

**IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA**

IN THE MATTER OF APPLICATION 69846)
FILED TO CHANGE THE POINT OF DIVERSION)
AND THE PLACE OF USE OF A PORTION OF)
THE WATERS OF AN UNDERGROUND SOURCE)
PREVIOUSLY APPROPRIATED UNDER PERMIT)
27298 WITHIN THE SMITH VALLEY)
HYDROGRAPHIC BASIN (107), LYON COUNTY,)
NEVADA.)

RULING

#5393

GENERAL

I.

Application 69846 was filed on April 11, 2003, by Valerie Harris and Mark Allen Harris to change the point of diversion and the place of use of 57.5 acre-feet annually (afa), which represents a portion of the underground water, previously permitted for appropriation under Permit 27298, Certificate 9176. The proposed manner and place of use is for irrigation purposes within portions of the NE $\frac{1}{4}$ of Section 31, T.12N., R.24E., M.D.B.&M. If approved, this application would transfer an existing well site located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 13, T.11N., R.23E., M.D.B.&M. to a new location, which is described as being within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 31, T.12N., R.24E., M.D.B.&M. The existing place of use is stated upon the application as being within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 13, T.11N., R.23E., M.D.B.&M.¹

II.

Application 69846 was timely protested by several citizens on the following grounds:¹

Tammy and Bill Wellock- "Water shortage and domestic wells"

Jack and Gail Reneau- "Water shortage and domestic wells"

Sandra K. Tucker- "Another well would be extremely detrimental to the existing wells on adjoining parcels which are being farmed"

¹ File No. 69846, official records in the Office of the State Engineer.

Lee Faiferek- "Detrimental [sic] to existing wells used on bordering parcels"

Charles W. Zumpt-"Our area is supplied by water that comes into the valley from the west. We are located in the eastern half of the valley. There is a ground fault that also effects [sic] our area. With the continual lowering of the underground water level, I am concerned that an agricultural well east of us would have a negative effect on domestic wells in the area. The area is presently zoned R-5 for 20 acre resident [sic] lots."

FINDINGS OF FACT

I.

Nevada Revised Statute § 533.365 provides that the State Engineer shall consider a protest timely filed, but that it is within his discretion whether or not to hold an administrative hearing as to any particular water right application. The State Engineer finds that he has sufficient information available to review the application and its associated protests and that a hearing in this instance is not necessary.

II.

The protests, which are for the most part, stated in general terms, contend that the approval of Application 69846 would have an adverse effect upon existing domestic wells located within the Smith Valley Hydrographic Basin.¹

The domestic use of underground water extends to culinary and household purposes directly related to a single family dwelling, including, without limitation, the watering of a family garden and lawn and the watering of livestock and any other domestic animals or household pets, if the amount of water drawn does not exceed the threshold daily maximum amount set in NRS § 534.180 for exception from application of this chapter.² To recognize the importance of domestic wells as appurtenances to private homes, a legislative declaration was made under NRS § 533.024, which

² NRS § 533.013

created a protectible interest in such wells. The intent of this declaration was to protect the supply of water derived from domestic wells from unreasonable adverse effects, which are caused by municipal, quasi-municipal or industrial uses, which cannot reasonably be mitigated. The State Engineer finds that, as written, NRS § 533.024 does not offer domestic wells a safeguard from those wells, which are pumping underground water for irrigation purposes under a permitted, certificated or decreed water right. However, a drawdown analysis was still considered necessary to determine impact the approval of the application would have on existing permitted and domestic wells in the general area.

III.

Every permit, which is issued by the State Engineer, is conditioned with a set of permit terms, which govern the appropriation of water. Among the most common terms applied to underground permits is the condition that the approval of the permit will allow for a reasonable lowering of the static water level.

The answer to the question of whether or not the appropriation of water as proposed under Application 69846 would have an adverse effect upon existing water rights and domestic wells can be found through a draw down analysis that employs the standard Theis Non-Equilibrium Equation / Cooper-Jacobs Straight Line Approximation.³ Several well driller's reports, which have been filed within the Office of the State Engineer for well sites located within Section 31, T.12N., R.24E., M.D.B.&M. were used to determine the general subsurface geology of the area containing the proposed point of diversion. Permissive values were then assigned to the basin's storativity and transmissivity, to create a worst-case water level decline scenario. It was then assumed

³ Well Test, Projected Water Level Drop, Table and Chart of Results, April 4, 2004, filed within File No. 69846 with original attached to this ruling, official records within the Office of the State Engineer.

that the total annual duty of 57.5 acre feet would be continuously pumped over a time period, which ranged from 1 day to 30 years. The level of draw down was then calculated at the well site and at quarter mile intervals up to a radius of 1.0 mile from the well. The data table and graph produced by this exercise is attached to this ruling. Upon examination it can be seen that the first water level decline outside of the well site does not occur until ten years of pumping has occurred, and this is limited to a 1.02 ft. decline at a distance of $\frac{1}{4}$ mile from the well. The maximum decline expressed by the draw down analysis is a 3.89 drop produced at the well site after thirty years of continuous seasonal pumping.¹ This analysis centers only upon the effects generated by the applicant's well and does not take into account additional stress to the groundwater basin produced by existing domestic and permitted wells currently pumping in the study area. Based upon the results of this analysis, the State Engineer finds that the approval of Application 69846 and its subsequent appropriation of underground water would not precipitate water level declines, which would be considered above and beyond a reasonable level.

IV.

Application 69846 was protested primarily on the grounds that its approval would allow an appropriation of underground water to occur, which the protestants contend would adversely affect domestic wells. An analysis by the Office of the State Engineer determined that if a decline were to occur its magnitude would not be considered unreasonable. The State Engineer finds that the portion of the subject protests relating to the domestic well issue can be overruled.

V.

The final protest issue, which must be addressed, is the brief reference to "water shortage".¹ The approval of Application 69846 would not create a new appropriation of irrigation water

from the Smith Valley Hydrographic Basin, since an appropriation of water is currently permitted under the permit that forms the basis for change application 69846. The State Engineer finds that the portion of the protests associated with water shortage concerns can be overruled.

CONCLUSIONS

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.⁴

II.

The State Engineer is prohibited by law from granting a permit under a change application that requests to appropriate the public waters where:⁵

- A. there is no unappropriated water at the proposed source;
- B. the proposed use or change conflicts with existing rights;
- C. the proposed use or change conflicts with protectible interests in existing domestic wells as set forth in NRS § 533.024; or
- D. the proposed use or change threatens to prove detrimental to the public interest.

III.

The State Engineer concludes that the approval of the transfer proposed by Application 69846 would not conflict with existing water rights, which appropriate water from the Smith Valley Hydrographic Basin.

IV.

Application 69846, if approved, would allow a valid existing water right permit to be transferred to a new well site to service a new place of use. This change, which would not add to the basin's committed resource, would be issued under a set of permit

⁴ NRS chapters 533 and 534.

⁵ NRS § 533.370(4).

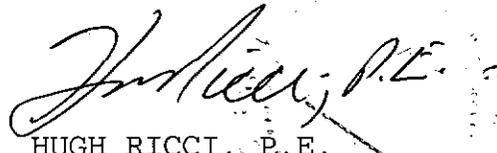
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terms, one of which would allow a reasonable lowering of the static groundwater level. The State Engineer concludes that the issuance of a water right permit derived from Application 69846, would not threaten to prove detrimental to the public interest.

RULING

The protests to Application 69846 are hereby overruled and Application 69846 is approved subject to existing rights and the payment of the statutory permit fees.

Respectfully submitted,



HUGH RICCI, P.E.
State Engineer

HR/MDB/jm

Dated this 22nd day of
June, 2004.

**** WELL TEST - PROJECTED WATER LEVEL DROP ****

04/01/04

Standard Theis Non-Equilibrium Equation
Cooper-Jacob Straight Line Approximation

p. 1/1
tkg

WELL LOCATION: NE SMITH VALLEY

TIME t (DAYS)	Drawdown (ft) @ r=1 ft	Drawdown (ft) @ r=1,320	Drawdown (ft) @ r=2,640	Drawdown (ft) @ r=3,960	Drawdown (ft) @ r=5,280
1	2.35	0.00	0.00	0.00	0.00
2	2.47	0.00	0.00	0.00	0.00
5	2.62	0.00	0.00	0.00	0.00
10	2.73	0.00	0.00	0.00	0.00
15	2.80	0.00	0.00	0.00	0.00
30	2.91	0.00	0.00	0.00	0.00
60	3.03	0.00	0.00	0.00	0.00
90	3.09	0.00	0.00	0.00	0.00
120	3.14	0.00	0.00	0.00	0.00
180	3.21	0.00	0.00	0.00	0.00
240	3.26	0.00	0.00	0.00	0.00
300	3.29	0.00	0.00	0.00	0.00
365	3.33	0.00	0.00	0.00	0.00
548	3.39	1.02	0.00	0.00	0.00
730	3.44	1.07	0.00	0.00	0.00
1095	3.51	1.13	0.00	0.00	0.00
1825	3.59	1.22	0.00	0.00	0.00
3650	3.71	1.33	1.10	0.00	0.00
5475	3.77	1.40	1.17	1.04	0.00
7300	3.82	1.45	1.22	1.08	0.00
9125	3.86	1.48	1.25	1.12	1.02
10950	3.89	1.51	1.28	1.15	1.05

TOTAL PERMITTED WATER DUTY

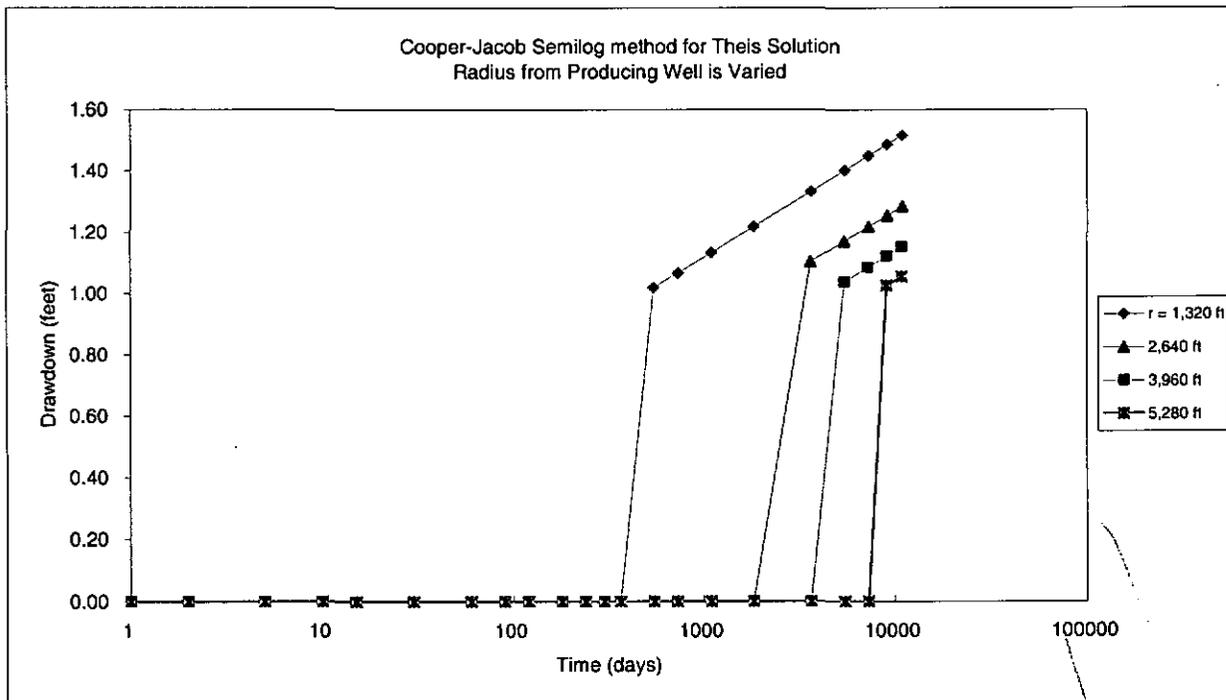
Q = 57.5 AF/180DAYS @ 1.3915CFD

RADIUS FROM WELL VARIED

MULTIPLY SFD BY 7.4805 TO OBTAIN GPD/FT

VARIABLE INPUT :

DISTANCE, r (ft) =	1	1,320	2,640	3,960	5,280
STORATIVITY, S =	0.0100	0.0100	0.0100	0.0100	0.0100
TRANSMISS.,(SFD), T =	6,700	6,700	6,700	6,700	6,700
FLOW RATE (CFD), Q =	13,915	13,915	13,915	13,915	13,915



$drawdown = \frac{Q}{(4\pi T)} \cdot (-0.5772 - \ln((r^2 \cdot S)/(4Tt)))$

Values are best for small r and long time t

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

Please complete this form in its entirety

Log No. 10231
 Permit No. 23504
 Basin South. Vel.

36823 30310

1. OWNER Wm. G. Walker ADDRESS 1835 South Manchester # 21
Anaheim, Calif. 92802

2. LOCATION NE 1/4 NW 1/4 Sec. 31 T. 12 N N/S R. 24 E. Lyons County
 PERMIT NO. 23504

3. TYPE OF WORK
 New Well Recondition
 Deepen Other

4. PROPOSED USE
 Domestic Irrigation Test
 Municipal Industrial Stock

5. TYPE WELL
 Cable Rotary
 Other

6. LITHOLOGIC LOG

Material	Water Strata	From	To	Thick-ness
Top soil	no	0	5	5
Sand	no	5	6	1
Clay	no	6	8	2
Sand	no	8	31	23
Sand & clay breaks	no	31	42	11
Sandy clay	no	42	44	2
Sand	no	44	56	12
Decomposed granite	?	56	105	49
Blue clay	no	105	220	115
Blue clay, soft sandy breaks	no	220	245	25
Blue clay, rock & gravel breaks	no	245	268	23
Decomposed granite				
White sand and gravel breaks	yes	268	404	136
Sandstone ledge	no	404	412	8
Red clay, small gravel & sand breaks	&	412	429	17
Decomposed granite gravel & sand breaks	yes	429	476	47
"	yes	476	541	65

8. WELL CONSTRUCTION

Diameter hole 24 inches Total depth 540 feet
 Casing record 37 1/2" 18' 12"
 Weight per foot 37 1/2 Thickness 1/2"

Diameter	From	To	feet
<u>14</u> inches		<u>540</u>	feet
inches			feet

Surface seal: Yes No Type _____
 Depth of seal _____ feet
 Gravel packed: Yes No
 Gravel packed from 0 feet to 540 feet

Perforations:
 Type perforation sa. slot
 Size perforation 3/32 by 3"
 From 270 feet to 334 feet
 From _____ feet to _____ feet

Date started June 3, 1968
 Date completed Aug. 10, 1968

7. WELL TEST DATA

Pump RPM	G.P.M.	Draw Down	After Hours Pump
<u>1700</u>	<u>2340</u>	<u>100</u>	<u>24</u>
<u>1900</u>	<u>2340</u>	<u>100</u>	<u>24</u>

BAILER TEST

G.P.M. _____ Draw down _____ feet _____ hours
 G.P.M. _____ Draw down _____ feet _____ hours
 G.P.M. _____ Draw down _____ feet _____ hours

9. WATER LEVEL

Static water level 40 Feet below land surface
 Flow _____ G.P.M.
 Water temperature 75 ° F. Quality 500

10. DRILLERS CERTIFICATION

This well was drilled under my supervision and the report is true to the best of my knowledge.

Name Clinton Corder
 Address P.O. Box 1436 Carson City
 Nevada contractor's license number 9726
 Nevada driller's license number 540
 Signed Clinton Corder
 Date 8/10/68

