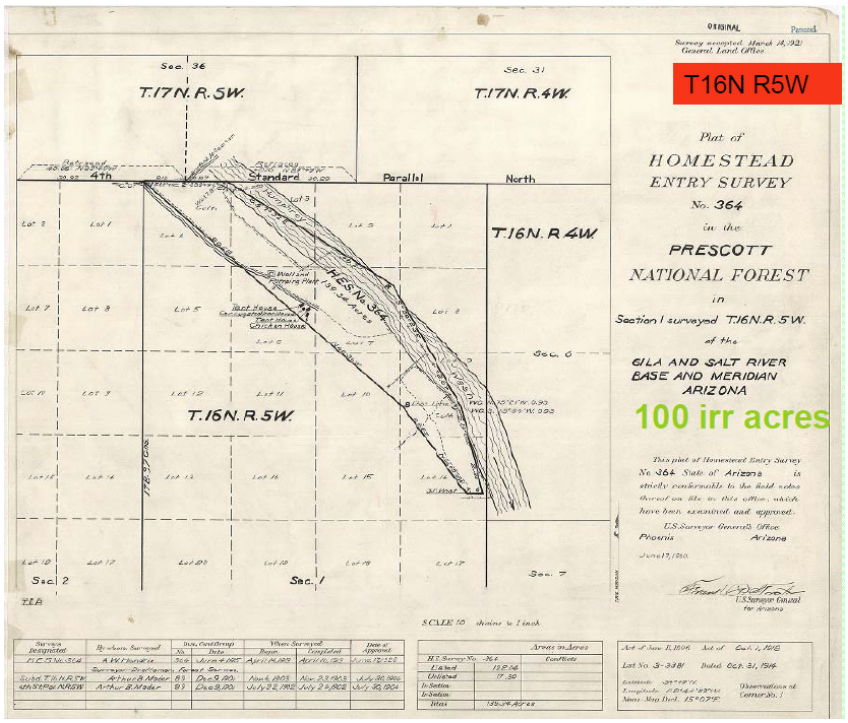


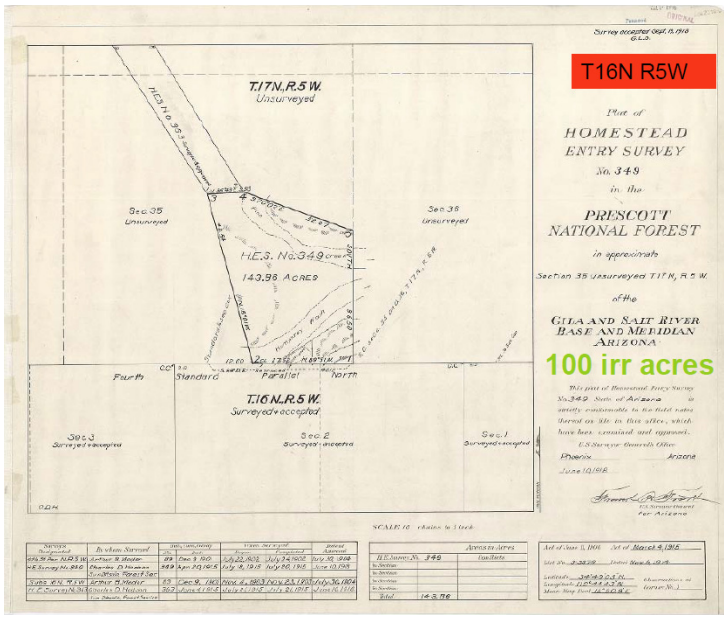
Red areas are transpiring vegetation (including crops)

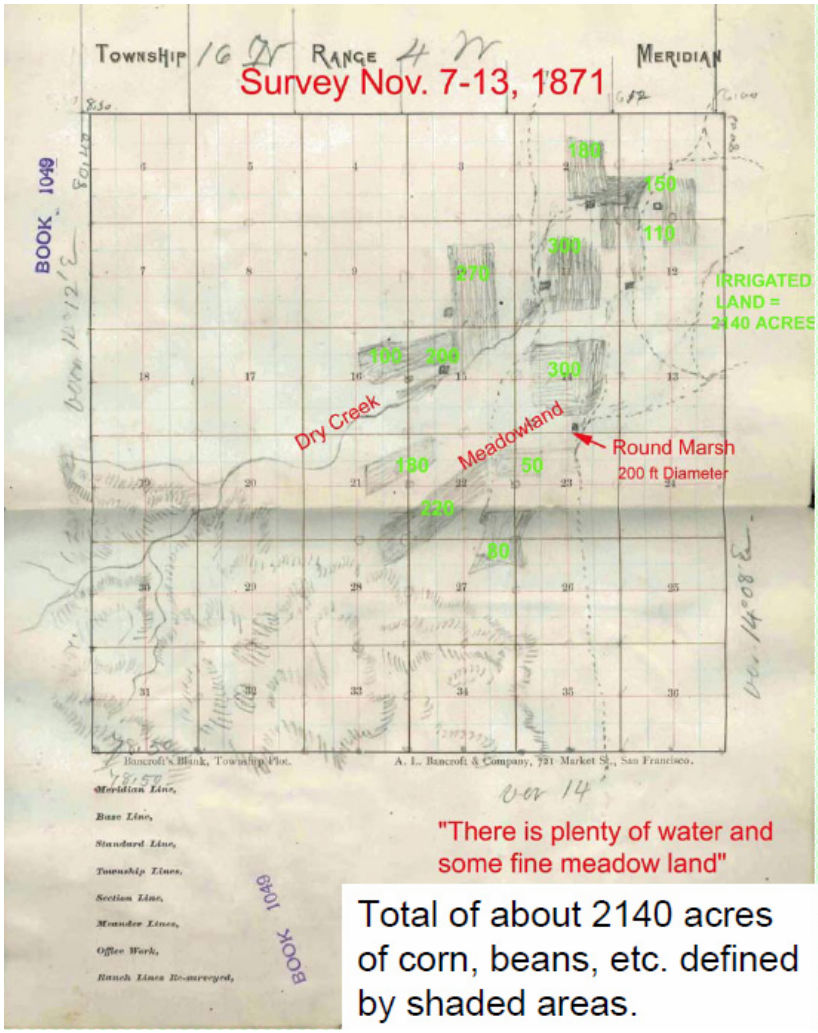


Big Chino Valley
Walnut Creek
Williamson Valley
Verde River
Verde Valley
Little Chino Valley
Granite Creek


T16N R5W
Township No 16 North, Range No 5 West, Gila and Salt River Meridian, Arizona.
FOURTH STANDARD PARALLEL NORTH
OFFICIALLY FILED
Irrigated acres from stream diversions at 2 homesteds = 200 acres (see following 2 maps)


T16N R5W
Plat of
HOMESTEAD
ENTRY SURVEY
No. 364
in the
PRESCOTT
NATIONAL FOREST
in
Section 1 surveyed T.16N.R.5W.
of the
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
100 irr acres
T.17N. R.5W.
T.17N. R.4W.
T.16N. R.4W.
T.16N. R.5W.
Standard Parallel North
4th
H.E.S. No. 364
Sec. 36
Sec. 31
Sec. 6
Sec. 2
Sec. 1
Sec. 7
SCALE 10 chains to 1 inch.



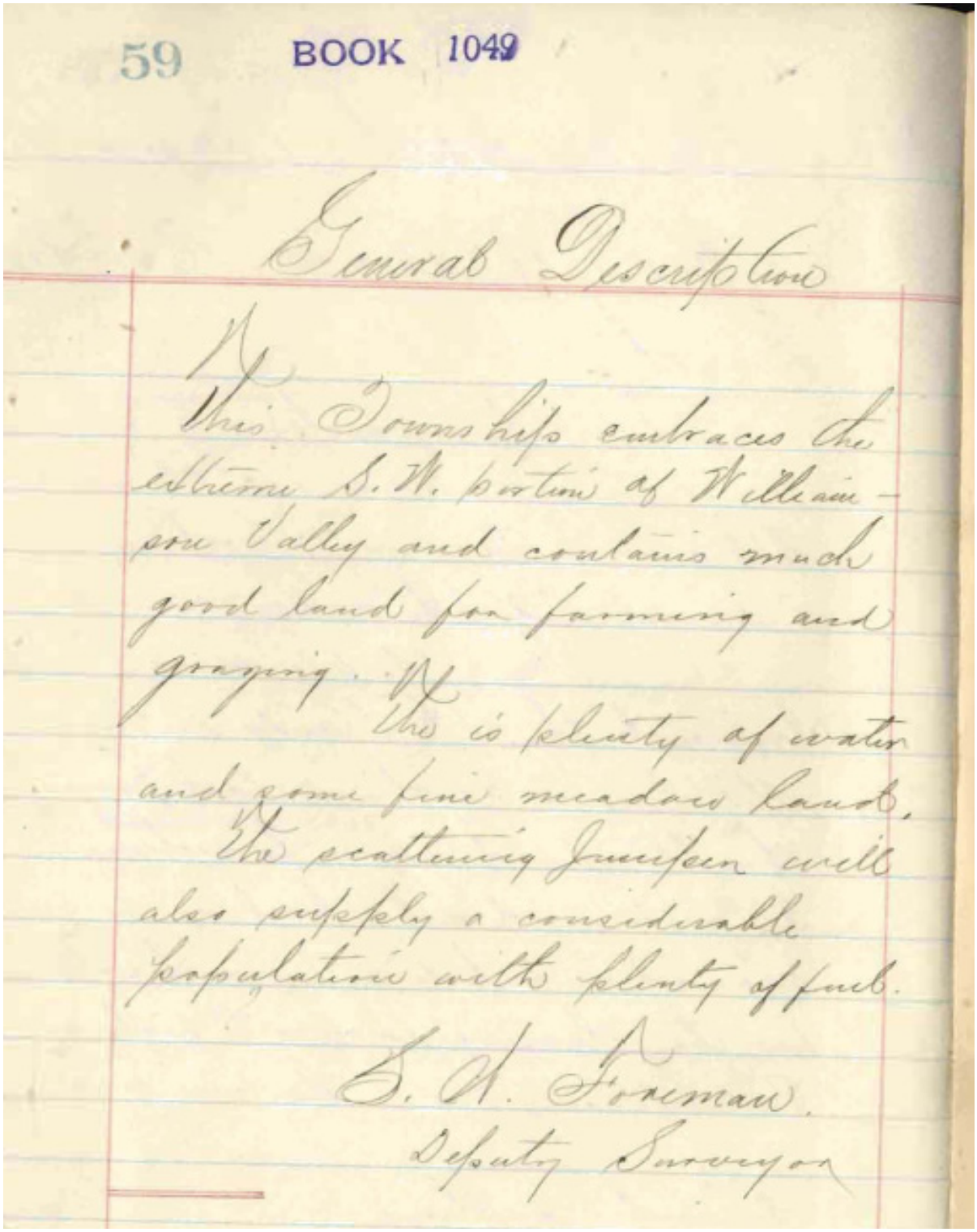


Total of about 2140 acres of corn, beans, etc. defined by shaded areas.

T16N R4W

Possibly some of the cultivated land is marshy cienega land. However, its obvious the Federal surveyor did not show the area near the round marsh as cultivated.

T16N R4W



59 BOOK 1049

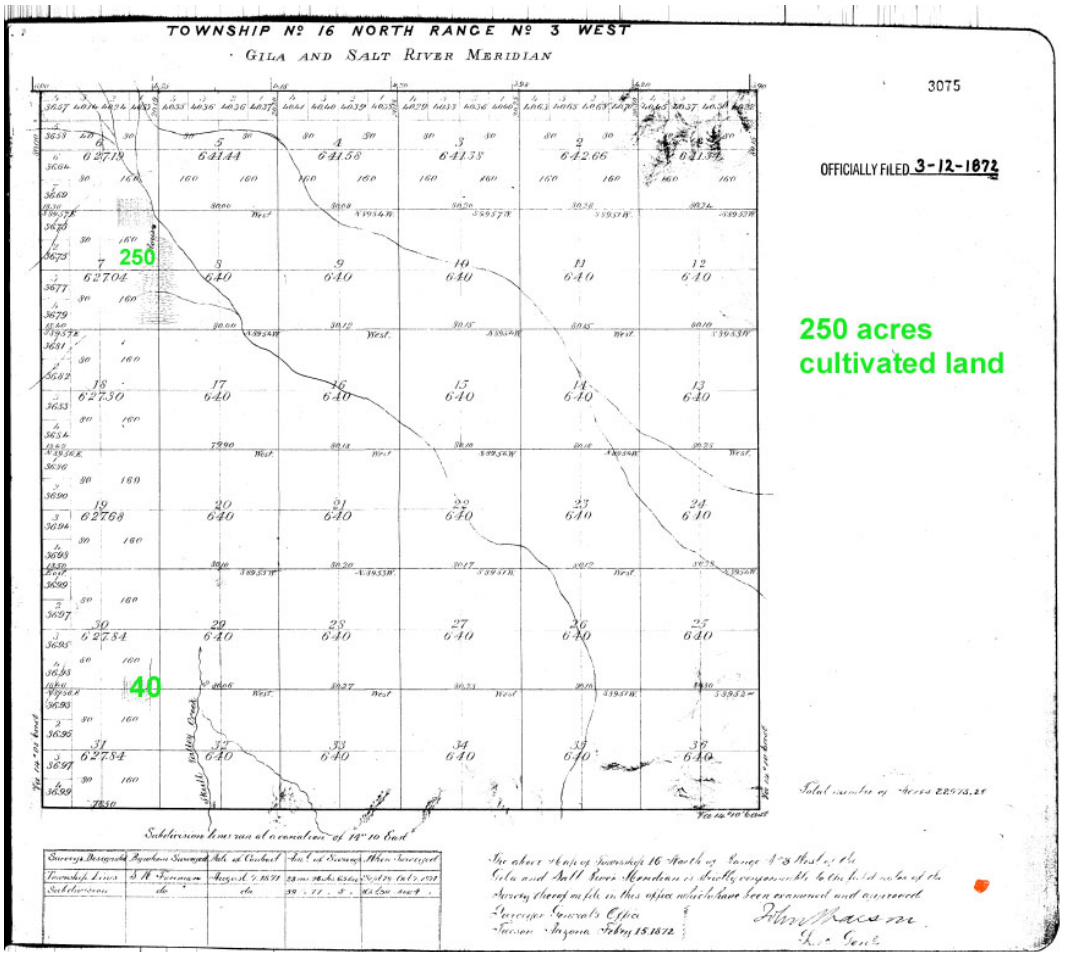
General Description

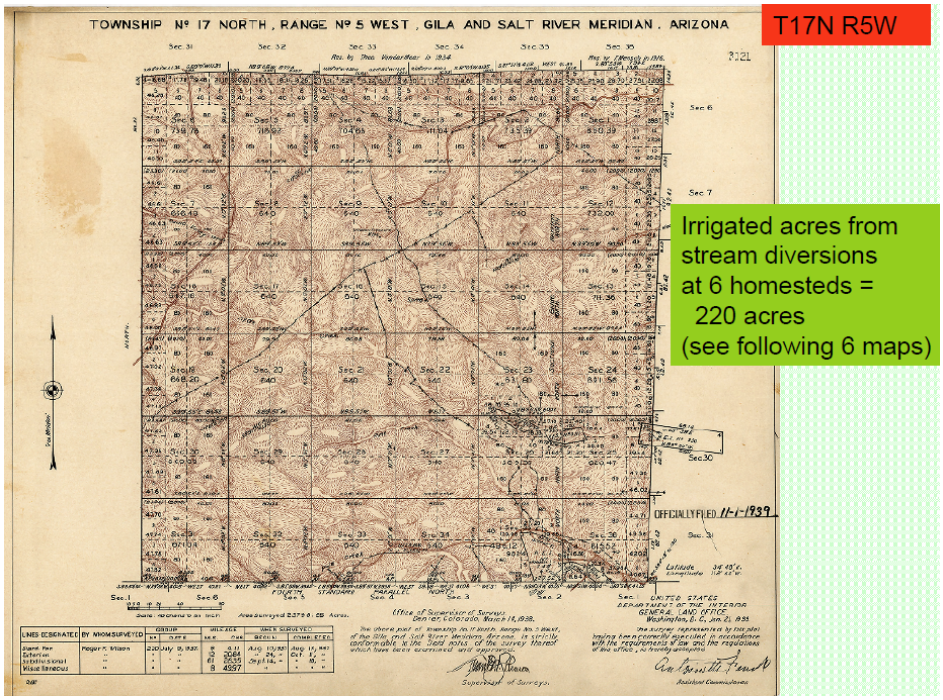
This Township embraces the extreme S. W. portion of Williamson Valley and contains much good land for farming and grazing.

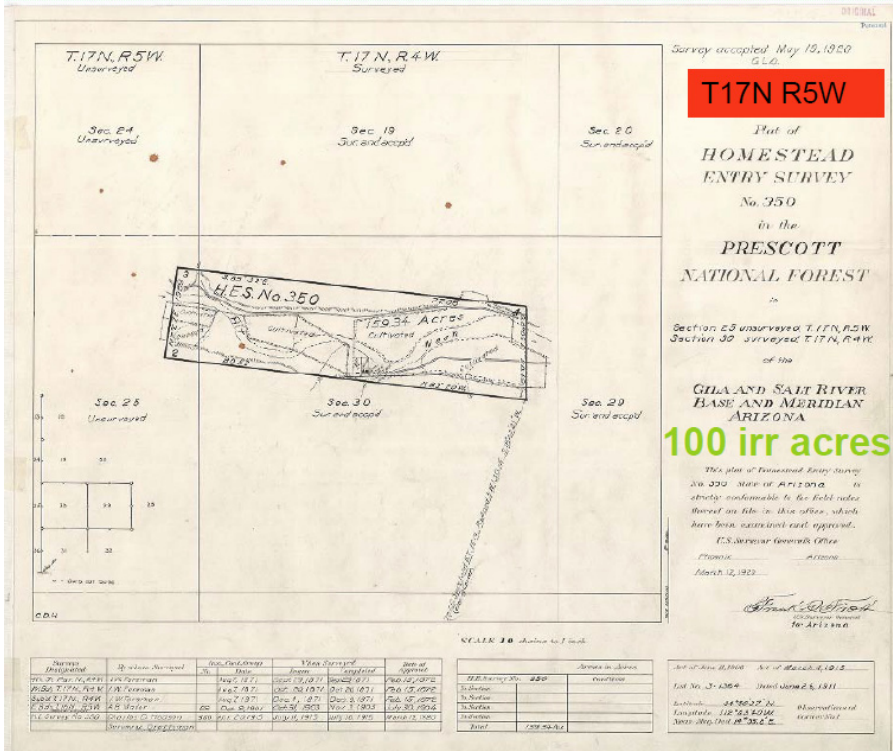
There is plenty of water and some fine meadow land.

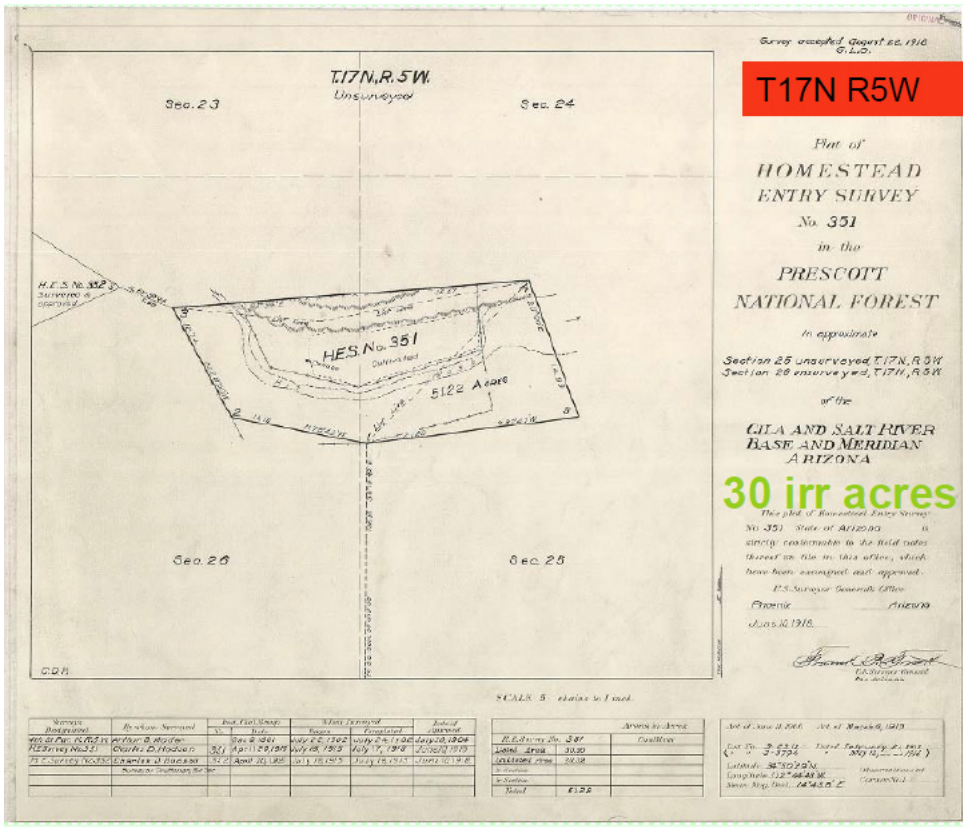
The scattering Juniper will also supply a considerable population with plenty of fuel.

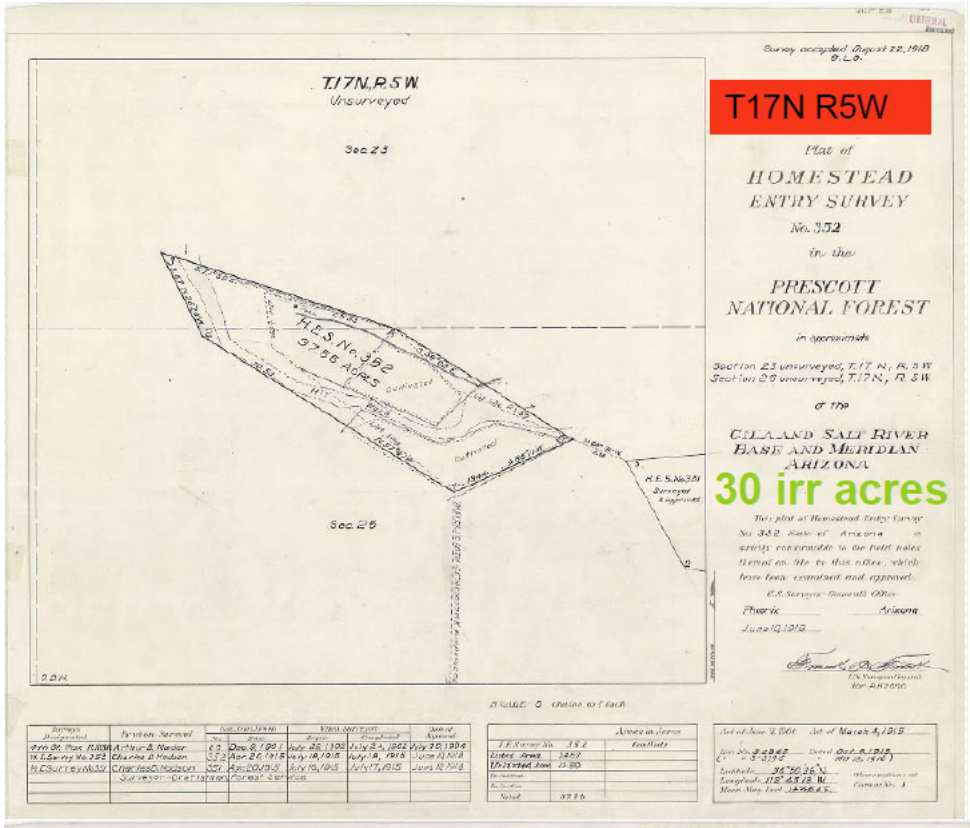
S. A. Foreman.
Deputy Surveyor

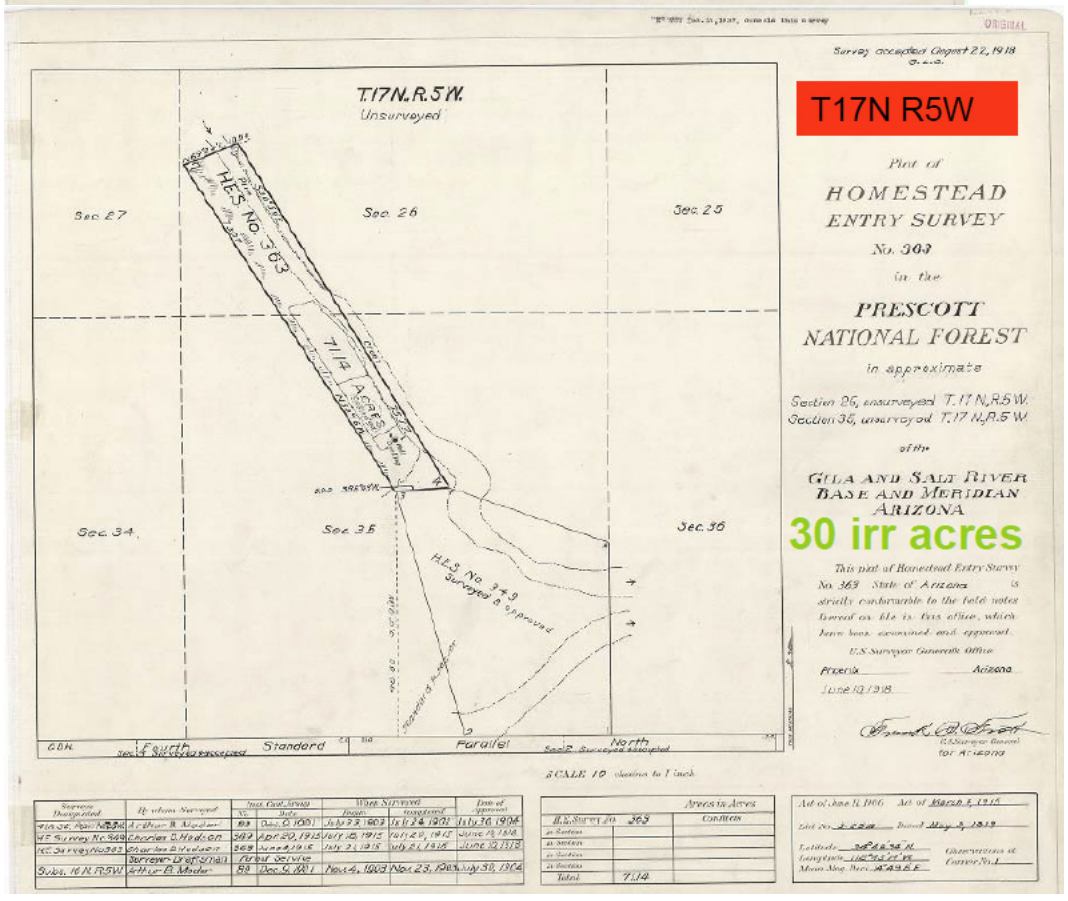

TOWNSHIP Nº 16 NORTH RANGE Nº 3 WEST
GILA AND SALT RIVER MERIDIAN
3075
OFFICIALLY FILED 3-12-1872
250
40
250 acres
cultivated land

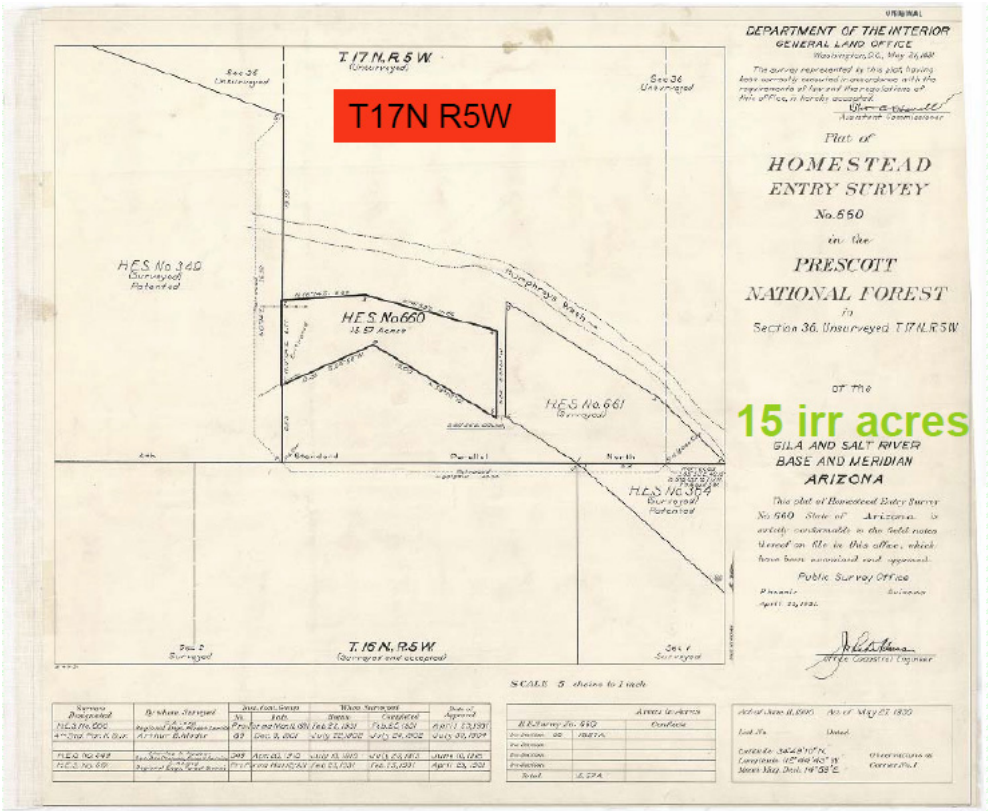

TOWNSHIP Nº 17 NORTH, RANGE Nº 5 WEST, GILA AND SALT RIVER MERIDIAN, ARIZONA
T17N R5W
Irrigated acres from
stream diversions
at 6 homesteds =
220 acres
(see following 6 maps)
OFFICIALLY FILED 11-1-1939

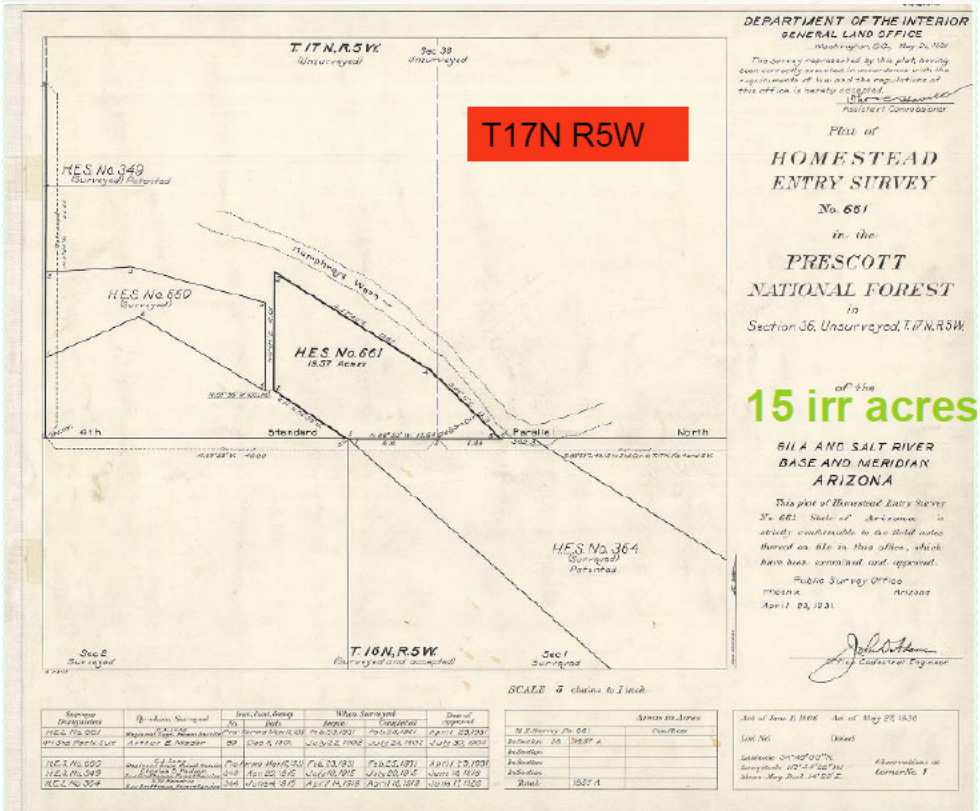

T17N R5W
T.17N.,R.5W.
Unsurveyed
T.17N.,R.4W.
Surveyed
Sec. 24
Unsurveyed
Sec. 19
Sur. and accepd
Sec. 20
Sur. and accepd
H.E.S. No. 350
159.34 Acres
Cultivated
Sec. 25
Unsurveyed
Sec. 30
Sur. and accepd
Sec. 29
Sur. and accepd
Survey accepted May 19, 1920
G.L.O.
Plat of
HOMESTEAD
ENTRY SURVEY
No. 350
in the
PRESCOTT
NATIONAL FOREST
in
Section 25 unsurveyed, T.17N., R.5W.
Section 30 surveyed, T.17N., R.4W.
of the
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
100 irr acres
This plat of Homestead Entry Survey
No. 350 State of Arizona is
strictly conformable to the field notes
thereof on file in this office, which
have been examined and approved.
U.S. Surveyor General's Office
Phoenix Arizona
March 12, 1923.
Surveyor General
for Arizona
SCALE 10 chains to 1 inch.


T17N R5W
T.17N.,R.5W.
Unsurveyed
Sec. 23
Sec. 24
H.E.S. No. 352
Surveyed &
approved
H.E.S. No. 351
Cultivated
5122 Acres
Sec. 26
Sec. 25
Survey accepted August 22, 1916
G.L.O.
Plat of
HOMESTEAD
ENTRY SURVEY
No. 351
in the
PRESCOTT
NATIONAL FOREST
in approximate
Section 25 unsurveyed, T.17N., R.5W.
Section 26 unsurveyed, T.17N., R.5W.
of the
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
30 irr acres
This plat of Homestead Entry Survey
No. 351 State of Arizona is
strictly conformable to the field notes
thereof on file in this office, which
have been examined and approved.
U.S. Surveyor General's Office
Phoenix Arizona
June 16, 1916.
Surveyor General
for Arizona
SCALE 5 chains to 1 inch.

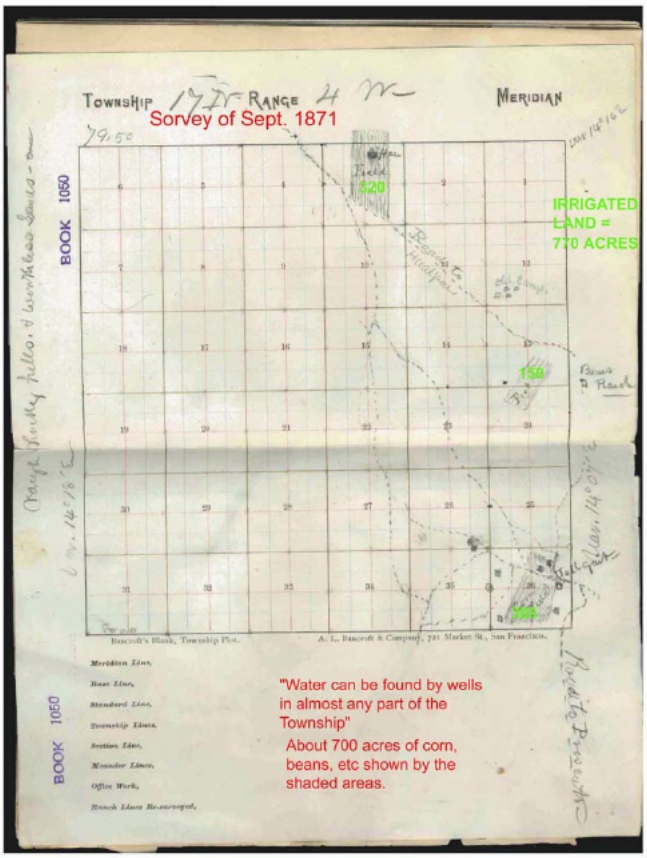

T17N R5W
30 irr acres
T.17N.R.5W.
Unsurveyed
Sec. 23
Sec. 26
H.E.S. No. 392
3756 Acres
Plat of
HOMESTEAD
ENTRY SURVEY
No. 352
in the
PRESCOTT
NATIONAL FOREST
in approximate
Section 23 unsurveyed, T.17 N., R. 5 W.
Section 26 unsurveyed, T.17 N., R. 5 W.
of the
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
Survey accepted August 22, 1918
G.L.O.
SCALE 10 chains to 1 inch

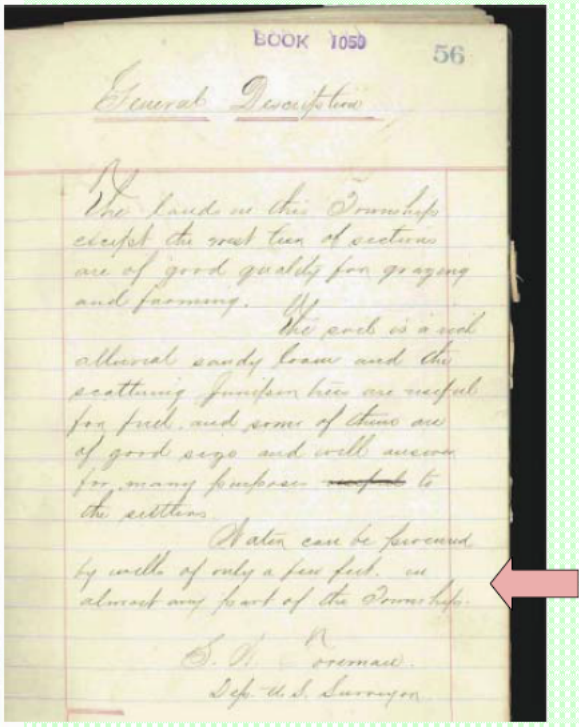

T17N R5W
30 irr acres
T.17N.R.5W.
Unsurveyed
Sec. 27
Sec. 26
Sec. 25
Sec. 34
Sec. 35
Sec. 36
H.E.S. No. 363
7.14 Acres
H.E.S. No. 349
Plat of
HOMESTEAD
ENTRY SURVEY
No. 363
in the
PRESCOTT
NATIONAL FOREST
in approximate
Section 26, unsurveyed T.17 N., R.5 W.
Section 35, unsurveyed T.17 N., R.5 W.
of the
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
Survey accepted August 22, 1918
G.L.O.
SCALE 10 chains to 1 inch


T17N R5W
T. 17 N., R. 5 W.
(Unsurveyed)
H.E.S. No. 340
(Surveyed)
Patented
H.E.S. No. 660
18.57 Acres
H.E.S. No. 661
(Surveyed)
H.E.S. No. 364
(Surveyed)
Patented
T. 16 N., R. 5 W.
(Surveyed and accepted)
Humphrey's Wash
Standard
Parallel
North
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Plat of
HOMESTEAD
ENTRY SURVEY
No. 660
in the
PRESCOTT
NATIONAL FOREST
in
Section 36, Unsurveyed, T. 17 N., R. 5 W.
of the
15 irr acres
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
SCALE 5 chains to 1 inch.


T17N R5W
T. 17 N., R. 5 W.
(Unsurveyed)
H.E.S. No. 349
(Surveyed) Patented
H.E.S. No. 650
(Surveyed)
H.E.S. No. 661
18.57 Acres
H.E.S. No. 364
(Surveyed)
Patented
T. 16 N., R. 5 W.
(Surveyed and accepted)
Humphrey's Wash
Standard
Parallel
North
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Plat of
HOMESTEAD
ENTRY SURVEY
No. 661
in the
PRESCOTT
NATIONAL FOREST
in
Section 36, Unsurveyed, T. 17 N., R. 5 W.
of the
15 irr acres
GILA AND SALT RIVER
BASE AND MERIDIAN
ARIZONA
SCALE 5 chains to 1 inch.

T17N R4W




BOOK 1050 56

General Description

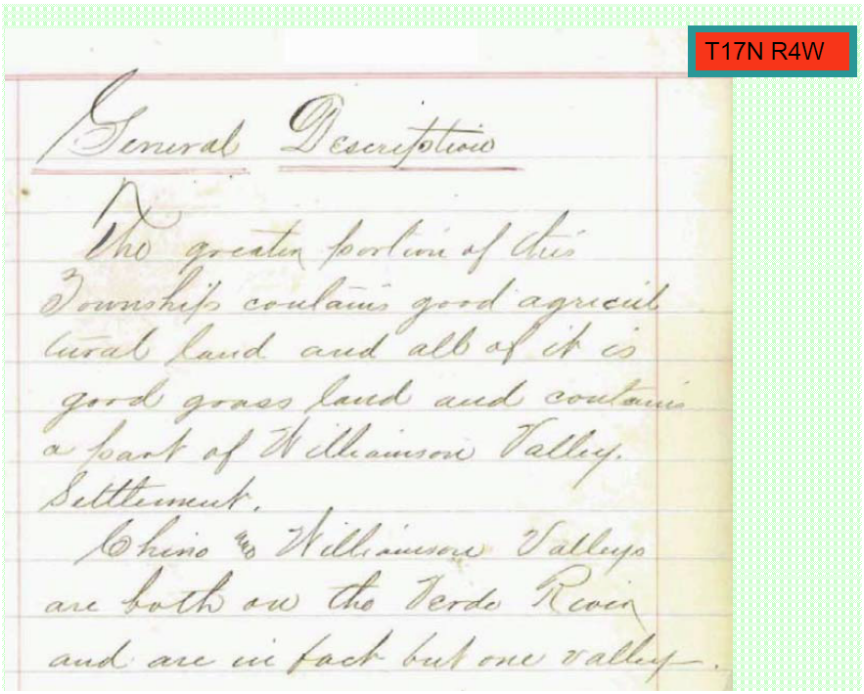
The land in this Township except the west tier of sections are of good quality for grazing and farming.

The soil is a red alluvial sandy loam and the scattering junipers here are useful for fuel and some of them are of good size and well known for many purposes ~~useful~~ to the settlers.

Water can be procured by wells of only a few feet in almost any part of the Township.

S. R. Freeman
Dep. U.S. Surveyor

T17N R4W

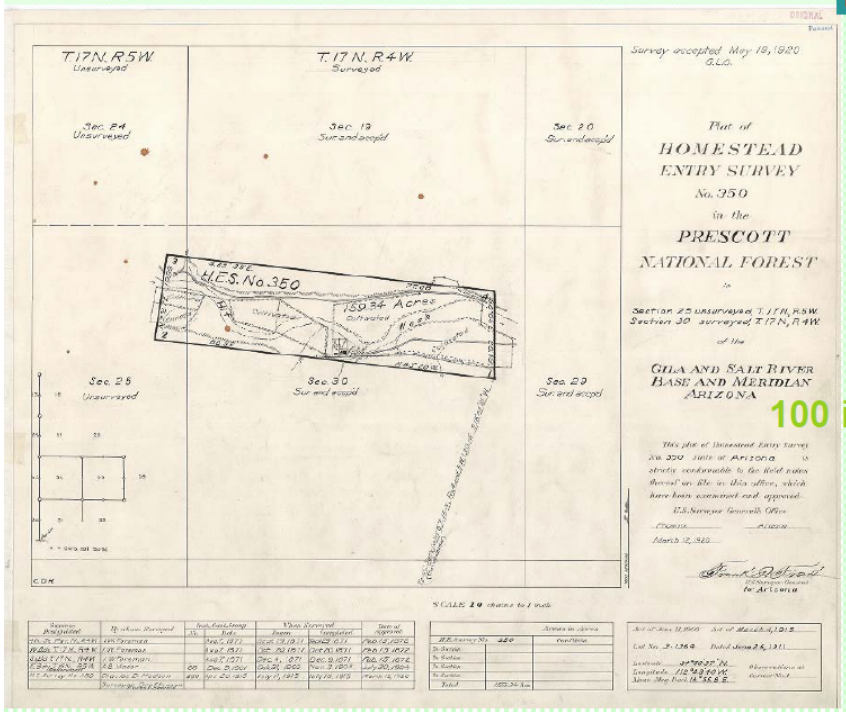

General Description

The greater portion of this Township contains good agricultural land and all of it is good grass land and contains a part of Williamson Valley.

Settlement.

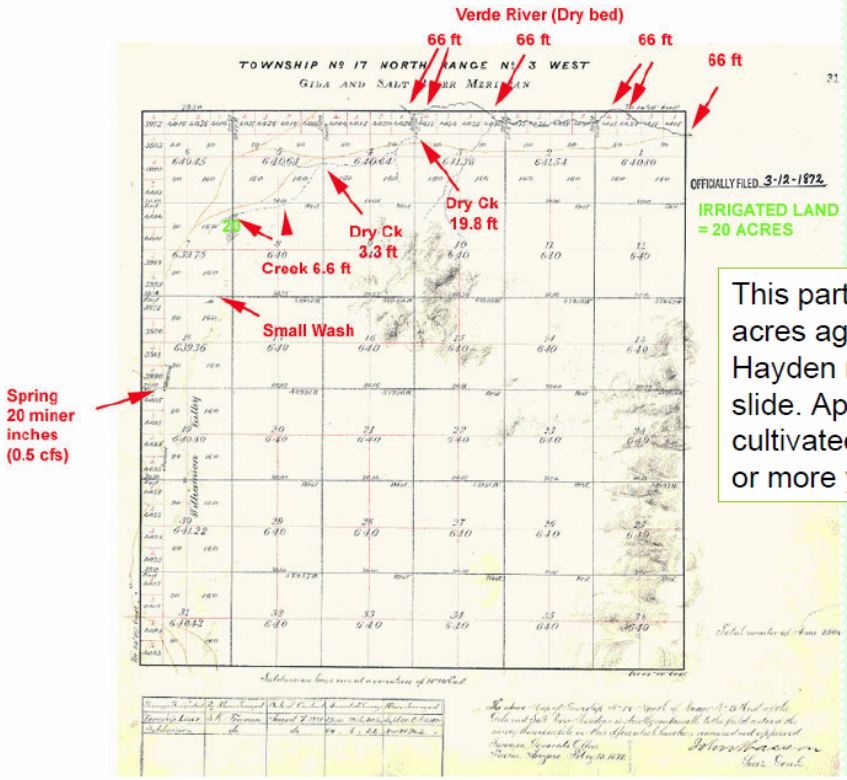
Chino and Williamson Valleys are both on the Verde River and are in fact but one valley.

T17N R4W



100 irr acres

T17N R3W



This particular irrigated acres agrees with the Hayden report on following slide. Appears there was a cultivated field for 50 or more years.

T17N R3W

CHINO VALLEY (Cont'd.) Sheet 5 of 5

Hayden, T. A., 1940

WILLIAMSON VALLEY WASH

A small flow of water (approximately 8 Sec.-ft. in May 1940) rises in the Williamson Valley wash at the site of a proposed reservoir in Section 18, T.17N., R.3W. The drainage area above this point is approximately 185 square miles. From time to time small areas have been irrigated in the valley a short distance below. In 1925 the "Williamson Valley Farms Company", Wm. H. Thompson, Manager, promoted the sale of a number of 5 and 10-acre tracts on the strength of an irrigation supply to be developed by a dam proposed to be built in the vicinity of the Corner of Sections 7, 8, 17 and 18, creating a reservoir of 17,000 Ac.-ft. capacity. Notice was given the company that this would be opposed by the Salt River Valley Water Users' Association on the ground of infringement of the water rights of the Salt River Project, and the proposal was abandoned. There is current talk in the vicinity of reviving this scheme. The land formerly irrigated is approximately as follows:-

T.17N., R.3W

Sec. 4
Sec. 5 } 20 acres - 1925
Sec. 7

T17N R3W

Considerable subdued excitement exists in Williamson and Big Chino valleys over the prospect of a system of water storage in the former for the irrigation of both valleys. J. J. Fisher has been engaged for several days in making surveys of the proposed reservoir and canal line. It is proposed to put the storage reservoir in Williamson valley, at a place known as the lakes, and will be taken thence by canal across into Big Chino valley. If the enterprise is pushed through to completion, as present indications are that it will, it will open up a large amount of land to settlement. No better land can be found any place either and all that is needed to make it productive is a system of irrigation.

"Lakes" area located a short distance upstream from the USGS gage on Williamson Valley Wash.

Win Hjalmarson

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, March 18, 1896,

The canal never happened.

T17N R3W

This office is in receipt of a late circular from the Interior Department, relating to the location of reservoirs, ditches and canals for irrigation purposes.

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, March 14, 1894,

Notice for Publication.

LAND OFFICE AT PRESCOTT, ARIZONA, May 18th, 1887

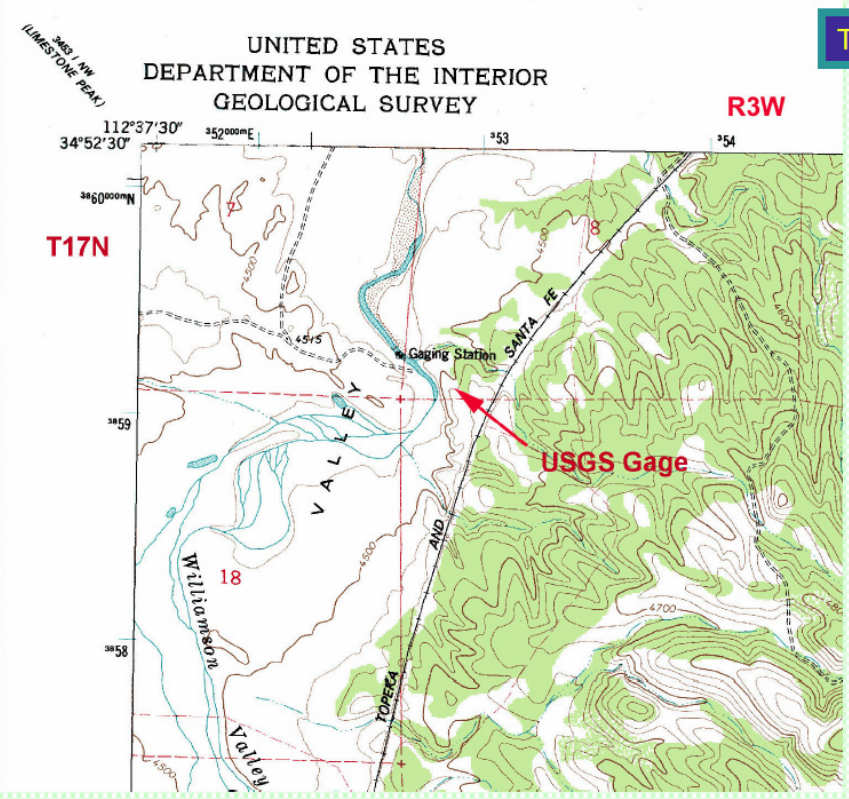
[illegible] that the following named settler has filed notice of [illegible]tion to make final proof in support of his claim, and that said proof will be made before the Register and Receiver of the United States Land Office at Prescott, Arizona on June 24th, 1887, viz.: Theodore Canfield, of Big Chino valley, Arizona, for his declaratory statement No 1626 for the southeast quarter of Section 22, Township 18 N, Range 3 W.

He names the following witnesses to prove his continuous residence upon and cultivation of said land, viz.: Ike Kuhn, Prescott, Arizona; J. P. Storm, W. M. Lynch J. C. Snow, Big Chino, Arizona.

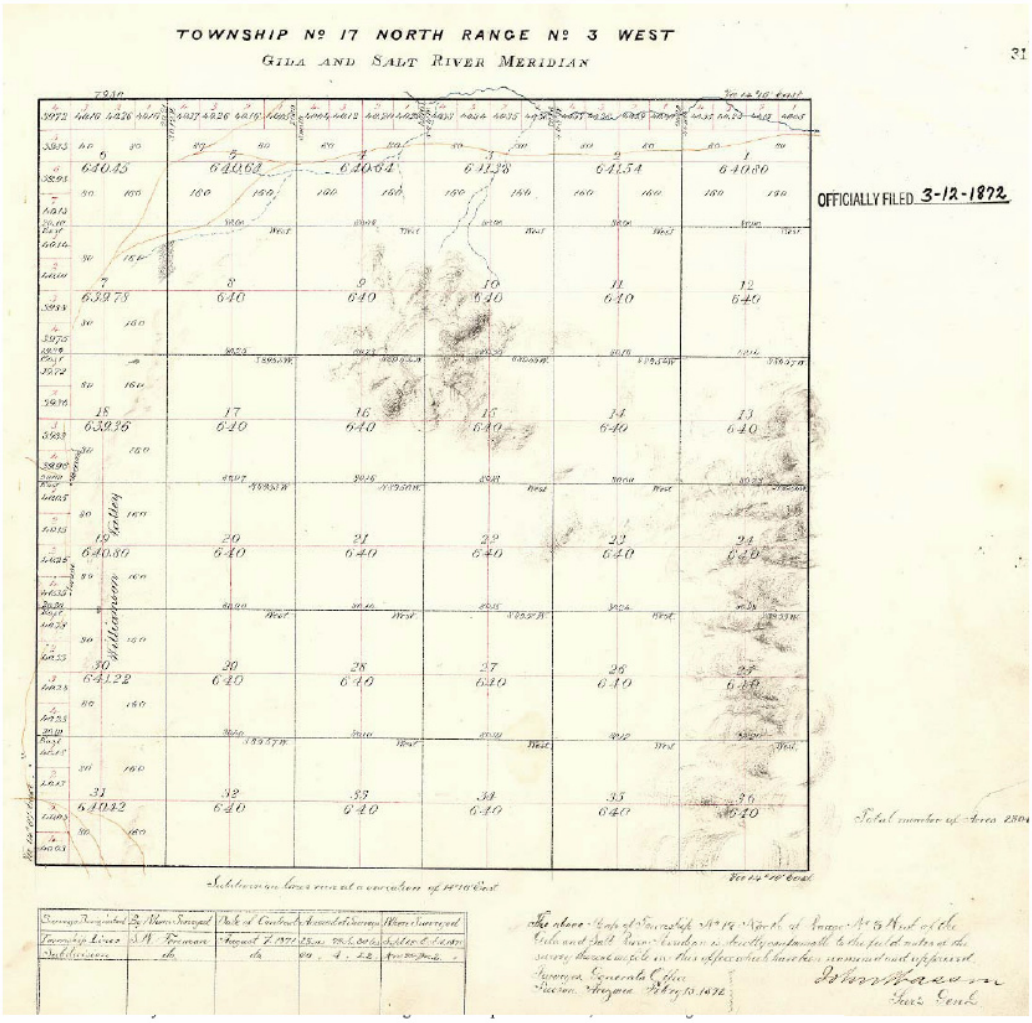
my18w6 J. V. CAMP, Register.

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, June 22, 1887

T17N R3W



2002 USGS Photo of Williamson Valley Wash gage



T17N R3W

Image	Accession	Names	Date	Doc #	State	Meridian	Twp - Rng	Aliquots	Sec. #	County
—	AZAZAA 001187	ANDERSON, THOMAS	2/23/1895	353	AZ	Gila-Salt River	017N - 003W	W½NE¼	30	Yavapai
—	AZAZAA 000001	ARIZONA STATE OF	6/20/1910		AZ	Gila-Salt River	001N - 001W	E½SW¼	2	Maricopa
							001N - 001W	SE¼NW¼	2	Maricopa
							001N - 001W		16	Maricopa
							001N - 001W		36	Maricopa
							001N - 002W	S½	2	Maricopa
							001N - 002W	S½N½	2	Maricopa
							001N - 003W	S½	2	Maricopa
							001N - 003W	S½N½	2	Maricopa
							001N - 003W		16	Maricopa
							001N - 003W		36	Maricopa
							...document contains 4720 additional land descriptions.			

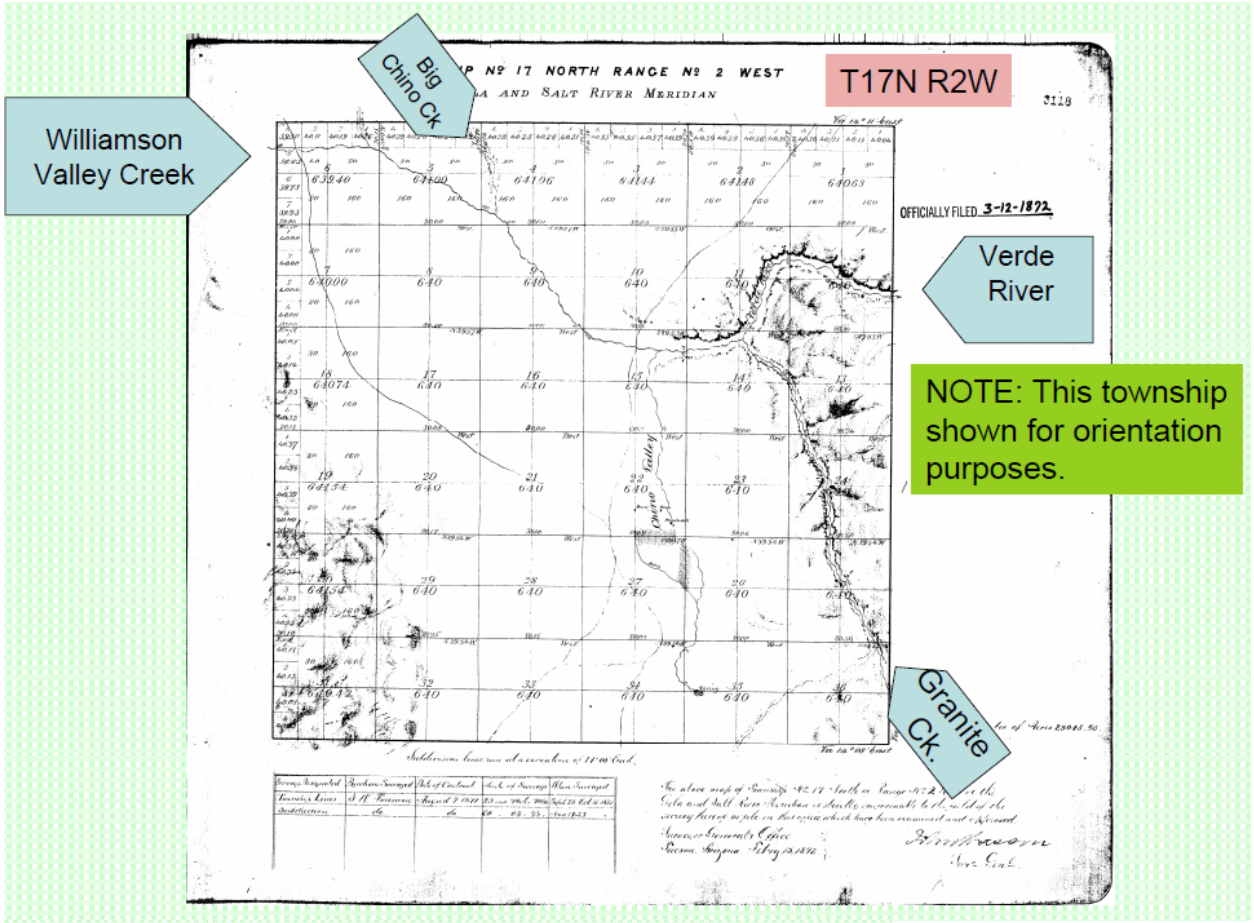
Search Results - BLM GLO Records

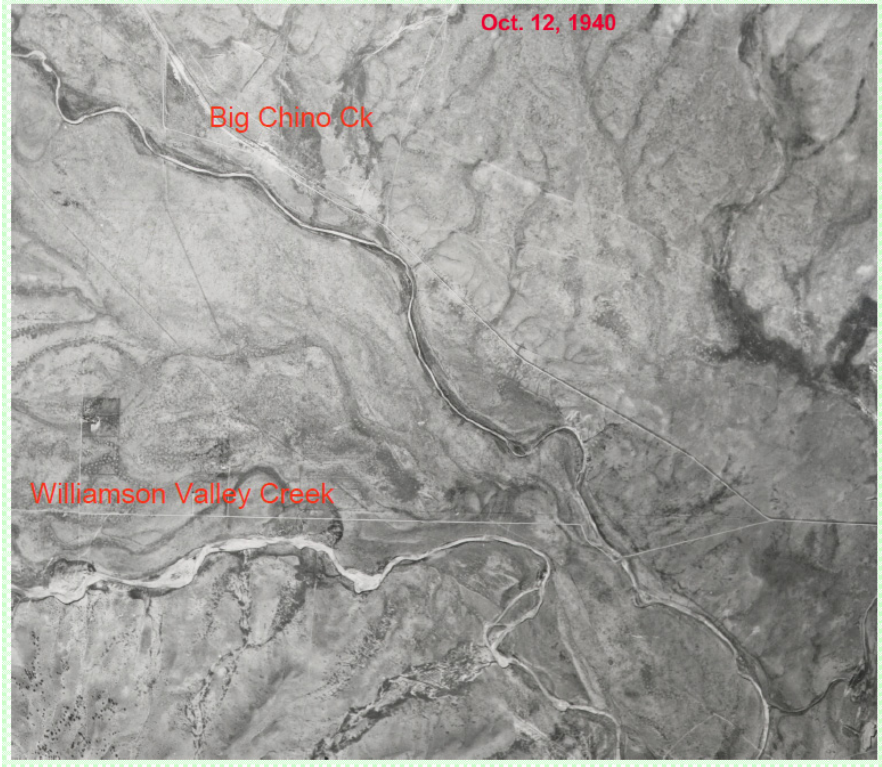
		MATIL, VONNIE,								
		MATIL, EMMA								
	440419	MATIL, JOSEPH	11/5/1914	013845	AZ	Gila-Salt River	017N - 003W	E½NE¼	30	Yavapai
—	AZAZAA 001182	PUNTENNEY, ELI	11/20/1883	55	AZ	Gila-Salt River	017N - 003W	E½SW¼	30	Yavapai
							017N - 003W	Lot/Trct 3	30	Yavapai
							017N - 003W	Lot/Trct 4	30	Yavapai
	505237	SANTA FE PACIFIC RAILROAD CO	12/30/1915	023992	AZ	Gila-Salt River	002N - 001E	SW¼	5	Maricopa
—	AZAZAA 001180	SIMMONS, WILLIAM J	11/15/1881	14	AZ	Gila-Salt River	017N - 004W	E½NE¼	36	Yavapai
							017N - 004W	NE¼SE¼	36	Yavapai
							017N - 003W	Lot/Trct 1	31	Yavapai
	FLS-0573-193	SULLIVAN, J W	9/29/1904	6366	AZ	Gila-Salt River	017N - 003W	SW¼SE¼	18	Yavapai
							017N - 003W	NE¼SE¼	18	Yavapai
							017N - 003W	SE¼NE¼	18	Yavapai

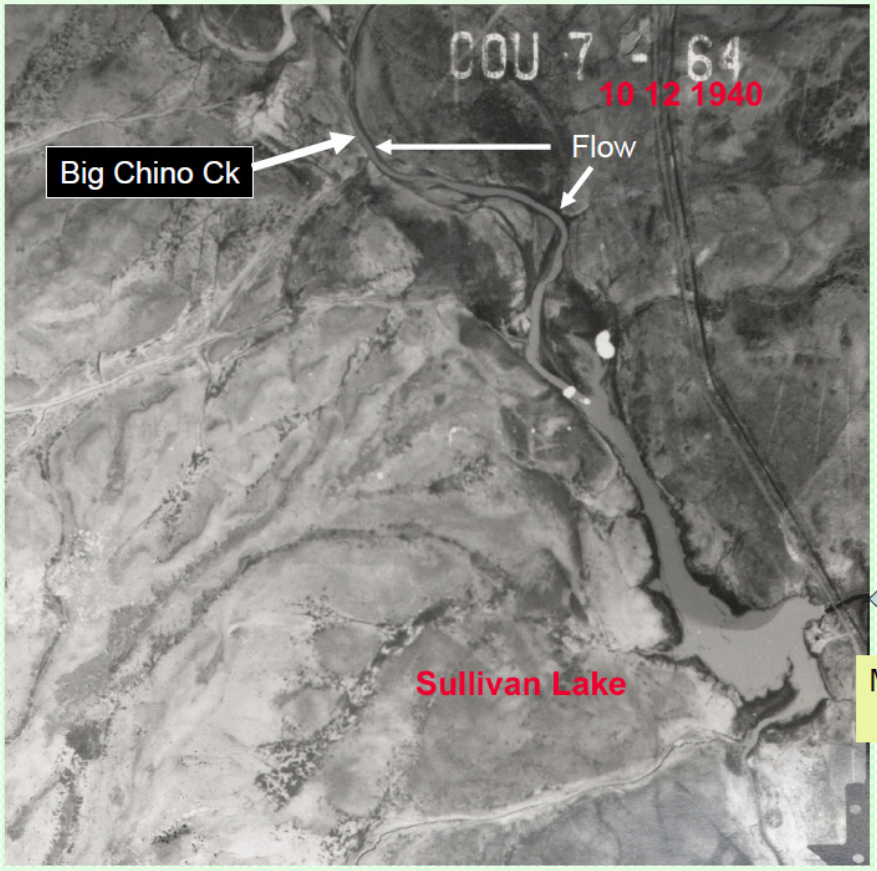
T17N R3W

Note: An *Italic* entry denotes data that has not been indexed against the land patent document, and has no image.

Image	Accession	Names	Date	Doc #	State	Meridian	Twp - Rng	Aliquots	Sec. #	County
							...document contains 22 additional land descriptions.			
	FLS-0572-338	AZTEC LAND AND CATTLE CO LTD	10/22/1904	8738	AZ	Gila-Salt River	017N - 003W	SE¼SE¼	30	Yavapai
	FLS-0572-337	AZTEC LAND AND CATTLE CO LTD	10/22/1904	8737	AZ	Gila-Salt River	017N - 003W	N½SE¼	30	Yavapai
—	AZAZAA 001178	BEAN, CURTIS C	9/10/1875	40	AZ	Gila-Salt River	017N - 003W	SE¼SW¼	18	Yavapai
							017N - 003W	NE¼NW¼	19	Yavapai
							017N - 003W	Lot/Trct 4	18	Yavapai
							017N - 003W	Lot/Trct 1	19	Yavapai
—	AZAZAA 001188	DILLON, DAVID D	12/13/1902	695	AZ	Gila-Salt River	017N - 003W	SE¼SW¼	31	Yavapai
							016N - 003W	Lot/Trct 3	6	Yavapai
							016N - 003W	Lot/Trct 4	6	Yavapai
							017N - 003W	Lot/Trct 4	31	Yavapai
—	AZAZAA 001177	HARRINGTON, JAMES V	4/10/1875	50	AZ	Gila-Salt River	017N - 003W	E½NW¼	30	Yavapai
							017N - 003W	Lot/Trct 1	30	Yavapai
							017N - 003W	Lot/Trct 2	30	Yavapai
—	AZAZAA 001179	LOVELL, JOHN T	9/10/1875	37	AZ	Gila-Salt River	017N - 003W	SE¼NW¼	31	Yavapai
							017N - 003W	NE¼SW¼	31	Yavapai
							017N - 003W	Lot/Trct 2	31	Yavapai
							017N - 003W	Lot/Trct 3	31	Yavapai
—	AZPHX 0015308	MATIL, CHARLES J, MATIL, ELEANOR L, MATIL, FRANK J, MATIL, JOHN N	3/4/1966	2660093	AZ	Gila-Salt River	017N - 003W	SW¼SE¼	30	Yavapai


Williamson Valley Creek
Big Chino Ck
T17N R2W
Verde River
NOTE: This township shown for orientation purposes.
Granite Ck.
OFFICIALLY FILED 3-12-1872


Oct. 12, 1940
Big Chino Ck
Williamson Valley Creek



Arizona weekly journal-miner. (Prescott, Ariz.)

Prescott

Dec. 27, 1875

CHINO AND WILLIAMSON VALLEYS

EDITOR MINER:—Two of the most pleasant vallies I have visited are those of Chino and Williamson, some 20 miles north of Prescott. After leaving the Stevens settlement, five miles from Prescott, the road winds in and out among low rolling hills for a few miles and then opens out upon an open country, resembling very much the rolling prairies of Iowa and Nebraska. For 12 miles or more the land descends to the north, forming the beautiful Chino Valley, in the centre of which are five splendid farms owned respectively by Messrs. Shivers, Reese, Baker, Hall, and Banghart. The Chino Valley is divided into the Great and Little Chino Valleys, that on the south being the Little Chino, and that on the northwest the Great Chino, which extends far to the north-west, as I was informed, to Colville on the Colorado river, some 120 miles. The whole country as far as the eye can reach is

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Lower California.
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Arizona weekly journal-miner. (Prescott, Ariz.)

covered with the white and curly gramma and other grasses, affording excellent pasturage. Mr. Shivers has a herd of 100 cattle, and milks from 15 to 30 cows. Mr. Banghart has 125 and milks 40 cows. Mr. Baker with whom is associated J. G. Campbell of Prescott, in stock, has a large band of brood mares, the finest in the Territory, numbering about 150, besides which the firm own 700 cattle and 2,500 sheep. On the Reese farm are the ruins of old Camp Whipple, and for some months in 1863 4 was the temporary headquarters of the Government Officials, soon after the organization of the Territorial Government.

In and around Chino Valley are many old and interesting ruins of the old pre-historic race, who, no doubt, many hundreds of years since cultivated the rich soil of the Valley.

Arizona weekly journal-miner. (Prescott, Ariz.)

From Chino to Williamson Valley, which is a south-west arm of the Chino, the distance is 12 miles nearly west. Williamson Valley is the finest grass and hay valley in the Territory, and over 1,000 tons of hay was put up there this year. The climate is cool in winter and in summer is delightful. Over 200 tons of corn was raised there this year. The first stage station of the C. & A. Stage Co. out of Prescott is kept here by W. J. Simmons who is now finishing off a large and commodious house. Mr. A. Zimmerman has a good dairy ranch, and Mrs. Z. has this year made 3,500 pounds of excellent cheese. The Valley contains 24 families, and 36 land claims are located in and around it. A good school has been started here, but not having time to visit it, will have to defer my description to my next visit. In the foot-hills but a few miles from Chino and Williamson Valleys are large quantities of cedar, juniper and oak, sufficient for consumption for a long time.

H. C. Hodge.

Prescott, Dec. 27th, 1875.

Williamson Valley
1875

The Board of Supervisors, therefore, request that all parties interested in the matter hold a meeting in their respective districts, and appoint committees to furnish information covering the following points, and report to the Board on or before the 26th of August:

1. The location of all streams, rivers and irrigating canals. These can best be shown on maps, sketches or tracings, prepared on a scale of two inches to the mile.

2. List of canals and ditches, giving as nearly complete as possible:

a—Name of canal or ditch.

b—Name of owners or officers and their postoffice addresses.

c—Date when built or first in use.

d—Streams from which the water is diverted.

e—Number of acres irrigated, and of cultivated lands.

f—Number of acres of good land so located that they could be irrigated by an increase of the water supply in the canals or ditches now constructed.

g—Number of acres that could be irrigated by new ditches or canals, and new reservoirs.

h—The available sights for reservoirs either in the valley or mountains, and the probable size of such reservoirs.

Arizona weekly journal-miner. (Prescott, Ariz.) 1885-1903, July 31, 1889

NOTE: Based on my research its doubtful if this request was followed by settlers in Williamson and Big Chino Valleys. These valleys, including Walnut and Pine Creeks seemed to have been ignored by many outsiders. It was as if little or no farming and ranching were present in the mid and late 1800s but the Land Surveys show otherwise. Win Hjalmarson, PE

Cultivated land

Township	acres
T16N R5W	200
T16N R4W	2140
T16N R3W	250
T17N R5W	220
T17N R4W	770
T17N R3W	20
Total	3600