IN THE SUPREME COURT OF THE STATE OF ARIZONA

In Banc

FARMERS INVESTMENT COMPANY, a corporation, Appellant, vs. ANDREW L. BETTWY, as State Land Commissioner, and the STATE LAND DEPARTMENT, a Department of the State of Arizona, and PIMA MINING COMPANY, a corporation, Appellees.	No. 11439-2 AMICUS CURIAE MEMORANDUM OF AMIGOS IN SUPPORT OF ANAMAX' MOTION FOR REHEARING.
FARMERS INVESTMENT COMPANY, a coporation, Appellant, vs. THE ANACONDA COMPANY, a corporation; AMAX COPPER MINES, INC., THE ANACONDA COMPANY, as partners in and constituting ANAMAX MINING COMPANY, a partnership, Appellees.	
CITY OF TUCSON, a municipal corporation, Appellant, vs. ANAMAX MINING COMPANY, DUVAL CORPORATION and DUVAL SIERRITA CORPORATION, Appellees.	

FILED
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CLERK, SUPREME COURT

PRELIMINARY STATEMENT

Arizona's Mining Industry Gets Our Support, an Arizona non-profit corporation, is a league of over one hundred and fifty business establishments in Arizona organized for the purpose and objective of acquiring and disseminating educational,

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business and scientific information of interest to one or more of its members or to the public at large pertaining to the mining and metallurgical industries in the State of Arizona; and of promoting matters of mutual interest to the members of the league pertaining to all aspects of the mining and metallurgical industries in the State of Arizona. The league is commonly called AMIGOS, and this name will be used when it is mentioned in this Memorandum.

The consequences of the decision by this Court in this case and a conviction that the decision is incorrect has caused AMIGOS to petition that it be allowed to file this Amicus Curiae Memorandum in support of the Motion for Rehearing of Anamax pending in this case. AMIGOS believes that the correct application of the reasonable use doctrine is the conclusion reached by Justice Cameron in this case that one may pump percolating water from parcels of land which overlies a distinct body of groundwater and beneficially use the water on parcels of land overlying the basin from which the water was obtained. AMIGOS' argument in support of the proposition may all be made by discussing the opinion of the Court in the Anamax case.

FACTS IN THE ANAMAX CASE

On November 24, 1969, FICO filed its original Complaint naming certain mining companies as defendants. On November 8, 1973, FICO filed its Amended Complaint naming as defendants the Anamax Copper Mining Company, the Anaconda Company, the Amax Copper Mines, Inc., the Pima Mining Company (Cyprus Pima), the Duval Corporation and the American Smelting and Refining Company. Therein, FICO alleged that the defendants were pumping substantial amounts of water from

under the lands in the Sahuarita-Continental Critical Groundwater Area and were using such waters so pumped outside the said critical area on lands other than from which the waters were being pumped.

In its answer, filed November 19, 1973, Amax Copper Mines, Inc., the Anaconda Company and the Anamax Mining Company, hereinafter called "Anamax", admitted that water was pumped from its land in said critical water area for its use at a site located outside of said critical water area, and further alleged that a substantial quantity of water so used was returned to said critical water area.

During the pendency of the action for trial, FICO, on April 15, 1974, moved for a preliminary injunction asserting that Anamax was presently engaged in drilling a well and that the well was situated within the Sahuarita-Continental Critical Groundwater Area and that a permanent injunction should be issued to enjoin Anamax from transporting the water outside the critical area "or for any use other than a beneficial use on the land from which the water is withdrawn".

For the purpose of the arguments in this Memorandum, AMIGOS accepts the additional facts stated by this Court. For convenience, we will quote them:

> "The Anamax Copper Mining Company is a partnership consisting of the Anaconda Company and Amax Copper Mines, Inc. It is engaged in mining and milling low grade copper deposits in Pima County, Arizona. Farmers Investment Company, plaintiff in the court below, herein called FICO, is the owner of approximately 7,000 acres of irrigated land in Pima County, south of Tucson in the Santa Cruz Valley. Its lands have been irrigated for agricultural purposes for many years, some as long as prior to 1915. All of such lands are located within the Sahuarita-Continental Critical

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Groundwater Area, as designated by the State Land Department on October 14, 1954 pursuant to A.R.S. § 45-308. FICO has irrigated its farm lands and used for domestic purposes the percolating waters lying below the surface of the lands by pumping water from wells located on its lands. In addition to the irrigated lands of FICO, there are other lands within the Sahuarita-Continental Critical Groundwater Area which are irrigated by pumped waters. FICO pumps approximately 38,500 acre feet annually. Other land owners within the area use an additional amount of approximately 15,000 acre feet per year. The annual recharge of water within the critical area is substantially less than the amount used for agricultural purposes and the water table has been for many years gradually lowering and the reservoir of supply has been gradually depleting.

* * *

"While the action was pending trial, FICO on April 15, 1974 moved for immediate injunctive relief, asserting that Anamax was engaged in the mining and milling of copper ores, its mill being located approximately four miles west of the farm lands of FICO; that FICO's farm lands were located within the Sahuarita-Continental Critical Groundwater Area south of Tucson, which includes a major part of what is generally referred to as the upper Santa Cruz basin; that Anamax's mine and mill were located one mile west of the west boundary of the Sahuarita-Continental Critical Groundwater Area; that FICO's farm consisted of two tracts of land, roughly rectangular in shape, approximately one and one-half miles apart, lying in the valley of the Santa Cruz River; that Anamax, prior to filing this litigation, constructed several large water wells in the critical area, equipped such wells with large pumps powered by electrical energy and transported the waters therefrom to its mine and mill; that Anamax was planning to enlarge its ore treatment facilities from the capacity of 30,000 tons per day to 40,000 tons per day and otherwise enlarge its operation, which would require 6,000 acre feet of additional water annually; that

> Anamax was presently engaged in drilling a well to the proposed depth of 1,000 feet, 32 inches in diameter at the collar, in order to supply the water requirements of Anamax arising from its increased ore treatment. This well was being drilled almost equal distance between the boundaries of FICO's two tracts. FICO prayed for relief that Anamax be permanently restrained from completion and use of this well for the purpose described or for any use other than a beneficial use on the land from which the water is withdrawn."

In addition, Anamax has alleged in its Answer and Response to Affidavit of R. Keith Walden, that at a cost of 2 1/2 million dollars, it had acquired farming lands lying within the Critical Groundwater Area referred to in the Complaint, and subsequent to the acquisition of said farm land, retired said farm land from cultivation for the purpose of having more adequate water supply with which to conduct its mining activities and that farm land so retired consumptively used more water on an historical basis than Anamax was using outside the Critical Groundwater Area.

The Sahuarita-Continental Critical Groundwater Area was designated as such by the State Land Department on October 14, 1954, pursuant to authority so given to the Department by A.R.S., Section 45-308. The statutory definition of this "critical groundwater area" is found in Section 45-301 and provides as follows:

> "1. 'Critical groundwater area' means any groundwater basin as defined in paragraph 5 or any designated subdivision thereof, not having sufficient ground water to provide a reasonably safe supply for irrigation of the cultivated lands in the basin at the then current rates of withdrawal."

The wells and tailings ponds of Anamax and the wells and the irrigated land of FICO are all within the Critical Groundwater Area. The mill of Anamax is outside the Critical Groundwater Area.

Section 45-301 (6) defines "groundwater subdivision" as follows:

> "6. 'Groundwater subdivision' means an area of land overlying as nearly as may be determined by known facts, a distinct body of ground water. It may consist of any determinable part of a groundwater basin." (Emphasis added.)

The Sahuarita-Continental Critical Groundwater Area and additional lands around the critical area are all included within the Sahuarita-Continental subdivision of the Santa Cruz Groundwater Basin, as determined by the Commissioner of the State Land Department pursuant to A.R.S. Section 45-303. The wells from which Anamax pumps groundwater and its mill, tailings ponds and other plant facilities are all located in the Sahuarita-Continental subdivision of the Santa Cruz Groundwater Basin overlying this distinct body of groundwater.

The Superior Court of Pima County denied FICO's application for a preliminary injunction. The ruling of the Superior Court provided:

> "2. Water may be pumped from one parcel and transported to another parcel, if both parcels overlie a common basin or supply and if the water is put to a reasonable use."

ARGUMENT

Whatever doubt that formerly existed in the Arizona case law concerning the rule of law applicable to percolating water or groundwater in Arizona was settled in the opinion of the majority of this Court in the decision on rehearing in Bristor v. Cheatham, 75 Ariz. 227, 255 P2d. 173 (1953), hereinafter called Bristor v. Cheatham II. In this decision, Justices Phelps and Udall dissenting, this Court held that the doctrine of prior appropriation was not applicable to groundwater in Arizona, and that with respect to groundwater, Arizona

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adopted the American rule that one may extract such water for a reasonable beneficial use on the land from which the same is taken. 1/

In Bristor v. Cheatham I (original opinion), which was overruled by Bristor v. Cheatham II, the majority of this Court held that the rule of prior appropriation applied to groundwater in Arizona and the author of that opinion (Justice Phelps) gave no consideration in this opinion to the application of the reasonable use rule. Justices LaPrade and DeConcini dissented from the decision of this Court, rejecting the application of the doctrine of prior appropriation to groundwater. Each dissenting justice, however, considered the application of the reasonable use doctrine. Thus only in the dissenting and concurring opinions of Justice LaPrade and DeConcini in Bristor v. Cheatham I and the majority opinion in Bristor v. Cheatham II was consideration given to the application of the reasonable use rule to groundwaters.

In the Anamax opinion, this Court stated:

> "From the context of the language used in the Bristor opinion, 2/ from the cases quoted in it, and from the Bristors' position as set forth in their complaint, it is clear there is no firm basis for appellees' conclusion that the word 'land' meant other than the lands on which the pumping occurred."

Such a conclusion is not warranted (a) by Bristor's complaint, or (b) by the authorities in the Bristor opinion and the context of the language in the Bristor opinion.

1/ This Court in adopting the reasonable use rule expressly rejected the correlative rights doctrine.

2/ It is not clear whether this Court in referring to the "Bristor opinion" meant only the opinion on rehearing (Bristor v. Cheatham II). Bristors' position as set forth in the Complaint can only be obtained from the dissenting opinions of Justices LaPrade and DeConcini in Bristor v. Cheatham I and not from the opinion of the Court or the dissenting opinion in Bristor v. Cheatham II.

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COMPLAINT IN BRISTOR V. CHEATHAM 3/

Mr. Justice LaPrade in his concurring and dissenting opinion in Bristor v. Cheatham stated, ". . . I think it advisable to more clearly state the issues as made by the pleadings, and particularly by the assignments of error. This Court's attention is particularly invited to that part of his dissenting opinion that AMIGOS has capitalized for emphasis:

> "The first assignment assigns as error the granting of appellees' motion to dismiss the complaint, and reads as follows: 'The Court erred in granting appellees' Motions to Dismiss the First Cause of Action of the Complaint, under date of November 14, 1949, for the reason that the First Cause of Action states a valid claim for relief against appellees, since the owner of land overlying a supply of percolating water common to adjoining land owners may not pump the water from wells upon his land and convey it to other lands, for the benefit of those lands, FROM WHENCE IT DOES NOT RETURN TO REPLENISH THE COMMON SUPPLY, if such supply available to the adjoining land owners from pumps upon their lands drawing water from such common supply, is diminished to their injury.' (Emphasis supplied.)
>
> "The second assignment assigns as error the entry of the final judgment dismissing the first cause of action, the specification of error being in the identical words of the first assignment of error. One proposition of law, reading as follows, is offered in support of these two assignments. I quote:

3/ Count one of the Complaint alleges a claim on the theory that underground water was ground water or percolating water and the rule of reasonable use or correlative rights was applicable. Count two of the Complaint was construed by the Court to allege a claim on the theory that the water was an underground stream and the doctrine of prior appropriation was applicable.

> 'The owner of land overlying a supply of percolating water common to adjoining land owners may not pump the water from wells upon his land and convey it to other lands for the benefit of those lands, FROM WHENCE IT DOES NOT RETURN TO REPLENISH THE COMMON SUPPLY, if the supply available to the adjoining land owners from pumps upon their lands drawing water from such common supply, is diminished to their injury.'

This Court quoted in its Anamax opinion in this case, paragraph XIV of Count one of Bristor's complaint which was not set forth in either Bristor v. Cheatham I or II. The paragraph states in part:

> "that the water so pumped by defendant confers no benefit upon defendants' landswhere the pumping operation is conducted; that such use by defendants is an unreasonable use as to plaintiffs * * *"

All of Count one of the Complaint in Bristor v. Cheatham should be read together to understand the theory of this Count, but paragraph XV of this Count (also not in the reported opinion) is enough to demonstrate that the theory of the Complaint is that water is pumped from the common supply and transported and used to irrigate other lands and does not return to replenish the common supply (common basin). Paragraph XV reads as follows:

> "That the water so pumped by defendants is taken from the supply common to the lands of all parties and when conveyed to other lands and used to irrigate the same, as aforesaid, does not return to replenish said common supply." (Emphasis added.)

The plaintiffs in Bristor v. Cheatham by the express wording of their Complaint and by their Assignments of Error and Proposition of law clearly alleged a claim and argued a case unlike

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the Anamax case because the allegations of this claim in Bristor v. Cheatham were that the water was removed to irrigate lands from which it could not return to replenish the common supply.

II

AUTHORITIES CITED AND CONTEXT OF LANGUAGE IN BRISTOR V. CHEATHAM

The majority opinion in Bristor v. Cheatham II applies the reasonable use rule for percolating or groundwater alleged in Count one of Plaintiff's Complaint. As pointed out above, the allegations of Count one of Bristors' Complaint, their Assignments of Error and Proposition of Law are all on the theory that the owner of land overlying a supply of percolating water common to adjoining land owners may not pump the water from wells upon his land and convey it to other lands for the benefit of those lands, from whence it does not return to replenish the supply, if the supply available to the adjoining land owners from pumps on their lands drawing water from such common supply is diminished to their detriment. Judge Windes cites and quotes from Rothrauff v. Sinking Spring Water Co., 339 Pa. 129, 14 A2d. 87, 90 (1940) and Canada v. City of Shawnee, 179 Okl. 53, 64 P2d. 694, 696 (1937), both of which were cases where groundwater was pumped from wells on land of the defendant and transported off the land by pipelines and sold. In neither case does the court consider a situation where water is pumped from one parcel of land in a basin and transported and beneficially used on another parcel in the same basin. This Court stated:

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> "The principal difficulty in the application of the reasonable use doctrine is determining what is reasonable use."

This is contrary to the theory of FICO in the instant case which appears to be that if water is pumped from a well within a critical groundwater area and moved outside the area but within the same basin where it is placed to beneficial use, such use is unreasonable if thereby others whose lands within the critical groundwater area are prejudiced. Judge Windes speaking for this Court stated in Bristor v. Cheatham II:

> "What is a reasonable use must depend to a great extent upon many factors, such as the persons involved, the nature of their use and all the facts and circumstances pertinent to the issue."

This Court in Bristor v. Cheatham II quoted with approval, the following comment from Section 852 of the Restatement of Torts:

> "* * * As such it is a question which must be determined in each case in view of the persons involved and the particular facts and circumstances. A use that may be reasonable under certain circumstances may be unreasonable under different circumstances, and a use by A that may be reasonable as to B may be unreasonable as to C. In some localities certain uses of water may, because of fairly uniform conditions, be so continuously found to be reasonable or unreasonable that in the absence of exceptional circumstances they can be said to be so as a matter of law in that particular place. * * *
>
> "* * * The determination in a particular case of the unreasonableness of a particular use is not and should not be an unreasoned, intuitive conclusion on the part of a court or jury. It is rather an evaluating of the conflicting interests of each of the contestants before the court in accordance with the standards

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of society, and a weighing of those, one against the other." 4/ (Emphasis added.)

This Court concluded in Bristor v. Cheatham II "that the first cause of action states sufficient facts to warrant relief if supported by the proper evidence." Since the allegations in the Complaint of Bristor v. Cheatham alleged a claim based on the theory that groundwater was pumped from and conveyed to land from which it does not return to replenish the common supply, this case is not authority for granting an injunction against Anamax because Anamax does not remove the water from the groundwater basin and water used by it is allowed to return to replenish the common supply.

Neal v. Hunt, 112 Ariz. 307, 541 P2d. 559 (1975)

4/ In Jarvis v. State Land Department, 106 Ariz. 506, 479 P2d. 169 (1970), hereinafter called Jarvis II, there was an evaluating of "the conflicting interests of each of the contestants before the court in accordance with the standards of society, and a weighing of those, one against the other" when this Court allowed the City of Tucson to withdraw water out of the water basin in the Marana Critical Groundwater Area. Reliance on Jarvis was upon a State Legislative policy expressed in A.R.S. Section 45-147 giving a preference over agriculture users to domestic and municipal users of water subject to appropriation, such as streams. This Section was originally enacted in Section 7, Chapter 164, Laws of 1919. In Southwest Engineering Co. v. Ernst, 70 Ariz. 413, 291 P2d. 764, 766 (1955), this Court pointed out that groundwaters were developed only after the appropriation of water from streams and the later development of dams collecting excess water. A later legislative policy and law applicable only to groundwater was enacted after heavy withdrawals of groundwater, chiefly for irrigation purposes, threatened the economy of Arizona. This law prohibited the drilling of wells for irrigation purposes, but allowed the drilling of wells for domestic, stockwatering, domestic water utility, industrial and transportation purposes. See A.R.S. Sections 45-301 and 322. It is submitted that this later expression of the legislature directly applicable to groundwater should have been the legislative policy upon which this Court should have relied on in Jarvis II, instead of Section 45-147 which is applicable only to appropriablewaters. This, of course, would give industrial users the same right to withdraw groundwater out of a basin that this Court gave the City of Tucson in Jarvis II.

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and Jarvis II are overruled by the decision of this Court in the Anamax case. In Jarvis II, this Court held that the City of Tucson could lawfully extract water from wells situated in the Marana Critical Groundwater Area and transport this water for use off the immediate lands on which the wells were located to Ryan Field, an air base located on lands situated within the boundaries of the critical groundwater area. This Court did not rely in its opinion on the location of the wells and Ryan Field, both being in the same critical groundwater area, but rather on the fact that the wells and Ryan Field were both overlying the same water basin and therefore the City of Tucson was entitled to draw water from the wells to be transported for use at Ryan Field. This Court concluded:

> "Its lands (Ryan Field) overlie the Avra-Altar water basin and geographically it lies within the Marana Critical Groundwater Area so as to entitle it to withdraw water from the common supply for all purposes except agriculture. Tucson should not be prohibited from delivering water to Ryan Field for lawful purposes since the Ryan Field supply is from the common basin over which it lies and from which it could legally withdraw water by sinking its own wells for domestic purposes."

This Court, in Jarvis II, then considered a situation where the water was pumped from wells in the Marana Critical Groundwater Area, but there was no showing that it would be used on lands overlying the common basin. This Court stated:

> "Tucson's delivery of water to purchasers within the Avra-Altar drainage area but outside the Marana Critical Groundwater Area is, however, without equitable sanction. There is no indication in the record that these customers of Tucson overlie the water basin so as to come within the principle

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> applicable to Ryan Field. Until Tucson can establish that its customers outside the Marana Critical Groundwater Area but within the Avra-Altar Valleys' drainage areas overlie the water basin so as to be entitled to withdraw water from it, there are no equities which will relieve it of the injunction heretofore issued." (Emphasis added.)

It would be difficult for this Court to state more concisely and positively that a water user may pump water from wells on his land and divert it for use on any land overlying the common water basin from which it was pumped than the above quotation from Jarvis II.

As recently as October of 1975, this Court in Neal v. Hunt, supra, reaffirmed the principle that where water is extracted and used on other lands overlying the common supply, then this constitutes the use of water "on the land" from which it is withdrawn. In Neal v. Hunt, this Court was concerned with the use of water away from the basin from which it was extracted but this Court stated its opinion:

> "We therefore hold that in dealing with percolating waters and not surface waters or subterranean streams, and absent a showing of damage to, or impairment of, the water supply of another landowner within the same groundwater basin, a landowner may mine and remove, to an outside area, subjacent water from his land. In our State water is a precious and much needed commodity. The law should encourage the reasonable and beneficial use of this great natural resource; subject, of course, to the rules for its taking and distribution over the years."

EVALUATING THE CONFLICTING INTERESTS OF ANAMAX AND FICO

This heading adopts language quoted from the Restatement of Torts by the Court in Bristor v. Cheatham II.

The decision of this Court that will result in enjoining Anamax from transporting water from the well sites to its mill establishes a precedent that will require the siting of milling circuits for mines and any other industrial enterprises using large quantities of water at the well sites. 5/ The wells of Anamax are located on parcels of land that has been farmed for many years along the Santa Cruz River and are located in both the Sahuarita-Continental Critical Groundwater Area and the larger area called the Sahuarita-Continental sub-division of the Santa Cruz Groundwater Basin. Although there is a prohibition on drilling new wells for agricultural purposes in this Critical Groundwater Area, A.R.S., Section 45-322 authorizes the construction of exempt wells and an exempt well includes wells for industrial purposes. Therefore so long as the milling circuit or other industrial plant are located at the well sites, this Court's opinion in the Anamax case would permit the land owner to withdraw as much of the percolating water as could be beneficially used in connection with the milling operations of industrial plants at the well sites, even though siting these milling operations and industrial operations at this location results in adverse environmental and other undesirable conditions. This certainly is not consistent with Bristor v. Cheatham II where the Court quoting Section 852 of the Restatement of Torts stated as follows:

> "The determination in a particular case of the unreasonableness of a particular use is not and should

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5/ Even FICO must concede that Anamax would be making a reasonable, beneficial use of the water if the milling circuit of Anamax where the ground ore and water are mixed were located at the mill sites and the waste rock (tailings) mixed with water were pumped to Anamax' present tailing ponds.

> not be an unreasoned, intuitive conclusion on the part of the court or jury. It is rather an evaluating of the conflicting interests of each of the contestants before the court in accordance with the standards of society, and a weighing of those, one against the other."

Certainly there is no advantage to be gained by the users of the percolating water by requiring milling circuits and industrial establishments to be sited at well sites. Every economic and environmental reason dictate that milling circuits of Anamax and the other mining companies and other industrial plants be allowed to be located away from the well sites and at locations having natural advantages not only because of the location of raw materials, including ore deposits, but also because of the terrain and distance from communities. In either case, the amount of water beneficially used will be the same and parties in the position of FICO would have the same withdrawal from the common supply of groundwater. Certainly this Court should not in the exercise of its equity power require useless acts or add needless burdens for Anamax and others now carrying on industrial operations or hereafter developing and equipping industrial operations by establishing a rule of reasonable use that requires the siting of these operations at well sites rather than at other locations more adequately serving the community and the industry, Austin v. Chandler, 4 Ariz. 346, 42 Pac. 483 (1895).

"Economic Aspects of Decision-Making In Water Use In Semi-Arid and Arid Lands", by Professor Andrew W. Wilson of the University of Arizona, published by UNESCO, 1964, Paris, page 48, states:

> "In the Tucson situation . . . it is apparent that agriculture is not contributing much to the basic income (only 7.2%) while consuming through irrigation water 46.1% of all water used . . . Government, mining and manufacturing all should be promoted

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as far as water use is concerned."

In a publication entitled, "Water Supplies And Economic Growth In An Arid Environment", (1973), Professors Maurice M. Kelso, William E. Martin and Lawrence E. Mack published the following table which shows the water requirements, in acre feet, per $1,000.00 of output and per $1,000.00 of Final Demand in Arizona*:

	Producing Sector	Direct Requirement per $1000 of Output	Direct and Indirect Requirement per $1000 of Final Demand
1	Meat animals and products	0.407	9.337
2	Poultry and eggs	0.008	15.803
3	Farm dairy products	0.252	17.655
4	Food and feed grains	42.087	43.630
5	Cotton	12.551	14.896
6	Vegetables	6.413	6.582
7	Fruit and tree nuts	9.950	10.227
8	Citrus fruits	11.154	11.841
9	Forage crops	46.938	47.103
10	Miscellaneous agriculture	6.408	10.307
11	Grain mill products	0.019	13.365
12	Meat and poultry processing	0.012	5.758
13	Dairy products	0.010	9.052
14	Canning, preserving and freezing	0.043	1.016
15	Miscellaneous agricultural processing	0.020	2.140
16	Chemicals and fertilizers	0.030	0.564
17	Petroleum	0.020	0.064
18	Fabricated metals and machinery	0.003	0.131
19	Aircraft and parts	0.004	0.086
20	Primary metals	0.187	0.387
21	Other manufacturing	0.009	0.283
22	Mining	0.147	0.282
23	Utilities	0.210	0.277
24	Selected services	0.010	0.082
25	Trade and transportation	0.010	0.052
26	Unallocated services	0.010	0.122
27	Construction	0.010	0.120

* Source: Derived from Tijoriwala et al., (1968). Direct requirements are identical with their estimates. Direct plus indirect requirements are modified to reflect total requirements if Arizona did not import products.

The Professional Geographer, Volume XII, Number 6, November 1960, in an article by Professor Andrew W. Wilson, University of Arizona, entitled, "Urbanization of the Arid Lands"

the following appears:

> "Some desert areas are fortunate to have exogenous streams which furnish large supplies of water. Many others must rely on underground sources which often have been accumulating for thousands of years. Such areas may continue to support a large population if there is reasonable annual recharge of the underground supplies and if agricultural uses are severely restricted. Even an economically rather unimportant amount of agriculture may be a serious drain on the water supply.
>
> "For instance, the City of Tucson, Arizona, and its urbanized area include a population of a quarter of a million people, who live in the Upper Santa Cruz River Basin and depend upon the underground reservoir for their entire water supply. This basin, fed by precipitation from nearby mountains, has an average annual recharge of perhaps 50,000 to 75,000 acre-feet. Domestic, industrial and mining uses consume 50,000 acre-feet annually, which is a substantial portion, and perhaps all, of the annual recharge. A small area of irrigated agricultural land, about 14,000 acres, uses on the average an additional 42,600 acre-feet of water annually. Agriculture in the Tucson area employs less than 1,500 out of a total labor force of some 70,000 (3). In other words, about two per cent of the workers are supported by the use of almost half the water consumed. Irrigation agriculture is thus seen to be a very profligate user of precious ground water. In recent years, the water table has been dropping in most portions of the Tucson area, so that pumping water for irrigation is becoming expensive. But if it were not for a very small amount of irrigated land, the water table might be stabilized. Furthermore, it seems likely that the water used to irrigate 14,000 acres of land and employ 1,500 workers could support more than 200,000 urban dwellers. It should be clear that irrigated agricultural land, growing largely unneeded cotton, is an expensive luxury in this portion of Arizona."

The table set forth above prepared by Professors Maurice Kelso, William E. Martin and Lawrence E. Mack shows that for each $1,000.00 of output, the water requirements of Arizona for agricultural products are many times greater than they are for industries including mining. This means that if the economy of Arizona is to flourish and taxes are to be raised for various governmental purposes, the beneficial use of water by industries must be encouraged. The legislature did this in 1948 when it enacted a law providing for the creation of critical ground water areas because this law expressly prohibited the drilling of additional irrigation wells in critical groundwater areas but authorized in Section 45-322 the drilling of exempted wells in these areas. "Exempt wells" are defined in A.R.S. Section 45-301 as meaning wells for the withdrawing of groundwater used for "domestic, stockwatering, domestic water utility, industrial or transportation purposes." For the legislature to exempt drilling wells for these purposes in critical areas and prohibit drilling wells for irrigation purposes certainly shows a legislative policy to give a preference for wells for these non-agricultural uses. Certainly this legislative policy expressed by exempting the wells drilled for these purposes and prohibiting drilling additional irrigation wells and the importance to the economy of the State of Arizona to encourage industry are important considerations as stated in Bristor v. Cheatham II in "evaluating of the conflicting interests of each of the contestants before the court in accordance with the standards of society, and a weighing of those, one against the other."

CONCLUSION

It is respectfully submitted that the past decisions of this Court, particularly Jarvis II and Neal v. Hunt, have

adopted the rule of reasonable use of groundwater that permits the pumping of groundwater from parcels of land which overlies a distinct groundwater basin and the beneficial and reasonable use of this water on other parcels of land overlying the same water basin. The fact that a part of the basin may be in a critical groundwater area in no way changes the application of this rule of reasonable, beneficial use. The evaluation of the conflicting interests makes this particularly true in this case because relocating the milling circuits of the Anamax operations would not change the amount of groundwater withdrawn, but would create serious environmental and economic problems and other undesirable conditions and the Court will not require by the use of its equity power, the performance of useless acts that aid no one. Moreover, the Legislature has authorized the drilling of wells for domestic, industrial and other purposes and by the same law has prohibited additional agricultural wells in these areas. This policy of the Legislature recognizes the much greater economic benefits to the State of Arizona and community of Tucson by utilizing the scarce groundwater for industrial, domestic and other authorized purposes.

It is respectfully submitted that since Anamax withdraws groundwater from parcels of land and uses this water in its milling circuit and for other beneficial use on other parcels of land, all of which overlie a common basin, Anamax is making a reasonable, beneficial use of the groundwater, particularly because of the special circumstances in this case which have been set forth herein.

TWITTY, SIEVWRIGHT & MILLS

By _____

Howard A. Twitty
1905 TowneHouse Tower
100 West Clarendon
Phoenix, Arizona 85013
Attorneys for AMIGOS

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Two (2) copies of the foregoing mailed this 12th day of October, 1976, to:

Robert O. Lesher, Esq.
Lesher, Kimble, Rucker & Lindamood
3773 East Broadway
Tucson, Arizona 85716
Attorneys for City of Tucson

James Webb, Esq.
City Attorney, City of Tucson
250 West Alameda Street
Tucson, Arizona 85703
Attorney for City of Tucson

Gerald G. Kelly, Esq.
Musick, Peeler & Garrett
One Wilshire Boulevard
Los Angeles, California 90017
Attorneys for Cyprus Pima Mining Co.

John C. Lacy, Esq.
Verity, Smith, Lacy, Allen & Kearns, P.C.
902 Transamerica Building
Tucson, Arizona 85701
Attorneys for Cyprus Pima Mining Co.

Thomas Chandler, Esq.
Chandler, Tullar, Udall & Richmond
1110 Transamerica Building
177 North Church Avenue
Tucson, Arizona 85701
Attorneys for Anamax

Two (2) copies of the foregoing were delivered this 12th day of October, 1976, to:

Mark Wilmer, Esq.
Snell & Wilmer
3100 Valley Center
Phoenix, Arizona 85073
Attorneys for FICO

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Calvin H. Udall, Esq.
Fennemore, Craig, vonAmmon & Udall
100 West Washington, Suite 1700
Phoenix, Arizona 85003
Attorneys for Duval and Duval Sierrita

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Margaret H. Oddson
for Calvin H. Udall

Burton M. Apker, Esq.
Evans, Kitchel & Jenckes
363 North First Avenue
Phoenix, Arizona 85003
Attorneys for ASARCO

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TWITTY, SIEVWRIGHT & MILLS
PHOENIX, ARIZONA 85013

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Peter C. Gulatto, Esq.
Assistant Attorney General
159 Capitol Building
Phoenix, Arizona 85007
Attorney for State Land Department

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for Peter Gulatto

TWITTY, SIEVWRIGHT & MILLS
PHOENIX, ARIZONA 85013

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) ss:
COUNTY OF MARICOPA)

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Name

That I am **Reference Librarian, Law & Research Library Division** of the Arizona State
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That there is on file in said Agency the following:

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Signature

Subscribed and sworn to before me this 12/12/05
Date

Etta Louise Muir
Signature, Notary Public

My commission expires 04/13/2009.
Date