

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

IN THE MATTER OF PROTESTED APPLICATIONS)
58894 THROUGH 58904, 58915 AND 58916,)
FILED TO APPROPRIATE GROUNDWATER FROM)
THOUSAND SPRINGS VALLEY (189) ELKO)
COUNTY, NEVADA.)

RULING

4152

GENERAL

I.

Applications 58894 through 58904 were filed on June 7, 1993, by Electra Investments Corporation, to appropriate 4.0 cfs each of underground water in the Toano-Rock Spring Area of the Thousand Springs Valley Groundwater Basin, Elko County, Nevada. The proposed manner of use is industrial use to support the operation of a steam generating electrical power plant located in Section 11, T.39N., R.65E., M.D.B.&M. The proposed points of diversion can be described as being within the following: Application 58894, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 1; Application 58895, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11; Application 58896, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12; Application 58897, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 14; Application 58898, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 24, all within T.39N., R.65E., M.D.B.&M.; Application 58899, Lot 15 Section 6; Application 58900, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 8; Application 58901, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 18, all within T.39N., R.66E., M.D.B.&M.; Application 58902, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 2; Application 58903, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 10; Application 58904, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 12, all within T.40N., R.65E., M.D.B.&M.¹

II.

Application 58915 and 58916 were filed on June 11, 1993, by Electra Investments Corporation, to appropriate 10.0 cfs each of the underground water in the Montello-Crittendon Creek Area of the Thousand Springs Groundwater Basin, Elko County, Nevada. The proposed manner of use is industrial to support the operation of a steam generating electrical power plant located in Section 11, T.39N., R.65E., M.D.B.&M. The proposed point of diversion of

¹ File No's. 58894 through 58904, official records in the office of the State Engineer.

Application 58915 is within Lot 6, Section 12, and that of Application 58916 is within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, all within T.40N., R.68E., M.D.B.&M.²

III.

Applications 58894 through 58904, 58915, and 58916 were each timely protested by the Elko County Board of Commissioners on the grounds that the points of diversion of these applications are located "in the proximity of the Town of Montello Application Number 43447 more commonly known as the Montello Springs. Subject springs serve as a municipal water source for the Town of Montello, Nevada. Protestant believes the above noted applications will have a deleterious affect on the Montello Springs under Application No. 43447." Elko County requests that these applications be denied.³

IV.

Applications 58894 through 58904, 58915 and 58916 were each timely protested by Walker-Winecup-Gamble, Inc. on the following grounds:

Protestant owns valid pre-existing groundwater rights in the vicinity of the point of diversion described in these applications. Based upon the statutory requirements as set forth in NRS 533.370(3), protestant objects to the granting of this application upon the following grounds:

1. There is no unappropriated groundwater in the proposed source of supply.

2. The proposed use sought by the applicant will conflict with the existing and prior rights of protestant.

3. That based upon the foregoing, the granting of this application threatens to prove detrimental to the public welfare.

² File No's. 58915 and 58916, official records in the office of the State Engineer.

³ Exhibit No. 17, Public Administrative Hearing before the State Engineer, February 3, 1994.

WHEREFORE, it is respectfully requested that the State Engineer deny these applications.⁴

V.

Applications 58894 through 58904, 58915 and 58916 were each timely protested by the U.S.D.I. Bureau of Land Management on the following grounds:

1. The Points of Diversion for applications 58896-58904 and 58915 and 58916 are located on public land. BLM has not received any Rights-of-Way applications for piping the water across public land.
2. The proposed wells in the Thousand Springs drainage may have an impact on several resource values. The total amount of water applied for in these 13 applications is 64 cfs. The possible impacts include: 1) possible minor land surface subsidence in areas of maximum ground water level decline, 2) drying up of existing stockwater wells, 3) springs could dry up, and 4) surface and ground water quality degradation may occur due to increased total dissolved solids from large ground water withdrawals.
3. Several BLM water rights could be impacted. They include:

<u>Source Name</u>	<u>Permit #</u>	<u>Location</u>
Toano Well #3	45867	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec, 14, T. 39 N., R. 65 E.
Railroad Well	44929	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 39 N., R. 66 E.
Brush Creek Well	44923	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T. 40 N., R. 64 E.
Toano Federal #1	47909	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 40 N., R. 65 E.
Stewart Well	44922	NW $\frac{1}{4}$ sec. 24, T. 40 N., R. 65 E.
Barren Wash Well	44924	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 40 N., R. 63 E.

⁴ Exhibit No. 16, Public Administrative Hearing before the State Engineer, February 3, 1994.

Several public water reserves could also be impacted; however, field exams would be necessary before we can make that determination (see the list of springs below).

We are particularly concerned with permit numbers 45867, 44929, and 47909 because Electra applications 58897, 58898, and 58903 are located very close to the BLM wells (approximately $\frac{1}{2}$ mile).

4. Water sources on public lands that could be impacted by this large groundwater withdrawal, in addition to the wells listed above, include:

T. 38 N. R. 65 E.		
NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18	Independence Valley Well	
NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10	Pequop Spring	Possible PWR
SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24	Pequop Well	
T. 38 N. R. 66 E.		
NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32	Spring	
NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26	Reynolds Well	
T. 38 N. R. 67 E.		
SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20	Valley Well	
T. 39 N. R. 64 E.		
NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14	Tripon Spring	Possible PWR
T. 39 N. R. 66 E.		
SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16	Toano Well #2	
T. 39 N. R. 67 E.		
SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18	Eighty Foot Well	
T. 39 N. R. 68 E.		
NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10	Ridge Well	
T. 40 N. R. 63 E.		
SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10	Travis Spring	Possible PWR
NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24	Two Unnamed Springs	
T. 40 N. R. 64 E.		
SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16	Spring and Pond	Possible PWR
T. 40 N. R. 66 E.		
SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8	Well	
T. 40 N. R. 67 E.		
SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28	Toilet Well #2	
SW $\frac{1}{4}$ sec. 36	Hoppie Basin Sp.	Possible PWR

T. 40 N. R. 687 E.
NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26 Well

T. 41 N. R. 67 E.
SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 Rocky Butte Well
NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24 Eccus Well

There are also many livestock waters on private land that may be affected. This would affect livestock distribution and forage availability on the public lands.

5. There may be a negative impact to paleo-environmental studies if springs dry up in the area affected by the pumping. Many organic materials such as pollen that have survived for centuries in the boggy (oxygen-free) environment would rapidly deteriorate if the spring sources dried up, thus limiting our knowledge of the past.
6. There are several wildlife concerns if the wetlands in Thousand Springs Basin dry up. These wetlands provide habitat for wintering Bald Eagles and Peregrine Falcons, both of which are Federally Listed Endangered Species. Other species which need this wetland habitat include: White Faced Ibis, Swainson's Hawk, and Ferruginous Hawk. These last three birds are all Federally Listed Candidate Species. Elk have recently moved into the Windmere Hills area and they need to have access to spring water.
7. BLM is directed through Executive Order 11990, Protection of Wetlands, to manage federal lands to minimize the loss or degradation of wetlands. Section 1(a) of the Executive Order states that "each agency shall... take action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands" when "(1)...managing federal lands." Although most of the wetlands in the Thousand Springs Basin are on private land, there are some on public land that BLM is mandated to protect. These wetlands are likely to dry up if some or all the proposed wells become operational.

Therefore, the U.S.D.I. Bureau of Land Management requests that these applications be denied.⁵

VI.

On February 3, 1994, a public administrative hearing was held to consider protested Applications 58894 through 58904, 58915 and 58916.⁶ At the hearing, the Applicant stated that he is requesting to appropriate 4.0 cfs of water, and not to exceed 2000 acre feet annually (AFA) from each application in the series of Application 58894 through 58904. The Applicant also amended the quantity of water requested under Applications 58915 and 58916 to be 5 cfs and not to exceed 3000 AFA from each application.⁷

FINDINGS OF FACT

I.

The Thousand Springs Valley Groundwater Basin, hydrologic area number 189, is divided into four major hydrologic segments or areas, namely: Herrill Siding-Brush Creek Area (189A); Toano-Rock Spring Area (189B); Rocky Butte Area (189C); and Montello-Crittenden Creek Area (189D).⁸ Applications 58894 through 58904 seek to appropriate a total of 22,000 AFA of water from the Toano-Rock Spring Area (189B) and Applications 58915 and 58916 seek to appropriate 6000 AFA of water from the Montello-Crittenden Creek Area (189D).

In deciding whether to approve or deny an application to appropriate groundwater in a particular basin, the State Engineer

⁵ Exhibit No. 15, Public Administrative Hearing before the State Engineer, February 3, 1994.

⁶ Exhibit No. 1, Public Administrative Hearing before the State Engineer, February 3, 1994.

⁷ Transcript pp 10-11, Public Administrative Hearing before the State Engineer, February 3, 1994.

⁸ Rush, F. Eugene, 1968, Water Resources appraisal of Thousand Springs Valley, Elko County, Nevada: Nevada Department of Conservation and Natural Resources, Water Resources-Reconnaissance Series Report 47, pp. 60.

must determine whether any unappropriated water exists in that basin. The quantity of unappropriated water in a particular basin is equal to the difference between the perennial yield and the quantity of water already appropriated under permits and certificates issued by the State Engineer and pre-statutory vested water rights. Referring to Basin 189B, the quantity of water already appropriated is 11,233 AFA and that for Basin 189D is 24,402 AFA.⁹

The perennial yield for a particular groundwater basin is the maximum amount of water of usable chemical quality that can be economically withdrawn each year for an indefinite period of time. For the quantity of water taken as the perennial yield, the State Engineer generally relies on the Water Resources-Reconnaissance Series Reports published jointly by the Nevada Division of Water Resources and the United State Geological Survey (USGS). In 1968, the USGS estimated the perennial yield to be 2600 AFA for the Toano Draw Sub-Basin (189B) and 14,000 AFA for the Montello-Crittendon Sub-Basin (189D).⁸ Considering these estimates of perennial yield, it is quite clear that basins 189B and 189D are over appropriated and no water is available for Applications 58894 through 58904, 58915 and 58916.

A Draft Environmental Impact Statement was prepared to assess the impacts of a coal-fired electrical power generating plant in Thousand Springs Valley.¹⁰ The authors estimated the perennial yield for sub-basin 189B to be 16,000 AFA,¹⁰ which is much greater than the 2600 AFA estimated by the USGS. The Applicant feels that the State Engineer should accept this updated estimate of perennial yield because more information on the Thousand Springs Creek Basin is now available and this new estimate is based on a more detailed

⁹ Official records in the office of the State Engineer.

¹⁰ Exhibit No. 41, Public Administrative Hearing before the State Engineer, February 3, 1994.

study than that performed by the USGS in 1968.¹¹

However, the Draft Environmental Impact Statement is still only a draft and not a final document. It has not undergone the entire review process and has not been accepted by the United States Bureau of Land Management as a final version. During the public comment period, over 1200 comments on the draft were received, but not responded to because the project was abandoned.¹²

In reviewing the draft, the staff of the State Engineer found discrepancies in the procedure used by the authors to estimate the perennial yield. For example, the authors used the Maxey-Eakin Method to estimate the recharge to the groundwater from precipitation. In order to authenticate the empirical derivation of perennial yield, the authors used Darcy's Law to calculate the subsurface groundwater flow through a cross-section near the eastern boundary of the basin. Using this method, the authors calculated that 30,000 AFA leave the Thousand Springs Basin as groundwater underflow. However, the authors state that 67,000 AFA must leave the basin at the eastern end to justify the much higher value of the perennial yield estimated in the Draft EIS. This discrepancy is not resolved.

Even the Darcy's Law calculation may over-estimate the quantity of water leaving the basin as sub-surface flow. If large amounts of sub-surface groundwater flow were leaving Thousand Springs Basin, it would logically appear in Pilot Valley to the east which is the next basin downgradient. Because of the presence of a saline playa in Pilot Valley, it would be expected that a large amount of sub-surface groundwater flow from Thousand Springs Valley would rise to the surface and discharge as springs where it encounters the denser saline waters in Pilot Valley. Consequently,

¹¹ Transcript p. 211, Public Administrative Hearing before the State Engineer, February 3, 1994.

¹² Transcript pp. 248-250, and Exhibit No. 20, Public Administrative Hearing before the State Engineer, February 3, 1994.

one would expect to see a large discharge in Pilot Valley. In their hydrologic reconnaissance of Pilot Valley, Utah and Nevada, Stephens and Hood¹³ report a total discharge of 8,000 acre feet per year for the entire basin, much less than the 67,000 acre feet per year required to balance the EIS estimate of sub-surface groundwater flow out of Thousand Springs Basin.

The State Engineer finds that the Draft EIS is not a final document and has not completed the final review process. Therefore, the consultant has never had to defend or verify his estimates of recharge and perennial yield. The State Engineer further finds that accepting the Draft EIS estimates of perennial yield in determining whether unappropriated water exists is not sound engineering practice and may threaten to prove detrimental to the public interest.

II.

The rights to the waters of Thousand Springs Creek are held by the protestant.¹⁴ There is uncontroverted testimony and evidence on the record that indicate that the groundwater pumping as proposed by the Applicant, would result in a decreased flow of Thousand Springs Creek.¹⁵ The State Engineer finds that the approval of applications 58894 through 58904, 58915 and 58916 would result in reduced flows in Thousand Springs Creek and conflict with the Protestant's existing rights to the waters.

¹³ Stephens, Jerry C. and J.W. Hood, Hydrologic Reconnaissance of Pilot Valley, Utah and Nevada, Utah Department of Natural Resource Tech. Pub. No. 41, 1973.

¹⁴ Transcript p. 152, Public Administrative Hearing before the State Engineer, February 3, 1994, and In the Matter of the Determination of Relative Rights in and to the Waters of Thousand Springs Creek and its Tributaries, Fourth Judicial District Court of Nevada, in and for Elko County, December 6, 1929.

¹⁵ Transcript pp. 154, 225-226, 230, 233-235, and Exhibit No. 41, Public Administrative Hearing before the State Engineer, February 3, 1994.

The monitoring plan proposed by the Applicant is an after-the-fact measure that neither prevents the decreased flow nor mitigates the effects of the decreased flow. The State Engineer finds that the proposed monitoring plan does not prevent or mitigate the conflict with existing rights.

CONCLUSIONS

I.

The State Engineer has jurisdiction over this matter.¹⁶

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:¹⁷

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use or change conflicts with existing rights, or
- C. The proposed use or change threatens to prove detrimental to the public interest.

III.

The Draft EIS document is relied upon by the Applicant to support his position that there is unappropriated water in the Thousand Springs Valley Groundwater Basin. However, the Draft EIS is not a final document, the numerous comments filed by the public have not been answered, and significant technical discrepancies in the methods used to estimate the perennial yield have not been resolved. The State Engineer concludes that the Draft EIS in its present form does not provide a reliable basis on which to revise the estimate of perennial yield. Therefore, it is not in the public interest to approve new appropriations of water from Thousand Springs Valley Groundwater Basin.

¹⁶ NRS 533 and 534.

¹⁷ NRS 533.370.

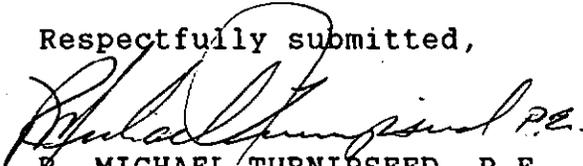
IV.

The pumping of groundwater as proposed in Applications 58894 through 58904, 58915 and 58916, would cause a reduction in the flow of Thousand Springs Creek. The State Engineer concludes that the approval of said applications would conflict with the existing water rights owned by the Protestant.

RULING

The protests filed by Walker-Winecup-Gamble, Inc. to Applications 58894 through 58904, 58915 and 58916 are hereby upheld and said Applications are hereby denied on the grounds that their approval threatens to prove detrimental to the public interest and would conflict with existing rights. No ruling is made regarding the protests filed by the Elko County Board of Commissioners or the U.S.D.I. Bureau of Land Management.

Respectfully submitted,


R. MICHAEL TURNIPSEED, P.E.
State Engineer

RMT/JCP/pm

Dated this 28th day of
November, 1994.