

IN THE MATTER OF APPLICATION NO. 12791)
AND 12792 IN NAME OF P. K. CHRISTMAN)
TO APPROPRIATE UNDERGROUND WATER AND THE :
WATERS OF AN UNNAMED SPRING, RESPECTIVELY, :
FOR COMMERCIAL FISH REARING AND DOMESTIC :
PURPOSES, WASHOE COUNTY, NEVADA.)

RULING

77
Application No. 12791 was filed January 8, 1949 by P. K. Christman to appropriate 7.0 c.f.s. (about 3140 gallons per minute) for commercial fish rearing and domestic use. The point of diversion was given as being within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12, T. 18 N., R. 19 E., or at a point from which the East $\frac{1}{4}$ Corner of said Section 12 bears N. 80° 41' E., 1834.8 feet.

81
Application No. 12792 was filed on the same date and by the same party to appropriate 1.0 c.f.s. of the waters of an Unnamed Spring for commercial fish rearing and domestic use. The point of diversion was given as being within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12, T. 18 N., R. 19 E., or at a point from which the East $\frac{1}{4}$ Corner of said Section 12 bears N. 67° 49' E., 2069.3 feet.

Following the publication of the applications, as prescribed by law, a number of protests were filed to the granting of permits thereunder. Protests filed on Applications Nos. 12791 and 12792 are herewith listed in the order in which they were filed, with a brief summary of the allegations set forth:

✓ John J. & Edna A. Dieringer: - Protest filed April 25, 1949 on Applications Nos. 12791 and 12792. Protestants claim that they have vested water rights for domestic and irrigation purposes from springs located 1/4 mile from the points of diversion of the Christman applications and that the use of water by applicant will impair or stop the flow of protestants' vested water rights. Protestants pray that said applications be denied.

✓ Louise M. Kuser: - Protest filed April 23, 1949 on Application No. 12791. Protestant alleges that amount of water applied for is exorbitant and that the granting of a permit would be detrimental to property owners in the neighborhood who now have wells, and that it should be denied in its present form.

✓ William R. Collins: - Protest filed May 3, 1949 on Application No. 12791. In this protest it is claimed that such appropriation will cause serious interference with his present use of ground water for domestic and agricultural purposes. Protestant prays that said application be issued subject to prior rights.

- ✓ Duane M. Ramsey: - Protest filed May 3, 1949 on Application No. 12791. It is alleged that protestant owns 4 acres of land in the immediate vicinity of the Christman well and that the granting of said application would cause irreparable damage and injury to him and would impair his domestic supply and said application should be denied.
- ✓ Kendrick Johnson: - Protest filed May 3, 1949 on Application No. 12791. The protestant alleges that he is the owner of approximately 148.8 acres of ground in the vicinity of the proposed point of diversion and is the owner of adjudicated and vested rights to use underground water and that he believes that the water he uses may be in part or entirely used by applicant to the irreparable damage of protestant and that the use of water by applicant would interfere with his vested and adjudicated rights and cause the property owned by him to become valueless by virtue of the fact that water would then be unobtainable. Protestant prays that said application be denied.
- ✓ Rodney E. Wyman: - Protest filed May 3, 1949 on Application No. 12791. Protestant states that he is the owner of 80 acres of land in the vicinity of the land owned by applicant and in the vicinity of the proposed point of diversion. His allegations are the same as those of Protestant Kendrick Johnson heretofore set forth.
- ✓ Archie L. Hartzell: - Protest filed May 3, 1949 on Application No. 12791. Protestant claims that the proposed appropriation will prevent and cause serious interference with protestant's present use of underground water for domestic and agricultural purposes but that said application could be granted subject to prior rights as domestic use.
- ✓ Arthur E. Mabson: - Protest filed May 3, 1949 on Application No. 12791. The allegations here are that such appropriation will prevent or cause serious interference with protestants present use of underground water for domestic and agricultural purposes. The application could be issued subject to prior rights as domestic and agricultural use.
- ✓ Willis M. Caffrey: - Protest filed May 2, 1949 on Applications Nos. 12791 and 12792. Protestant alleges that he is the owner of 140 acres in the immediate vicinity of the proposed point of diversion and is the owner of adjudicated and vested water rights, both surface and underground. That he believes the source applied for may be a part of the same source of water from which he has adjudicated and vested rights; and that the development of well and springs by applicant would cause irreparable damage to his rights and property. Protestant prays that said applications be denied.

- ✓ Kate Holcomb Mansfield: - Protest filed May 2, 1949 on Application No. 12791. The protestant states that the granting of said application would destroy existing vested rights and the application should be denied.
- ✓ Mrs. B. Menzi: - Protest filed May 2, 1949 on Application No. 12791. It is alleged that the appropriation applied for would decrease the amount of water now used by protestant from 3 wells to the extent that she would not have sufficient water for domestic and stockwatering. Protestant requests that the application be denied.
- ✓ L. E. Stewart: - Protest filed May 3, 1949 on Application No. 12791. The protestant states that the pumping from applicant's well will lower water level in his well, making it necessary to redrill to find deeper water. Protestant states that the application can be issued subject to prior rights as domestic use.
- ✓ John and Norma Isbell: - Protest filed May 3, 1949 on Applications Nos. 12791 and 12792. It is alleged that protestants are the owners of $3\frac{1}{2}$ acres, the nearest point of which is approximately $\frac{1}{4}$ of a mile from the proposed point of diversion; that they have vested water rights for domestic purposes from a well and that the development of the well and springs will impair or stop the flow of protestants' vested water rights. It is prayed that said applications be denied.
- ✓ Dan Vuksan: - Protest filed May 2, 1949 on Application No. 12791. Protestant states that such appropriation will prevent or cause serious interference with protestant's present use of ground water for domestic and agricultural purposes, but that said application can be granted subject to prior rights as domestic and agricultural use.
- ✓ F. P. Quinn: - Protest filed May 3, 1949 on Application No. 12791. Protestant alleges that he is the owner of $4\frac{1}{3}$ acres of ground adjacent to the land owned by applicant and is the owner of adjudicated and vested rights to use both underground and surface water for stockwatering and domestic purposes; that the spring and well proposed to be dug are in the immediate vicinity of his wells and that he believes that the water applied for may be part of the same source from which he has his adjudicated and vested rights and that the use of such water by applicant would cause irreparable damage and injury to him. Protestant prays that said application be denied.
- ✓ Dolores M. Burchett: - Protests filed April 29, 1949 on Applications Nos. 12791 and 12792. It is alleged that protestant is the owner of approximately 17 acres of ground adjacent to the land owned by applicant and in the immediate vicinity of the proposed point of diversion,

and is the owner of adjudicated and vested underground and surface water and has used same for a long time past for the irrigation of ranch lands, stockwatering and dwelling units. Protestant further states that she believes the water applied for may be the same source on which she claims rights and that the granting of said applications, or any portion thereof, would cause irreparable damage. Therefore protestant prays that said applications be denied.

In addition to the above protests there were three protests submitted following the expiration of the statutory period of time for filing protests. These protests were placed in our files and will herewith be given the same consideration as if they had been filed within the time period allowed by statute. A brief description of said protests follows:

Emery Kery: - Protest submitted May 4, 1949 on Application No. 12791. It is alleged that protestant is the owner of 2½ acres of land in the immediate vicinity of the point of diversion and that he uses well water for domestic purposes; that as the water applied for may be a part of same source that he is using the granting of said application would cause irreparable damage and requests that said application be denied.

L. H. Pickens: - Protest submitted May 4, 1949 on Application No. 12791. Protestant states he is the owner of approximately 100 acres of land, the southeast corner of which is about 300 yards from the land owned by applicant; that he has two wells on his property that are used for domestic purposes; that the water applied for may be the same source from which he is using water and that the granting of a permit, in his opinion, would cause irreparable damage. Protestant prays that said application be denied.

John D. Furrh, Jr. - Protest submitted May 4, 1949 on Application No. 12791. Protestant alleges that he is the owner of approximately 17 acres of land located about 600 yards from the land owned by applicant and in the immediate vicinity of the point of diversion; that he has one well on his property that is used for domestic purposes and that the water proposed to be developed by applicant may be a part of the same source from which he is using water, and that the granting of said application, or any portion thereof, may cause irreparable damage to him and therefore said application should be denied.

On July 13, 1949 an informal meeting was held in the Chamber of Commerce rooms in Reno at which time the matter of the Christman applications was discussed. The meeting was attended by the applicant and protestants; representatives of the Geological Survey and the State Engineer's office. Prior to this date a number of well and spring measurements had

been made by the U.S.G.S. and it was the idea of the State Engineer to present this data to the parties concerned, together with his observations as a result of such study. It was the general opinion of the protestants that studies should be continued as to the fluctuations of water levels in the wells surrounding the Christman well for a period of several months, with the Christman well in operation. This was agreed to and the studies that were made will be described in detail later in this ruling.

On September 7, 1950 a hearing was held on Applications Nos. 12791 and 12792 in the State Building, Reno, Nevada. Appearances were as follows:

For the office of State Engineer - Alfred Merritt Smith,
State Engineer, and
Hugh A. Shamberger,
Assistant State Engineer.

For the applicant, P. K. Christman - William C. Sanford,
Attorney at Law, Reno, Nev.

For protestant H. P. Quinn - Ernest S. Brown,
Attorney at Law, Reno, Nev.

For protestant Dolores M. Burchett - Miles N. Pike of the law firm
of Pike, McLaughlin & Furrh,
Reno, Nev.

For protestant Duane M. Ramsey and
Willis W. Caffrey - Ralph K. Wittenberg,
Attorney at Law, Reno, Nev.

For protestant Mrs. B. Menzi - Represented by Dr. E. S. D. Merchant

Other protestants appearing at the hearing and not being represented by counsel were John & Edna Dieringer; Dan Vuksan; L. E. Stewart; Kate Holcomb Mansfield, and William Collins. Protestants not present were Louise M. Kuser; John Isbell; Kendrick Johnson; R. E. Wyman; Arthur E. Mabson and Archie L. Hartzell. Of the three informal protestants, Emery Kery was present. John Furrh, Jr. and L. H. Pickens were absent.

At the conclusion of the hearing Attorneys Ernest Brown and Miles Pike requested permission to submit, on behalf of their clients, memoranda on points of law to the effect that the nature of the use is not beneficial. The request was granted and on September 12, 1950 Mr. Brown submitted his memorandum, and on September 18, 1950 Mr. Pike submitted a memorandum on behalf of Dolores M. Burchett, Mrs. B. Menzi, Mr. Emery Kery and Mr. John D. Furrh, Jr. The latter memorandum covered other points than that agreed upon. No answers to these memoranda were submitted by applicant P. K. Christman.

GENERAL STATEMENT

The Christman well on which Application No. 12791 was filed is located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12, T. 18 N., R. 19 E. It lies about 1.4 miles westerly of U. S. Highway 395 and about 500 feet southerly of Holcomb Lane. It is near the base of a small andesite hill which may be described as adjacent to the base of the easterly slope of the Sierra Nevada Mountains. Within a radius of about one-half mile of the Christman well there are a number of wells which are used for domestic purposes and the irrigation of small gardens, orchards, etc. Most of the irrigable land in this general vicinity has decreed water rights from the Steamboat Ditch and the Last Chance Ditch.

The Steamboat Ditch, running in a general southeasterly direction, is about 0.75 miles southwest of the Christman well and the Last Chance Ditch, which more or less parallels Steamboat Ditch, passes about 800 feet southwest of this well. The country slopes in a northeasterly direction, hence the Christman well is down grade from these two ditches. Another ditch, the Lake ditch, also running in a southeasterly direction, is about one-half mile northeasterly from the well and is down-grade therefrom. A creek known as "Dry Creek", running in a northeasterly direction, passes about 400 feet westerly from the said Christman well. This creek very seldom carries any water. Thomas Creek, running in the same direction, lies about three-quarters of a mile easterly of the Christman well.

A map, showing the location of the various wells in this vicinity, together with other features, is attached hereto and made a part of this ruling.

Measuring of Wells & Springs:

As a part of the cooperative state-wide ground water program, well measurements were made in the vicinity of the Christman application by personnel of the United States Geological Survey, Ground-Water Division. At the informal meeting of July 13, 1949 it was the concensus of opinion by protestants that measurements be continued so that at least a full year of water fluctuations could be observed. Accordingly, weekly measurements were made on some 14 wells. The period of record of measurements on these 14 wells was from April, May & June of 1949 to about January 2, 1951. Following this latter date monthly measurements were made on six of the 14 wells. In addition, measurements were made on the Christman, Caffrey and Brookline Springs. The results of these measurements were platted and entered as State Engineer's Exhibit No. 2 at the hearing on September 7, 1950.

On one of the wells, namely the D. Bradberry well which was not being used, a continuous recorder was installed and fluctuations of water level were observed from May 18, 1949 to November 13, 1950.

Measurements taken in 1950 and corresponding measurements in 1951 on the six monthly observation wells show the following results:

Well Owner	Map Well No.	1950		1951		Increase or Decrease 1951
		Date	Measurement Elev.	Date	Measurement Elev.	
L. H. Pickens	6	4/18	4565.7	4/24	4566.80	+ 1.1 feet
F. P. Quinn	8	3/14	4544.9	3/27	4547.30	+ 2.4 "
Mrs. B. Menzi	9	5/16	4574.0	4/24	4573.92	- 0.08 "
Paul Faulstich	3	4/11	4543.2	4/24	4545.68	+ 2.48 "
Emery Kery	1	3/22	4559.0	3/28	4560.48	+ 1.48 "
D. Bradberry	12	4/24	4590.62	4/24	4590.18	- 0.44 "

The 1950 measurements shown above, with the exception of the Bradberry well, represent the lowest recorded water levels for that year. The 1951 measurements represent the water levels approximately a year later. It is notable that in four of the six wells the water levels stood higher in 1951 than in 1950. In the case of the Menzi and Bradberry wells the decline was only a fraction of a foot.

The hydrographs all bear a close resemblance to each other. The high points on the curves, which represents the high water levels in the well, occur on about October 1st of 1949 and 1950. The curve starts downward following October 1st and reaches its lowest point during March and April. The curve then begins to turn upward, again reaching its highest level about October 1st. A brief summary showing the high water level in 1949 and the low and high water level in 1950 in the wells which were measured follows:

Table showing decline of water levels and subsequent recovery during period of measurements

Map No.	Depth	Owner	Elevation of water level				Difference in water levels	
			High in 1949	Low in 1950	High in 1950	Decline from high 1949 to low-1950	Recovery from low 1949 to high in 1950	
			Elev. Date	Elev. Date	Elev. Date			
1	109	Emery Kery	4569.0 · 9/26	4559.0 · 3/22	4570.1 · 10/1	-10.0	∕ 11.1	
2	---	Joe Maffi	4555.5 · 9/19	4546.5 · 4/18	4555.0 · 9/18	- 9.0	∕ 8.5	
3	---	Paul Faulstich	4552.3 · 9/5	4543.2 · 4/11	4551.7 · 9/12	- 9.1	∕ 8.5	
4	100	W. W. Caffrey	4591.5 · 8/29	4575.8 · 4/4	4591.7 · 8/2	-15.7	∕ 15.9	
5	30	L. H. Pickens	4571.5 · 9/19	4561.0 · 4/18	4569.8 · 9/18	-10.5	∕ 8.8	
6	110	" " "	4573.9 · 10/18	4565.7 · 4/18	4572.1 · 9/18	- 8.2	∕ 6.4	
7	28.8	F. P. Quinn (shallow well)	4559.5 · 9/5	(well dry)	4560.1 · 10/23			
8	135	F. P. Quinn	no data	4544.9 · 3/14	4558.3 · 10/23		∕ 13.4	
9	85.5	Mrs. B. Menzi (house well)	4580.6 · 10/25	4574.0 · 5/16	4578.2 · 10/16	- 6.6	∕ 4.2	
10	152	Mrs. B. Menzi	4561.6 · 9/19	4554.4 · 5/16	4560.2 · 10/9	- 7.2	∕ 5.8	
11	150	Dryden Kuser	4605.5 · 10/25	4604.0 · 4/11	4606.2 · 9/18	- 1.5	∕ 2.2	
12	243	D. Bradberry	4593.3 · 11/9	4589.7 · 7/10	4591.4 · 11/20	- 3.6	∕ 1.7	
13	38.5	W. W. Caffrey (foreman well)	4647.6 · 9/27	4620.1 · 4/18	4647.2 · 9/5	-27.5	∕ 27.1	
14	---	Kendrick Johnson	4.0* 9/5	-5.75* 5/2	-3.97* 10/30	- 1.75	∕ 1.78	

*Depth of water below measuring point.

It is to be noted that there is certain data missing on the two Quinn wells. On the deep well (Map No. 8) a measurement in May, 1949, showed the water level at 4564.7 feet above sea level. Another measurement in June, 1949, showed the level at 4560.4. Due to the pump leaking it was impossible to take any more measurements until February 28, 1950 when the water surface was at 4546.0 feet. The measurements were then continued weekly to January 2, 1951. On the shallow well (Map No. 7) a measurement on March 29, 1949 showed the water level to be at 4565.8 feet or about 11 feet above the bottom of the well. Another measurement on May 25, 1949 gave the water table at 4565.5 foot elevation. The water level then dropped off sharply until July 5th when the water level stood at 4559.2 feet. On November 22, 1949 the well was dry. On August 14, 1950 water was again found in the well and it continued to rise until it reached a peak on October 23, 1950.

Measurements were kept on the three springs, namely Christman, Brookline and Caffrey Springs. On the Christman Spring, starting in May, 1949, the flow of about 100 g.p.m. held steadily until November 8, 1949 when it dropped off to about 60 g.p.m. The first measurement on the Caffrey Spring was on May 18, 1949 and showed a flow of 21.4 g.p.m. This flow was quite uniform until December 13, 1949. It then gradually decreased and on February 15, 1950 had ceased to flow. The first measurement of the flow of the Brookline Spring was on May 23, 1949 when the flow was found to be 68.7 g.p.m. Thereafter the flow was quite uniform at about 50 g.p.m. until July, 1950. It gradually increased after that date to 76.7 g.p.m. on September 7, 1950. The discharge steadily increased and on January 30, 1951 the discharge was measured at 95.64 g.p.m.

Observations re Measurements:

The lowering of the static water levels in the wells under observation and subsequent rise could be caused by several factors or by a combination of factors. It should be noted that the decline of the water level, starting in about October and continuing until about April corresponds in general to the period when there is no surface irrigation from Steamboat and Last Chance Ditches and the general rise in water levels is during the irrigation period from April to October. The hydrographs all have this same general curve which indicates that perhaps the greater influence on the fluctuations of the water levels is from the downward percolation of irrigation water and seepage from the Steamboat and Last Chance Ditches.

Some of the fluctuations are caused by the operation of the Christman well, although this factor is probably not of any great magnitude due to the fact that the operation of the Christman well has been practically continuous. After the Christman well has been pumped for some time and the cone of depression established in general, any interference with nearby wells would be indicated by a failure of water levels

to recover to the levels of preceeding years.

It should be noted from the table on page 8 that the recovery of the water table in the wells was practically complete. In some instances the water level in October, 1950, stood higher than in October, 1949, and in other instances the reverse took place although the difference never exceeded 2.4 feet (Well No. 9).

The test as to whether an area is being over-pumped or not can generally be determined by the elevation of the water levels after recovery and after all diversions have ceased. In this instance, the Christman well operated continuously and even under this condition the recovery was practically complete.

Another factor that should be considered is the recharge from precipitation on the watershed within which the Christman well is located. The ground water in this area is derived from precipitation on the watershed to the west; from seepage and percolation of ditch and irrigation water, all of which are variable. A heavy water content derived from precipitation in the form of rain and snow on the contributing watershed would at some time later be reflected in a higher water table in the wells. Conversely sub-normal precipitation would have the opposite effect.

It is highly probable that immediately after pumping operations started at the Christman well, such operation caused a lowering in the water levels of some of the nearby wells, principally the Quinn wells. However, the first effect no doubt stabilized shortly after pumping began as indicated by the hydrographs.

In reference to the flow of the three springs the measurements indicate that no apparent effect has been made on the discharge from the Brookline Spring. The flow from the Christman Spring apparently fell off. However since about December, 1950, due to the manner in which this water is being used further discharge measurements could not be made. On December 13, 1950 the discharge from the Caffrey Spring fell off and went dry on about February 1, 1950. It is interesting to note that no apparent change could be noted in the discharge from the Caffrey Spring until almost 7 months following the start of continuous pumping operations by Christman. On the Christman Spring no great change in discharge was noted until November 8, 1950, or some 5 months after pumping started, when there was a sharp drop. Whether the direct cause of this drop in discharge can be wholly attributed to the pumping operations remains to be seen. However, it was on the assumption that the pumping did cause this drop that Mr. Christman had a new well drilled for Mr. Caffrey during April, 1950.

THE CHRISTMAN WELLS:

The Christman well under Application No. 12791 was drilled December, 1948, to a depth of 301 feet, according to the log legally required to be submitted by the well driller. Various aquifers were encountered between 50 and 115 feet from the surface, the main aquifer being encountered between 233 and 301 feet from the surface. At about 268 foot depth the well began to flow about 25 g.p.m. Perforations were made between 50 and 138 feet and between 268 and 301 feet depths. Following perforating, the well ceased to flow, the water level standing at 14 feet below the ground surface. Temperatures of the water were taken at various times. As nearly as could be determined, the upper water had a temperature of 54°, the lower water 68°, and the mixture as pumped had a composite temperature of 62°. This indicates that the well is pumping water from two sources, the upper or cool water coming from the alluvial material and the thermal water from the andesite. The quantity pumped from each source cannot be reliably ascertained; however, on a temperature basis it was estimated as being 57% from the deep source and 43% from the shallow source.

The quantity of water pumped is somewhat questionable insofar as no provisions were provided in the installation for obtaining the discharge. The report of the Nevada Pump Supply people stated that during testing operations the discharge was 1650 g.p.m. with 56 foot lift. On February 23, 1950 a test was made by means of a Winthroat flow meter and the discharge computed at 830 g.p.m. On the same date a discharge test was made by the color method, using potassium permanganate as the water coloring agent. The discharge was computed at about 800 g.p.m. Another test was made on November 2, 1950 using a Winthroat flow meter giving a computed flow of 910 gallons per minute. Indications, based on discharge from the pond, are that the efficiency of the pump decreased during the latter part of 1949 and early 1950. During March, 1951, the pump and pipe column were pulled and repaired. Measurements of the discharge from the pond, which in a way is determinative of the pump discharge, shows flows between 1200 and 1300 gallons per minute.

During March, 1950, a second well was drilled by Mr. Christman at a point approximately 220 feet northwest from his pumping well. This well was drilled to a depth of 385 feet. Measurements of the water level in this well indicate conclusively that there is an hydraulic connection between the wells. A pumping test indicated a discharge of 245 g.p.m. with a drawdown of 90 feet after one hour of pumping.

WATER RIGHTS:

Section 1 Chapter 178, Statutes of 1939 of the ground water law of Nevada provides:

Section 1. All underground waters within the boundaries of the state belong to the public, and subject to all existing rights of the use thereof, are subject to appropriation for beneficial use only under the laws of the state relating to the appropriation and use of water and not otherwise; therefore it is the intention of the legislature, by this act, to prevent the waste of underground waters and pollution and contamination thereof and provide for the administration of the provisions hereof by the State Engineer, who is hereby empowered to make such rules and regulations within the terms of this act as may be necessary for the proper execution of the provisions of this act.

This act defines the dates subsequent to which a water right (with the exception of domestic water as provided for in Section 3 of said act) can only be acquired by means of obtaining a permit from the office of State Engineer. Section 9 of said act as amended 1947 provides as follows:

Sec. 9. A legal right to appropriate underground water for beneficial use from an artesian well or from a definable aquifer by means of a well, tunnel, or otherwise drilled, bored, or otherwise constructed subsequent to March 22, 1913, or from a well, tunnel, or otherwise tapping percolating water, the course and boundaries of which are incapable of determination, that was drilled, bored, or otherwise constructed subsequent to March 25, 1939, can only be acquired by complying with the provisions of the general water law of this state pertaining to the appropriation of water. In an area within which the state engineer is supervising distribution of waters from an underground source as in this act provided, the state engineer may, upon written notice sent by registered mail, return receipt requested, advise the owner of a well who is using water therefrom without first making application and obtaining a permit to appropriate such water to cease using such water until he has complied with the laws pertaining to the appropriation of water. If said owner fails to initiate proceedings to secure such permit within thirty days from the date of such notice he shall be deemed guilty of a misdemeanor. The date of priority of all appropriations of water from an underground source, mentioned in this section, is the date when application is made in proper form and filed in the office of the state engineer pursuant to the general water law of this state.

Section 9B of said Act (Stats. of 1947) describes vested rights on underground water. This section reads:

Sec. 9B. Existing water rights to the use of underground water are hereby recognized. For the purpose of this act a vested right is a water right on underground water acquired from an artesian well or from a definable aquifer prior to March 22, 1913, and an underground water right on percolating water, the course and boundaries of which are incapable of determination, acquired prior to March 25, 1939. The distinction as to whether water is in a definable aquifer or whether it is percolating water, the course and boundaries of which are incapable of determination, is a matter to be determined by the state engineer. The state engineer is herewith empowered to make such rules as are necessary and which are to be followed in making such classification.

Any claimant of a vested underground water right may petition the state engineer to adjudicate such rights. If upon investigation he finds the facts and conditions justify it, to enter an order granting said petition and to make proper arrangements to proceed with such determination. In such order the state engineer shall designate the area within which such determination is to be made, in the manner set forth in section 4 of this act; PROVIDED, that the size of such designated area may include other claimed underground vested water rights; and FURTHER PROVIDED, that such designated area shall not extend into other drainage basins. Following the designation of such area the state engineer shall proceed adjudicating such rights as provided for in the general water law of Nevada.

It is to be noted that the ground water law considers two types of water - i.e., artesian water or water from a definable aquifer, and the so-called percolating water, the course and boundaries of which are incapable of determination. In the former, vested rights can only be acquired prior to March 22, 1913 and in the latter, such rights can only be acquired prior to March 25, 1939. Subsequent to these dates water rights can only be acquired by the appropriation procedure set up in the general water law - that is, by making application for a permit to appropriate.

We know that the Christman well was an artesian well under the description set forth in Section 2 of the ground water law, as was also the new Caffrey well. We do not have sufficient information to state whether or not the

other wells in the area are artesian. In such case the state engineer will assume that such wells are non-artesian in character. With this as a basis, the use of water from the wells drilled prior to March 25, 1939 will be considered as vested in the owners of such wells. Such wells would include the following:

F. P. Quinn well (Well No. 7 on map) drilled 1936

F. P. Quinn well (Well No. 8 on map) drilled 1936

Mrs. Menzi well (Well No. 15 on map) drilled 1890

On March 30, 1950 Mrs. B. Menzi filed Proof of Appropriation No. 02354 wherein claim of vested right is made in the amount of 0.011 c.f.s. from an 80' well located just westerly of the Last Chance Ditch and about 100 feet west of the dwelling house. Water from this well is used for the irrigation of 1.85 acres within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 12, T. 18 N., R. 19 E. This well is shown as Well No. 15 on the accompanying map.

As nearly as we can determine, all of the other wells owned by protestants were drilled subsequent to March 25, 1939. Applications have been filed and permits granted on the following wells:

Permit No.	Name	Map Well No.	Amount of Permit c.f.s.
12312	Louise M. Kuser	11	0.01
13352	Mrs. B. Menzi	9	0.055
13353	Mrs. B. Menzi	10	0.074

The ground water act does not apply to domestic water where the draught does not exceed two gallons per minute except as to the furnishing of any information required by the state engineer. (Sec. 3 Chap. 178 Stats. 1939 as amended). The term "domestic use" as herein applied, extends to culinary and household purposes, the watering of a family garden, lawns, and the watering of domestic animals. The state engineer construes the term "two gallons per minute" (0.00446 c.f.s.) to mean that the owner can use a quantity of water equal to 2,880 gallons every 24 hours (1,440 minutes in each 24 hours), not necessarily in a continuous flow, but rather when the water is needed during the 24-hour period.

The owner of a domestic well drilled prior to March 22, 1913, in the case of artesian water and prior to March 25, 1939 in the case of percolating water, would have a vested right if water from such well was used for beneficial

purposes prior to and subsequent from such dates. The owner of such wells drilled subsequent to these dates would not have acquired a legal right to the water unless he had complied with the laws relating thereto; however, he would have a legal right of usage and would not be affected by any of the restrictive measures provided in the ground water law.

The question then arises as to what protection the domestic water users have under their right of usage as against other developments in the area where such development may excessively affect the static water levels of their wells. We think this is covered by the language in section 10 of the ground water act. The interpretation of the state engineer on the language therein pertinent is as follows:

The State Engineer shall determine if there is any unappropriated water in the area and shall issue permits only if he finds that there is unappropriated water available.

That each appropriation of ground water shall relate to a specific quantity and that such right must allow for a reasonable lowering of the static water level at the appropriator's well. The state engineer is to determine the extent of reasonable lowering and in such determination shall consider the economics of pumping water for the general type of crops produced and may consider the effect of such water use on the economy of the area in general. It is the policy of the state engineer to restrict further diversions when (1) The safe yield has been reached, and (2) When the water table has been lowered to a level from which the pumping lift approaches the maximum economical limit, and (3) when further diversion will adversely affect the economy of the area in general, whichever occurs first.

It further provides that a right to appropriate ground water does not guarantee the permittee the right to have the water level in his well maintained at any level higher than is necessary for a reasonable pumping lift. This means that such permittee has no regress if other permits are granted in the area, although further appropriations under such permits cause the water level to drop or affect free-flow conditions. The State assumes, as a matter of public policy, the right to insure the largest beneficial use of the natural supply and that when the water level declines the burden is upon owners of existing wells, ultimately, to obtain their legal yield by increased pumping if necessary.

The matter of the maximum economical pumping limit must be determined in each particular area and this, of course, would depend upon the use to which the water is placed. Where water is used for domestic purposes it has a higher value than for irrigation use, and therefore the economic water lift could be greater. Many factors have to be considered in deciding such a matter.

FINDINGS

As a result of the studies made in the area adjacent to the Christman well, it is our considered opinion that the safe yield of ground water is not being exceeded by virtue of the pumping operations by Mr. Christman. We further believe that Application No. 12791 could be approved in the amount of 1250 gallons per minute (2.8 c.f.s.) without causing any undue interference with existing water rights.

In the matter of Application No. 12792 to appropriate 1.0 c.f.s. of the waters of a spring (Christman Spring) such application may be approved in the amount of 120 gallons per minute (0.27 c.f.s.) as apparently this was the maximum flow during the early stages of the operations. The intent of such a permit would give the permittee the right to use this amount of water if available by free flow.

We are of the opinion that the use of water for fish hatchery purposes is a beneficial use and that the pumping operations by Mr. Christman to the extent of 2.8 c.f.s. will have no appreciable effect on existing water rights.

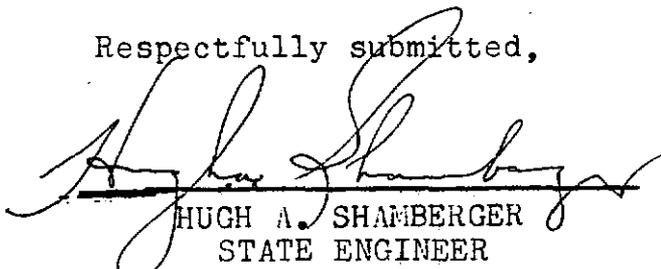
RULING

The protests to the granting of permits under Applications Nos. 12791 and 12792 are, for the foregoing reasons, overruled and permits will be granted, subject to existing rights, in the following amounts:

Application No. 12791 - 2.8 c.f.s. with the understanding that pumping operations from either of his two wells, or from a combination of the two wells, is not to exceed the amount granted in the permit.

Application No. 12792 - 0.27 c.f.s.

Respectfully submitted,



HUGH A. SHAMBERGER
STATE ENGINEER

June 8, 1951.