

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

IN THE MATTER OF APPLICATIONS)
81719, 81720, 81825, 82268, 82570, 82571,)
82572 AND 82573 FILED TO APPROPRIATE)
THE PUBLIC WATERS OF THE DIAMOND)
VALLEY HYDROGRAPHIC BASIN (153),)
EUREKA COUNTY, NEVADA.)

RULING

#6290

GENERAL

I.

Application 81719 was filed on March 30, 2012, by Sadler Ranch LLC, c/o Doug Frazer to appropriate 6.0 cubic feet per second (cfs), not to exceed 3,462.38 acre-feet annually (afa), of groundwater for irrigation purposes (supplemental). The proposed point of diversion is described as being located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 23, T.24N., R.52E., M.D.B.&M. The proposed place of use is described as being located within portions of the NE $\frac{1}{4}$, SW $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 13, T.24N., R.52E., M.D.B.&M., portions of the SW $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 18, T.24N., R.53E., M.D.B.&M., the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, T.24N., R.53E., M.D.B.&M., portions of the S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 19, T.24N., R.53E., M.D.B.&M., portions of the SE $\frac{1}{4}$ NE $\frac{1}{4}$, portions of the E $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 23, T.24N., R.52E., M.D.B.&M., portions of Section 24, T.24N., R.52E., M.D.B.&M., portions of the NW $\frac{1}{4}$, NE $\frac{1}{4}$ of Section 25, T.24N., R.52E., M.D.B.&M., a portion of the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 26, T.24N., R.52E., M.D.B.&M., portions of the NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ of Section 29, T.24N., R.53E., M.D.B.&M., portions of the NW $\frac{1}{4}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$ of Section 30, T.24N., R.53E., M.D.B.&M., portions of the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 32, T.24N., R.53E., M.D.B.&M., and portions of the S $\frac{1}{2}$ of Section 25, T.24N., R.52E., M.D.B.&M. (1,731.19 acres). Item 12 of the application, which describes the proposed works of diversion, indicates that a groundwater well will be used to provide supplemental resources when water from Big Shipley Spring and tributaries and Indian Camp Springs and tributaries under Proofs of Appropriation V-03289 and V-03290 are not capable of providing sufficient water to irrigate the place of use under the proofs.¹

¹ Exhibit No. 3, public administrative hearing before the State Engineer November 18-22, 2013, official records in the Office of the State Engineer. Hereinafter the exhibits and transcript will be referred to solely by the exhibit number or transcript page.

II.

Application 81720 was filed on March 30, 2012, by Sadler Ranch LLC, c/o Doug Frazer to appropriate 6.0 cfs, not to exceed 3,462.38 afa, of groundwater for irrigation purposes (supplemental). The proposed point of diversion is described as being located within the NW¼ SE¼ of Section 23, T.24N., R.52E., M.D.B.&M. The proposed place of use and remarks are the same as described under Application 81719.²

III.

Applications 81719 and 81720 were timely protested by Diamond Natural Resources Protection and Conservation Association and Mark Moyle Farms, LLC on grounds summarized as follows:³

1. The proposed use of the water would conflict with existing rights.
2. There is no unappropriated water from the source.
3. The granting of the applications would be detrimental to the public interest.
4. The Applicant has failed to provide proof as required by NRS § 533.370 of its intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence and the financial ability and reasonable expectation to actually construct the work and apply the water to the intended beneficial use with reasonable diligence.
5. The applications seek to appropriate large quantities of groundwater for irrigation purposes in violation of State Engineer's Order No. 717.
6. The State Engineer may not grant supplemental groundwater rights to mere alleged water rights set forth in the proofs of appropriation.
7. The historic acreage irrigated under the proofs may be insufficient to support the quantity of water sought under the applications.
8. The historic flow of water from Big Shipley Spring and tributaries and Indian Camp Springs and tributaries under the proofs of appropriation may be insufficient to support the quantity of water sought under the applications.
9. The State Engineer should postpone action on the applications until an adjudication of all vested water rights in the basin has been completed.

² Exhibit No. 9.

³ Exhibit Nos. 4, 8, 10 and 14.

10. The points of diversion under the applications may cause the spring flow to be reduced and eliminated thereby converting the “supplemental” groundwater rights into “primary” groundwater rights.
11. If the applications are granted they should be conditioned on the implementation of a monitoring program and if impacts are demonstrated the Applicant should be required to mitigate those impacts.
12. The water rights claimed under the proofs of appropriation have been abandoned.

IV.

Applications 81719 and 81720 were timely protested by Etcheverry Family, Ltd. Partnership, Diamond Cattle Company and Kenneth Benson (jointly) on grounds summarized as follows:⁴

1. The applications request the year round use of water, which is inconsistent with irrigation practices in the proposed location.
2. The applications seek a duty of 4.0 acre-feet per acre, which is excessive for the meadow hay crop type and weather patterns in the area would likely limit production abilities of meadow hay.
3. Given the state of the Diamond Valley Hydrographic Basin, the State Engineer should require a study prior to granting additional withdrawals from this stressed aquifer.
4. The use of the water will adversely affect the cost of water for other holders of water rights in the hydrographic basin because of the likelihood of increased pumping from lowered water tables.
5. The use of the water will conflict with and be detrimental to the public interest and interfere with existing wells as this stressed groundwater table will suffer further draw down.
6. The use of the water will conflict with existing rights and existing domestic wells.
7. There is no unappropriated water.
8. The applications violate State Engineer’s Order No. 815.
9. The proposed manner and place of use are already subject to regulation by the State Engineer’s Orders of designation and curtailment.

⁴ Exhibit Nos. 5 and 11.

V.

Applications 81719 and 81720 were timely protested by Eureka County on grounds summarized as follows:⁵

1. The water the applications seek to appropriate is actually groundwater discharge accounted for in the estimation of the perennial yield of Diamond Valley. These springs will cease to flow even if only the perennial yield had been appropriated in the valley. The use of the water will only exacerbate the over-appropriation problem in the valley. There is no unappropriated water in the source of supply, the use will conflict with or impair existing rights and protectable interests in existing domestic wells and threaten to prove detrimental to the public interest.
2. The proofs of appropriation make no mention of the annual amount of water that was actively applied to irrigation nor have the claims been validated by the State Engineer through an adjudication. Therefore, the amount of water needed as a supplemental source of irrigation is unknown. Therefore, it seems to follow that the State Engineer cannot grant permits for supplemental groundwater use until a determination is made as to the historical use to be supplemented.
3. Historical evidence does not support a duty of 4.0 acre-feet per acre.
4. While the applications assert they will be supplemental to the vested rights claimed under the proofs of appropriation, the proposed location of the well will likely dry up the springs.
5. The State Engineer is requested to weigh the granting of the applications in balance with State Engineer's orders that regulate use of water in the valley, including State Engineer's Order No. 717.

VI.

Applications 81719 and 81720 were timely protested by James E. Gallagher on grounds summarized as follows:⁶

1. Diamond Valley is over-appropriated; therefore, granting new groundwater appropriations will be detrimental the basin.

⁵ Exhibit Nos. 6 and 12.

⁶ Exhibit Nos. 7 and 13.

2. Approval of the applications would be contrary to the State Engineer's direction given to the water right holders in the basin to seek solutions to the overdraft situation.
3. The amount of water applied for greatly exceed the amount of water ever put to beneficial use and is more than ever flowed from the springs.

VII.

Application 81825 was filed on April 26, 2012, by Daniel S. Venturacci to appropriate 8.0 cfs, of groundwater for irrigation and domestic purposes. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 3, T.23N., R.54E., M.D.B.&M. The proposed place of use is described as being located within portions of the S $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ and SW $\frac{1}{4}$ of Section 3, T.23N., R.54E., M.D.B.&M., portions of the NE $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 4, T.23N., R.54E., M.D.B.&M., portions of the NE $\frac{1}{4}$ of Section 9, T.23N., R.54E., M.D.B.&M., and portions of the N $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 10, T.23N., R.54E., M.D.B.&M. (607.93 acres). Item 12 of the application, which describes the proposed works of diversion, indicates that the lands to be irrigated are identical to those described and mapped under amended Proof of Appropriation V-01115 and that the application seeks to restore irrigation by diverting groundwater that formerly discharged at the surface as Taft⁷ Springs and applied to the land in a supplemental manner.⁸

VIII.

Application 81825 was timely protested by Diamond Cattle Company, Dusty L. Moyle, Eureka County, James L. Moyle, Kenneth Benson and Mark S. Moyle, and a joint protest was filed by Etcheverry Family Ltd. Partnership, Diamond Cattle Company and Kenneth Benson on grounds nearly identical to those asserted against Applications 81719 and 81720, including also the following:⁹

1. The application seeks to replace the loss of spring flow from Taft Spring, but only references Proof of Appropriation V-01115 yet the land described is also included under Proof of Appropriation V-01114, which claims water from seasonal flow from Horse Canyon. There is no indication of the amount of water flow rate or total quantity used from Horse Canyon.

⁷ Taft Spring is also commonly known as Thompson Spring.

⁸ Exhibit No. 15.

⁹ Exhibit Nos. 18, 19, 20, 21 and 22.

2. Statements in the proof of appropriation contradict that 4.0 afa duty is used to irrigate crops in that the proof also asserts that a continuous flow of 3.12 cfs has been used to irrigate 607.93 acres.
3. The claimed use of water under Proof of Appropriation V-01114 and V-01115 have not been adjudicated; therefore, the State Engineer cannot grant permits for supplemental groundwater.
4. It is not clear whether the Applicant seeks a right to supplement the vested claims or to fully replace the former spring flow.

IX.

Application 82268 was filed on November 2, 2012, by Sadler Ranch LLC, c/o Doug Frazer to change the point of diversion of water claimed to have been appropriated under Proof of Appropriation V-03289. The application seeks to change “the maximum flow of Big Shipley Spring Complex” – not to exceed 7,457.76 afa of groundwater for irrigation and stockwater purposes. The proposed point of diversion is described as being located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 23, T.24N., R.52E., M.D.B.&M. The existing points of diversion are described as Ditch No. 1, Ditch No. 2 and Ditch No. 3, all in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 23, T.24N., R.52E., M.D.B.&M. The proposed place of use is described as being located within portions of the NE $\frac{1}{4}$, SW $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 13, T.24N., R.52E., M.D.B.&M., portions of the SW $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 18, T.24N., R.53E., M.D.B.&M., the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, T.24N., R.53E., M.D.B.&M., portions of the S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 19, T.24N., R.53E., M.D.B.&M., the SE $\frac{1}{4}$ NE $\frac{1}{4}$, portions of the SE $\frac{1}{4}$ of Section 23, T.24N., R.52E., M.D.B.&M., portions of Section 24, T.24N., R.52E., M.D.B.&M., portions of the NW $\frac{1}{4}$ and NE $\frac{1}{4}$ of Section 25, T.24N., R.52E., M.D.B.&M., the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 26, T.24N., R.52E., M.D.B.&M., portions of the NW $\frac{1}{4}$, SW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ and portions of the SE $\frac{1}{4}$ of Section 29, T.24N., R.53E., M.D.B.&M., portions of the NW $\frac{1}{4}$, NE $\frac{1}{4}$ and SE $\frac{1}{4}$ of Section 30, T.24N., R.53E., M.D.B.&M., the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 32, T.24N., R.53E., M.D.B.&M. (1,657.28 acres). Items 15 and 16 of the application indicate that Proof of Appropriation V-03289 was filed for the diversion of all water from Big Shipley Spring and tributaries for the irrigation of 1,657.28 acres of land and asserts a duty of 4.5 acre-feet per acre and a total duty of 7,457.76 afa. It further indicates that a well designed to intercept the Big Shipley Spring

Complex has been completed and test pumped and that the well is in direct communication with the geologic features that provide water to the Big Shipley Spring Complex.¹⁰

X.

Application 82268 was timely protested by Diamond Cattle Company, Diamond Natural Resources Protection and Conservation Association, Etcheverry Family Ltd. Partnership, Eureka County, James E. & James T. Gallagher, James L. Moyle, Kenneth Benson and Mark Moyle Farms, LLC on grounds nearly identical to those asserted above, in addition to the following:¹¹

1. The application is deficient because it proposes to change the point of diversion for a claimed pre-statutory vested surface water right (V-03289) to a groundwater source that is not recognized under Nevada water law as hydrologically connected.
2. The application is deficient because Nevada water law does not allow a source to be changed through a change application.
3. The appropriate remedy for the claimed decline in the surface water source is enforcement of priority of rights to use water.
4. The application requests a duty that is nearly double the best estimates of historical annual flow from the springs and the 4.5 af per acre duty is far in excess of the generally accepted annual evapotranspiration of crops in Diamond Valley, which is 2.7 af per acre.
5. The proposed "induction" well does not serve to induce the infiltration of surface water, but will intercept groundwater and will thus exacerbate the over-appropriation problem in the basin.
6. The ranch was purchased with full knowledge that the water was not there.
7. The claimed rights have been abandoned.

XI.

Application 82570 was filed on February 25, 2013, by Daniel S. Venturacci to appropriate 2.5 cfs of groundwater for irrigation and domestic purposes. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 27, T.24N., R.54E., M.D.B.&M. The proposed place of use is described as being located within portions of the SW $\frac{1}{4}$, portions of the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27, portions of the E $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 28, portions of the N $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, portions of the W $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 34, all

¹⁰ Exhibit No. 28.

¹¹ Exhibit Nos. 29, 30, 31, 32, 33, 34, 35 and 36.

in T.24N., R.54E., M.D.B.&M. (344.89 acres). Item 12 of the application indicates that the appropriation seeks to replace pre-statutory vested rights and was filed to mitigate impacts to those existing rights on the Cox Ranch.¹²

XII.

Application 82571 was filed on February 25, 2013, by Daniel S. Venturacci to appropriate 2.5 cfs of groundwater for irrigation and domestic purposes. The proposed point of diversion is described as being located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 34, T.24N., R.54E., M.D.B.&M. The proposed place of use is described as being located within portions of the SW $\frac{1}{4}$ and SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27, E $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 28, N $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 34, all within T.24N., R.54E., M.D.B.&M. (344.89 acres). Item 12 of the application indicates that the appropriation seeks to replace pre-statutory vested rights on the property from springs and seeps, that the application was filed to mitigate impacts to those existing rights on the Cox Ranch, that the application seeks to supplement existing rights for mitigation purposes and that the water will be used in conjunction with that requested for Cox Well #2 (Application 82570).¹³

XIII.

Application 82572 was filed on February 25, 2013, by Daniel S. Venturacci to appropriate 5.0 cfs of groundwater for irrigation and domestic purposes. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 3, T.23N., R.54E., M.D.B.&M. The proposed place of use is described as being located within Lot 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, portions of the S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 3, Lots 1-3, S $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$, SE $\frac{1}{4}$ of Section 4, NE $\frac{1}{4}$ of Section 9, NW $\frac{1}{4}$, N $\frac{1}{2}$ NE $\frac{1}{4}$, portions of S $\frac{1}{2}$ NE $\frac{1}{4}$, portions of the NW $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ of Section 10, all within T.23N., R.54E., M.D.B.&M. (1,636.36 acres). Item 12 of the application indicates that the appropriation seeks to replace pre-statutory vested rights, that the application was filed to mitigate impacts to those existing rights on the Thompson Ranch, and that the application seeks to supplement existing rights for mitigation purposes only.¹⁴

XIV.

Application 82573 was filed on February 25, 2013, by Daniel S. Venturacci to appropriate 2.0 cfs of groundwater for irrigation and domestic purposes. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 22, T.24N., R.54E.,

¹² Exhibit No. 37.

¹³ Exhibit No. 44.

¹⁴ Exhibit No. 52.

M.D.B.&M. The proposed place of use is described as being located within portions of the E½ NE¼, portions of the E½ SE¼ of Section 21, portions of the NW¼, portions of the N½ SW¼, portions of the SW¼ SW¼ of Section 22, all within T.24N., R.54E., M.D.B.&M. (190.59 acres). Items 12 and 13 of the application indicate that the appropriation seeks to mitigate impacts to those existing rights on the Willow Field and is seeking to replace vested water rights on the property from springs and seeps.¹⁵

XV.

Application 82570 was timely protested by Diamond Cattle Company, Diamond Natural Resources Protection and Conservation Association, Etcheverry Family Ltd. Partnership, Eureka County, Kenneth Benson and Mark Moyle Farms, LLC on grounds nearly identical to those asserted above, in addition to the following:¹⁶

1. The application seeks to replace unidentified and unadjudicated vested right claims.
2. The Applicant has failed to demonstrate historical and continued use of the underlying vested rights.
3. Nevada water law does not allow a surface water right to be converted to a groundwater right.
4. The historic acreage of land irrigated may be insufficient to support the quantity of water applied for under the application.
5. The historic flow from Cox Canyon and Telegraph Canyon is only seasonal, intermittent, snow-melt runoff that happens only in the spring. No spring complex exists in the area that comes from an underground source.
6. The duty of water requested is too high.
7. The application does not show the decline in the groundwater table is the cause of the reduction in the amount of water available to service the primary vested surface water claims.
8. The Applicant is attempting to circumvent the basin designation orders by first filing a new unadjudicated vested surface water claim and then filing for supplemental groundwater under State Engineer's Order No. 1226.

¹⁵ Exhibit No. 60.

¹⁶ Exhibit Nos. 38, 39, 40, 41, 42 and 43.

XVI.

Application 82571 was timely protested by Diamond Cattle Company, Diamond Natural Resources Protection and Conservation Association, Etcheverry Family Ltd. Partnership, Eureka County, James L. Moyle, Kenneth Benson and Mark Moyle Farms, LLC on grounds nearly identical to those asserted above.¹⁷

XVII.

Application 82572 was timely protested by Diamond Cattle Company, Diamond Natural Resources Protection and Conservation Association, Etcheverry Family Ltd. Partnership, Eureka County, James L. Moyle, Kenneth Benson and Mark Moyle Farms, LLC on grounds nearly identical to those asserted above, in addition to the following:¹⁸

1. The historic flow of water from Horse Canyon has always only been seasonal, intermittent, snow-melt runoff that only happens in the spring. No spring complex exists in the area that comes from an underground source outside of Taft or Thompson spring [sic]. Documented spring flows may suggest that Taft or Thompson springs is also fed from seasonal intermittent snow melt.

XVIII.

Application 82573 was timely protested by Diamond Cattle Company, Diamond Natural Resources Protection and Conservation Association, Etcheverry Family Ltd. Partnership, Eureka County, James L. Moyle, Kenneth Benson and Mark Moyle Farms, LLC on grounds nearly identical to those asserted above, in addition to the following:¹⁹

1. The historic flow of water from Judd Canyon has always only been seasonal, intermittent, snow-melt runoff that only happens in the spring. No spring complex exists in the area that comes from an underground source outside of Taft or Thompson spring [sic]. Documented spring flows may suggest that Taft or Thompson springs are also fed from seasonal intermittent snow melt.

FINDINGS OF FACT

I.

DIAMOND VALLEY HISTORY

The Diamond Valley Hydrographic Basin is significantly over-appropriated due to the fact that groundwater permits and actual groundwater pumping far exceed the perennial yield of

¹⁷ Exhibit Nos. 45, 46, 47, 48, 49, 50 and 51.

¹⁸ Exhibit Nos. 53, 54, 55, 56, 57, 58 and 59.

¹⁹ Exhibit Nos. 61, 62, 63, 64, 65, 66 and 67.

the basin. Diamond Valley has an estimated perennial yield of approximately 30,000 acre-feet annually,²⁰ but over 130,000 acre-feet of groundwater rights were issued prior to the tenure of the current State Engineer. In 2011, over 96,000 acre-feet of groundwater was actually pumped from the basin.²¹

The over-appropriation of Diamond Valley resulted from water right permits issued in the 1960s pursuant to the Desert Land Entry Act of 1877 (Act). The Act authorized the withdrawal of 640 acres of public land under a single application for private ownership through the reclamation of land for agriculture. When Desert Land Entry applications under the Act were the most active between 1950 through 1964, the State Engineer granted a large number of groundwater permits for Desert Land entries quickly in order to promote settlement throughout Nevada.²² In issuing water right permits in Diamond Valley, the State Engineer relied upon his experience in dealing with Desert Land entries statewide, and his experience was that the success rate of Desert Land entries was quite low - about 18%.²³ The oral history of a former State Engineer gives one estimate that “nine out of ten people who obtained a Desert Land Entry failed in trying to develop [the] desert lands.”²⁴ The low success rate was attributed to the Federal Government’s denial of Desert Land Entry applications; hence, over-appropriation of the water resources of Nevada was not considered probable due to the fact that overwhelmingly, Desert Land Entry applications turned out to be unsuccessful. However, unlike the experiences in other areas of the state, the success rate in Diamond Valley turned out to be much higher than expected and the quantity of groundwater issued under permits soon exceeded the perennial yield. Here, the high success rate was attributed to the availability of electricity for agricultural pumping in the early 1970s, which resulted in an increase in large-scale pumping.²⁵

²⁰ Nevada Division of Water Resources (NDWR) Hydrographic Area Summary for Diamond Valley – Basin 153; *and see* Exhibit No. 304.

²¹ NDWR Crop Inventory and Groundwater Pumping Inventory for Diamond Valley – Basin 153 (2011).

²² *See* University of Nevada Oral History Program, *Hugh A. Shamberger: Memoirs of a Nevada Engineer and Conservationist*, UNOHP Catalog #019, p. 35, 1967.

²³ U.S. Department of Interior, Bureau of Land Management, Nevada State Office, *Analysis of Agricultural Potential for Desert Land entries in Nevada*, p. 5, May 1979.

²⁴ University of Nevada Oral History Program, *Hugh A. Shamberger: Memoirs of a Nevada Engineer and Conservationist*, UNOHP Catalog #019, p. 37, 1967.

²⁵ Exhibit No. 108, p. 9.

In 1964, the State Engineer issued State Engineer's Order Nos. 277 and 280, which designated a portion of the basin as coming under the provisions of Nevada Revised Statute Chapter 534 as providing for the conservation and distribution of groundwater. In December 1975, the State Engineer curtailed granting applications in the southern portion of Diamond Valley because the groundwater was being depleted in that area of the basin. In July 1978, the State Engineer ordered that all applications filed after December 31, 1978, to appropriate groundwater for irrigation purposes in Diamond Valley be denied. In 1982, the State Engineer held several hearings to consider whether to curtail the pumping of groundwater in Diamond Valley. The State Engineer did not curtail pumping at that time; but, for the purpose of obtaining more accurate information concerning the effects of pumping on the average annual replenishment to the groundwater supply, in 1983 ordered that measuring devices be placed on irrigation wells in the basin, and later that same year, extended the boundaries of the designated area to include all of Diamond Valley.

At the 1982 hearing, the State Engineer discussed with water right holders his concern that the basin's irrigators were going to reach a point where their economic survival would be in danger due to water level declines and impacts to existing senior rights, ultimately requiring regulation by priority. At that hearing, there was discussion about drilling a groundwater well for Mr. Milton (Milt) Thompson due to the reduced flow of his spring, which is the same issue and one of the same water sources currently before the State Engineer in the present Applications.

Similarly, in 1992, the State Engineer met with the Diamond Valley farmers to discuss forming a Diamond Valley Groundwater Board pursuant to NRS § 534.035. The State Engineer suggested that if a Board were to be formed, it should consider ideas to bring the basin back into balance, including:

1. Forfeiting water rights that had not been used in a long time;
2. Having every water right holder take a "cut" across the board to their water rights (which could be accomplished by an Order);
3. Requesting the State Engineer reduce agricultural duties to an appropriate level; and
4. Requesting that water rights be curtailed by priority as set forth in NRS Chapter 534.

The formation of a Diamond Valley Groundwater Board never occurred due to funding issues.

Again, in March of 2009, the Office of the State Engineer held a meeting in Eureka, Nevada, to provide information to the Diamond Valley water right holders regarding the status of the basin and possible solutions to the water level declines and impacts to water rights. The State Engineer outlined various regulatory tools he had at his disposal, but most importantly, implored the water right holders to begin working on a groundwater management plan among themselves in the hope that stakeholders would take the opportunity to control their destiny in terms of future basin management. Currently, no groundwater management plan has been submitted to the State Engineer.

II.

THE CURRENT APPLICATIONS

The applications under consideration in this ruling present unique questions and challenges. While most of the applications under consideration were filed as “new appropriations” of groundwater, in effect, they could also be considered as applications that are changing the points of diversion from those where the spring water was previously diverted to new wells that will penetrate the aquifer from which the springs discharged. The water rights these applicants seek to mitigate were from springs along the margins of the valley floor that either no longer flow or flow at a significantly reduced rate. Sadler seeks to replace water lost from Shipley Spring and tributaries and Indian Camp Springs along the west side of the valley. Venturacci seeks to replace water that formerly discharged at the surface as Taft (Thompson) Springs and waters claimed to have been used on the Cox Ranch and Willow Field along the east side of the valley. As will be discussed below, this is not an adjudication of the relevant vested right claims which remain subject to a future adjudication. The granting of any of the current applications is to mitigate the loss of spring discharge necessary to produce the amount of historical crop production, as may be produced today using modern and efficient irrigation practices.

As above-described, historically, many groundwater appropriators of Diamond Valley have resisted the State Engineer’s efforts to address over-appropriation of the basin; however, the State Engineer cannot continue to delay action at the request of groundwater appropriators and must address allegations that groundwater pumping by junior right holders is conflicting with senior water rights on springs along the mountain front on either side of the valley. The first effort to address the issue came on March 26, 2013, when the State Engineer issued Order No. 1226, which provided for the filing of applications to, among other things, appropriate

groundwater to mitigate senior surface water rights that have been impacted by groundwater pumping under junior water rights.²⁶

A. Big Shipley Spring (west side of valley)

Applications 81719 and 81720 indicate that the groundwater will be used to provide supplemental resources when water from Big Shipley Spring and tributaries and Indian Camp Springs and tributaries under Proofs of Appropriation V-03289 and V-03290 are not capable of providing sufficient water to irrigate the place of use claimed under the proofs.

Application 82268 is an application that seeks to change the point of diversion of water claimed to have been appropriated under Proof of Appropriation V-03289, and the application indicates that a well has been designed to intercept the Big Shipley Spring Complex where the well is in direct communication with the geologic features that provide water to the Big Shipley Spring Complex.

B. Thompson Spring and others (east side of valley)

Application 81825 indicates that the lands to be irrigated are identical to those described and mapped under amended Proof of Appropriation V-01115 and that the application seeks to restore irrigation by diverting groundwater that formerly discharged at the surface as Taft Springs and applied to the land in a supplemental manner.

Applications 82570 and 82571 indicate that the appropriations seek to replace pre-statutory vested rights on the property from springs and seeps; that the applications were filed to mitigate impacts to existing water rights on the Cox Ranch; and that the applications and seek to supplement those existing rights for mitigation purposes.

Application 82572 indicates that the appropriation seeks to replace pre-statutory vested rights; the application was filed to mitigate impacts to those existing rights on the Thompson Ranch; and that the application seeks to supplement existing rights for mitigation purposes.

Application 82573 indicates that the appropriation seeks to replace pre-statutory vested water rights on the property from springs and seeps and to mitigate impacts to those existing rights on the Willow Field.

²⁶ Exhibit No. 2.

The State Engineer finds there has been confusion over the intent of the applications by the reference to “supplement,” which is a term of art in water law when discussing “supplemental water rights.” Applicants refer both to “mitigate” and “supplement” in their applications and the State Engineer must determine the purpose for which the applications were filed. The State Engineer finds that Applications 81719, 81720, 81825, 82570, 82571, 82572 and 82573 are applications that were filed to replace pre-statutory vested spring water rights claimed under various proofs of appropriation; and, Application 82268 was filed to change the point of diversion of water claimed to have been appropriated under Proof of Appropriation V-03289. The applications are not filed as “supplemental” water rights as that term is interpreted and used by the Office of the State Engineer, for example, to supplement a stream source with groundwater when the surface water is not available. Rather, the State Engineer finds the intent of the applications is to mitigate the decrease in flow or loss of spring rights through replacement water.

III.

THE STATE ENGINEER HAS AUTHORITY TO ACT ON THE APPLICATIONS WITHOUT AN ADJUDICATION OF ALL PRE-STATUTORY VESTED RIGHTS

Protestants question whether the State Engineer has authority to protect pre-statutory vested water rights prior to, or without a full adjudication of all pre-statutory vested rights first. They argue that the final scope of any claimed pre-statutory vested water right can only be judicially determined, and until a court determines the scope of all rights through an adjudication, including the priority date, diversion rate, duty and season of use, the State Engineer lacks authority to determine the scope of pre-statutory vested water rights himself. Relying on *Pacific Livestock Co. v. Malone*, 53 Nev. 118, 294 P. 538 (1931), Protestants argue that since an adjudication is an indispensable prerequisite for subsequent administration of the rights by the State Engineer, there is no authority for the State Engineer to regulate these rights until after an order of determination is filed in the district court. Consequently, Protestants argue the State Engineer cannot grant “mitigation” rights for impaired pre-statutory vested rights pursuant to State Engineer Order 1226, because the proofs of appropriation are merely placeholders for yet-to-be-determined vested rights.

Applicant Sadler argues that pre-statutory water rights are “vested” rights and disputes Protestants’ position that the right is not vested until decreed by a court.²⁷ Citing *In re Application of Filippini*, 66 Nev. 17, 22, 202 P.2d 535 (1949), Sadler asserts that a vested water right is “a right to use water that has become fixed either by actual diversion and application to beneficial use or by appropriation, according to the manner provide by the water law.” Sadler argues that pre-statutory water rights, often referred to as “vested rights,” are established through “appropriation,” defined as “[a]n actual diversion of the [water], with intent to apply it to a beneficial use, followed by an application to such use within a reasonable time.” *Id.* 66 Nev. at 23, 202 P.2d at 537-38 (quoting *Walsh v. Wallace*, 26 Nev. 299, 67 P. 914 (1902)).

Sadler argues that once the water was diverted with the intent to apply it to a beneficial use, and then put to beneficial use within a reasonable time, the water was “appropriated” and a vested water right was established, which the State Engineer should and can protect. Sadler asserts that Protestants are incorrect in stating a vested right does not come into existence until after an adjudication, and that neither the filing of a proof of appropriation nor an adjudication of such a claim is necessary for a pre-statutory vested water right to exist. Sadler asserts that while an adjudication of pre-statutory vested water rights creates a final determination of a pre-statutory vested right, it does not establish, create, or otherwise bring the right into existence, and neither the filing of a proof of appropriation with the State Engineer nor an adjudication is necessary for a pre-statutory water right to vest.

The State Engineer agrees with Applicants’ argument regarding the existence pre-statutory vested rights and also concurs with Applicants that the State Engineer has the responsibility under NRS § 533.085 to take action to protect pre-statutory vested water rights in Diamond Valley - even absent a final decree in a statutory adjudication.

²⁷ The State Engineer notes that one must carefully use the term “vested.” “The term ‘vested rights,’ as that term is used in relation to constitutional guarantees, implies an interest it is proper for the state to recognize and protect and of which the individual could not be deprived arbitrarily without injustice. It is some interest in property that has become fixed and established. When used in connection with a water right . . . it means simply that a right to use water has become fixed either by actual diversion and application to beneficial use or by appropriation, according to the manner provided by the water law, and is a right which is regarded and protected as property. The term ‘vested right’ is sometimes used to describe water rights which came into being by diversion and beneficial use prior to the enactment of any statutory water law, related to appropriation. We use it here, however, as a term describing a water right which has become fixed and established either by diversion and beneficial use or by permit procured pursuant to the statutory water law relative to appropriations.” *In re Application of Filippini*, 66 Nev. 17, 22, 202 P.2d. 535, 537 (1949) (internal citations omitted).

In *Orsmby County v. Kearney*, 37 Nev. 314, 142 P. 803 (1914), the Nevada Supreme Court held that the adjudication statutes as originally enacted, were unconstitutional because the statutes permitted the State Engineer to finally adjudicate water rights with no right to appeal from that decision. In its analysis, the court recognized that most water rights upon the streams of the state were undetermined by any judicial decree or other record; however, the rights existed nonetheless – albeit undefined. For the state to administer such rights, it was necessary that they should be defined. This, however, did not attempt to take away the right to have the matter finally adjudicated by the courts. 37 Nev. at 339, 142 P. at 806.

The District Court of Nevada in *Bergman v. Kearney*, 241 F. 884, 898 (D. Nev. 1917), citing Willoughby, *The Constitutional Law of the United States*, observed that “[t]here is no constitutional objection to vesting the performance of acts essentially judicial in character in the hands of the executive or administrative agents, provided the performance of these functions is properly incidental to the execution by the department in question of functions peculiarly its own.” See also, *Nev. Industrial Ins. Comm’n v. Reese*, 93 Nev. 115, 560 P.2d 1352 (1977) (discussing State Engineer’s quasi-judicial powers). The State Engineer finds that any quantification he makes in determining the scope of the water use claimed, including the priority date, diversion rate, duty, season and manner of use, is merely preliminary and made within the capacity of his administrative/quasi-judicial function and any claimed pre-statutory vested water right will still be subject to a full adjudication and judicial final determination. See *Salmon River Canal Co. Ltd. V. Bell Branch Ranches, Inc.*, 564 F.2d 1244, 1247 (9th Cir. 1977) (permit application proceedings do not have such conclusive effect and can only attain that status after being subject to the adjudication proceedings). The consideration of the State Engineer of mitigation applications is not an adjudication of the relative water rights, but rather, is confined to the administrative powers of the State Engineer in the supervision of the state’s water. See *id.* (interpreting permit application proceedings under NRS § 533.430(1) not to be an adjudication of the relative water rights, but rather only for the administrative use of the State Engineer to aid in his supervision of the state’s waters).²⁸

²⁸ See also, e.g., Ruling No. 16, official records in the Office of the State Engineer (State Engineer’s administrative determination of vested rights claims in acting on permit applications).

Nevada Revised Statute § 533.085(1) provides that “[n]othing contained in [Chapter 533] shall impair the vested right of any person to the use of water, nor shall the right of any person to take and use water be impaired or affected by any of the provisions of this chapter where appropriations have been initiated in accordance with law prior to March 22, 1913.” Additionally, NRS § 533.030(1) provides that “[s]ubject to existing rights, and except as otherwise provided in this section, all water may be appropriated for beneficial use as provided in this chapter and not otherwise.” The State Engineer issued water right permits junior in priority to the claimed pre-statutory vested water rights and those junior rights were issued subject to existing rights. The issuance of the junior permitted groundwater rights does not defeat the interest claimed by senior water right holders.

Protestants dispute the extent of the claimed pre-statutory vested rights and argue the State Engineer has no authority over the rights until at least the filing of an order of determination with a district court pursuant to the statutory adjudication process. There, they claim, a court will make a final determination as to the parameters of any pre-statutory vested water right. The State Engineer rejects these arguments and finds he is acting within the scope of his administrative/quasi-judicial duties to protect pre-statutory vested water rights and that any determination he makes as to the scope of those rights is merely preliminary subject to a final adjudication by a court of law. Nothing in acting on the pending applications is intended to supplant a later determination by a court of the extent of the pre-statutory vested water rights, nor is the right to have the matter finally adjudicated by the courts taken away. The performance of protecting senior rights is properly incidental to the exercise of the State Engineer authority in the issuance of, and protection of water rights.²⁹ The State Engineer finds the examination of the evidence on the vested right claims serves to factually establish the extent of any limitation that may be placed on any permit issued to mitigate a pre-statutory vested water right.

²⁹ NRS § 534.090(1) provides that the State Engineer may forfeit an “undetermined right,” which could be an unadjudicated pre-statutory vested groundwater right or an unperfected permitted right. “If such right was undetermined right, *i.e.*, a vested right that had not been determined by an adjudication procedure, the loss would be by forfeiture.” *Biennial Report of the State Engineer for the Period July 1, 1948, to June 30, 1950, Inclusive*, Carson City, Nevada, pp. 66-67 (1950). This is a clear demonstration of the State Engineer’s authority to act with regard to unadjudicated pre-statutory vested water rights has been the law for a long period of time.

IV.

THE STATE ENGINEER HAS AUTHORITY TO PROTECT SENIOR RIGHTS THROUGH “REPLACEMENT” OR “MITIGATION” WATER

Protestants argue that NRS § 532.110 provides that the State Engineer may only perform those duties that are granted by the legislature. Additionally, Protestant Eureka County argues that no statutory or case law exists to allow the State Engineer to grant “replacement” or “mitigation” groundwater rights for an unadjudicated claim of a pre-statutory vested water right that will carry the same date of priority as the unadjudicated claim.

Applicants assert that any water right permit issued for “mitigation” or “replacement” water should carry the priority date of the claimed pre-statutory vested water right. Applicant Sadler argues if no remedy exists, the junior groundwater users’ use of the water violates Nevada water law and the junior users should be immediately ordered to cease pumping in order to comply with the terms of their permits, which requires them to yield to existing senior rights.

Nevada’s water law provides the State Engineer with various tools to address appropriations of water in Nevada, including situations involving declining groundwater levels or over-appropriated basins. Nevada Revised Statute § 534.120(1) provides that within a designated area that the State Engineer determines the groundwater basin is being depleted, the State Engineer may administratively make rules, regulations and orders deemed essential for the welfare of the area involved. The State Engineer may also conduct investigations in a basin where it appears that the average annual replenishment to the groundwater supply may not be adequate for the needs of all permittees and vested-right claimants, and if the findings indicate, the State Engineer may order that withdrawals, including from domestic wells, be restricted to conform to priority of rights. NRS § 534.110(6). In addition, NRS § 534.110(7) provides that the State Engineer may designate as a critical management area any basin in which withdrawals of groundwater consistently exceed the perennial yield of the basin.

The State Engineer possesses express statutory power pursuant to NRS § 534.120(1) by which Order 1226 was issued as an order deemed essential for the welfare of the Diamond Valley basin.³⁰ “It is the universal rule of statutory construction that wherever a power is conferred by statute, everything necessary to carry out the power and make it effectual and complete will be implied.” *Checker, Inc. v. Public Service Comm’n*, 84 Nev. 623, 629-630, 446 P.2d 981, 985 (1968). Any implied power must be essential to carry out an agency’s express statutory duties. *City of Henderson v. Kilgore*, 122 Nev. 331, 131 P.3d 11, 14 (2006). As previously noted, NRS § 533.085 provides for the protection of vested rights from new appropriations granted under the statutory permitting process. The State Engineer’s duty to avoid conflicting with existing rights by the issuance of permits necessarily implies the authority to use his judgment as to the content of such rules, regulations and orders that are necessary to protect the welfare of senior right holders in designated areas.

The water law does not direct the State Engineer to use a particular tool based upon the situation, but rather, gives him the discretion to fashion the most appropriate remedy. If the State Engineer has no authority to protect senior rights then the entire prior appropriation system would be meaningless for the lack of any a right or remedy for senior right holders whose rights are impacted by junior rights. For that reason, the label “mitigation” or “replacement,” does not control the analysis, as the purpose for which the applications are being considered is to carry out the duty of the State Engineer in protecting senior rights.

In addition to express and implied statutory authority, *supra*, an additional source of authority for the State Engineer to mitigate impacts to pre-statutory vested rights is through inherent police powers. *See Ormsby County v. Kearney*, 37 Nev. 314, 336, 142 P. 803, 806 (1914) (one of the main purposes of the 1913 [water] law was to place stream systems under state control, a lawful exercise of police powers which may be legitimately exercised for the purpose of preserving, conserving, and improving the public health, safety morals, and general welfare); *and see, Humboldt Land & Cattle Co. v. Allen*, 14 F.2d 650 (D. Nev. 1926) (the condition of the need for water and insufficient supply have demanded from the state an exercise of its police power to ascertain rights and to regulate and *protect them*); *Humboldt Lovelock Irr. Light & Power Co. v. Smith*, 25 F.Supp. 571 (D. Nev. 1938) (it is well settled law in the arid and semi-arid states that a state, in the exercise of its police power, may regulate the matter of appropriation and distribution of water from natural streams for irrigation). In *Ormsby County*,

³⁰ No appeal was taken from State Engineer Order No. 1226.

the Court recognized the importance of securing users to their rights, but also stated that the state “at large” has an interest in protecting prior appropriators in their rights. 37 Nev. 337, 142 P. at 805.³¹

Indeed, in *Bergman v. Kearney*, the court there stated:

The idea that the individual has a vested right to enjoy the use of running water without public regulation or control is subversive of the sovereignty of the state. The state cannot divest itself of, or surrender, grant, or bargain away, this authority. Whenever the general public morals, health, safety, or welfare demand it, it becomes the duty of the state to exercise its police power of regulation and control, to the end that the individual may be restrained from exercising rights of ownership or possession to the substantial injury of others, or to the detriment of the community; and this restraint may be such as the Legislature in its wisdom deems reasonable and expedient.

241 F. at 893.

The State Engineer finds that since the 1960s, State Engineers have had meetings in Diamond Valley to address the over-appropriation of the basin and each time, the State Engineer has been discouraged by many groundwater right holders from regulating the basin on the basis of priority. If the basin is regulated by priority, there will undoubtedly be large impacts, including financial impacts to many citizens of Eureka County. The State Engineer has contemplated declaring the Diamond Valley a critical management area pursuant to NRS § 534.110(7), but again, has been largely discouraged from pursuing that remedy by citizens

³¹ As Mr. Justice Coleman, in *Vineyard Land & Stock Co. v. Dist. Ct.*, 42 Nev. 1, 26-27, 171 P. 166, 172-173 (1918), explained, radical changes are not accepted without protest. “If a statute is radically different from anything to which we have been accustomed is enacted, the average lawyer becomes alarmed and at once brands it as unconstitutional. Lawyers generally were very much excited and alarmed when the statutes of the various states creating railroad commissions, corporation commissions, industrial insurance commissions, and the like, were enacted. They considered them not only unconstitutional but revolutionary. Lawyers do not feel that way about the matter today, because they have become used to such statutes. . . . We are too prone to view legislation as unconstitutional, unmindful of the fact that, unless a statute violates the letter or spirit of some portion of the constitution, it should be upheld. . . . hidebound constructions are unnecessary, and they imperil the existence of constitutional government. The constitutional guaranties must be maintained; but the only way to maintain them is to mold them to the requirements of modern civilization. They must be reins to guide the chariot of progress in the road of safety, not barriers across its track.”

Although granting a mitigation right may appear “revolutionary,” causing alarm and concern among Protestants, the State Engineer has authority to protect users in their rights, as evidenced by the State Engineer’s prior grant of a mitigation right in Diamond Valley. See Joint Exhibit No. 297.

concerned with the stigma that declaration will place on the basin. Diamond Valley had been a designated basin for decades and it is widely known that the groundwater basin is being depleted.

The State Engineer finds, as discussed later in this Ruling, a preponderance of the evidence shows that the groundwater pumping has lowered the water table and caused the reduction in spring flows. The State Engineer finds he has the express statutory authority to issue Order No. 1226, which necessarily also provides implied authority to articulate a remedy to assist pre-statutory vested water right holders whose rights have been impacted by junior groundwater users. Action on the applications is compelled, where, the State Engineer finds he has the obligation to protect existing water rights generally, in addition to the actual water right holders specifically in this case.

Over-and-above the State Engineer's express and implied statutory authority, the State Engineer finds he can also act pursuant to inherent police power to protect the welfare of senior right holders by securing and protecting them to their rights, including remedying injury to the rights.

V.

THE APPLICATIONS ARE NOT VIOLATIVE OF PRIOR ORDERS BY THE STATE ENGINEER

Protestants assert that the applications seek to appropriate large quantities of groundwater for irrigation purposes in violation of State Engineer's Order Nos. 717 and 815. The State Engineer recognizes that at the time several of the applications were filed, State Engineer's Order No. 1226 was not in effect. Order No. 717 issued in 1978 prohibited the granting of new appropriations of groundwater for irrigation purposes, and Order No. 815 issued in 1983 expanded the area designated in Diamond Valley. However, the State Engineer finds at the time this Ruling is issued, these applications are being considered under the provision of State Engineer's Order No. 1226, which provides for applications filed to mitigate senior surface water rights that have been impacted by groundwater pumping under junior rights.

VI.

DID GROUNDWATER PUMPING DRY UP SPRINGS ON SADLER AND VENTURACCI PROPERTY?

Applicants assert that the evidence supports a determination that groundwater pumping in Diamond Valley has caused springs to no longer flow at rates they formerly flowed, including Indian Camp Springs, Shipley Spring (a.k.a. Big Shipley Spring or Shipley Hot Springs) and Taft Spring (a.k.a. Thompson Spring).

Testimony and evidence was provided to support a claim that groundwater pumping in southern Diamond Valley has caused basin-wide groundwater level declines reaching drawdowns of 100 feet or more in portions of southern Diamond Valley.³² The evidence demonstrates that a “cone of depression” of up to 100 feet in southern Diamond Valley is expanding to the north.³³ Sadler asserts that springs have dried up as a result of this lowering of groundwater levels.³⁴ Venturacci also asserts that the groundwater pumping in southern Diamond Valley has caused Shipley Spring and Thompson Spring flows to decline.³⁵

Sadler argues that the impacts to the springs in Diamond Valley were predicted by the USGS in the 1960s and that pumping in the southern end of Diamond Valley is the obvious cause of the declines in these springs. Venturacci asserts that the Protestants have conceded the same and that Protestants’ expert agreed that Thompson Spring no longer flows due to drawdown of the groundwater level in the valley.³⁶

Sadler’s expert hydrogeologist, Dwight Smith, is of the opinion that drawdown from long-term regional groundwater pumping in Diamond Valley is impacting the flow of Shipley Spring and has caused the cessation of discharge from Indian Camp Springs, both located on the Sadler Ranch.³⁷ Exhibit No. 108 is the expert witness report from Mr. Smith, which provides the information included below.

³² Exhibit No. 108, p. 12, Plate 1; Exhibit No. 290, pp. 5, 10; Exhibit No. 302, pp. 1, 5, 6, 7, 11; Transcript, pp. 1071, 1284, 1336 -1367.

³³ Exhibit No. 108, pp. 0, 6, 12-14, Plate 1; Exhibit No. 189, pp. 2, 7; Transcript, pp. 1071-1072, 1368-1370.

³⁴ Exhibit No. 108, pp. 2, 12-14, Plate 1; Exhibit No. 201, p. 1; Exhibit No. 203, p. 1; Exhibit No. 302, pp. 1, 7, 11; Transcript, pp. 533-534, 569-570, 1284, 1320, 1387.

³⁵ Exhibit No. 108, pp. 0, 6, 12, 16; Exhibit No. 189, p. 7; Exhibit No. 201, p. 3; Exhibit No. 302, pp. 1, 7, 11; Transcript, pp. 533-534, 1304, 1320.

³⁶ Transcript, pp. 1387-1388.

³⁷ Exhibit No. 108.

Prior to the mid-1960s, reported discharge from Shipley Spring covered a wide range, varying between 8 and 15 cfs. Mr. Smith opines that an average of those estimates of between 11 to 12 cfs (8,000 to 8,700 afa) is the likely average flow of Shipley Spring prior to accurate measurements in the 1960s.³⁸ In the mid 1960s, discharge measurements of Shipley Spring by the USGS averaged about 6.8 cfs (4,900 afa). From the mid 1980s to early 1990s, Shipley Spring discharge ranged between 4.4 and 8.3 cfs, averaging 6.2 cfs (4,500 afa). In the summer of 2013, the flow of Shipley Spring was measured to be less than 2 cfs. Mr. Smith states that the declining trend of flow prior to the 1960s is the result of flowing artesian wells in the area of Shipley Spring. Flow decline since the 1960s he attributes to the regional expansion of the basin-scale cone of depression resulting from extensive agricultural pumping in the southern portion of Diamond Valley.³⁹ Mr. Smith concludes that the flowing artesian wells may have caused about 30% of the decline in Shipley Spring.⁴⁰

Smith notes that starting in the 1940s, several artesian wells were drilled on the Romano Ranch, approximately 4.5 miles south of Shipley Spring. At the time they were drilled, the wells flowed at a rate of about 4 cfs, (approximately 2,800 afa annualized). In 1968, Harrill reported a total of seventeen flowing artesian wells on the western side of central-northern Diamond Valley, including one on the Sadler Ranch itself (Middle Well). Flow from the Romano Ranch wells had declined to about 1.2 cfs (840 afa annualized). The total artesian flow from wells in the Romano Ranch, Sadler Ranch, and Siri Spring areas in 1965 was measured at 1.9 cfs (1,350 afa annualized).⁴¹ Flow of these wells decreased substantially over the course of a decade after they were drilled.⁴²

Indian Camp Springs is located about $\frac{3}{4}$ of a mile south of Shipley Spring. Mr. Smith indicates that the “spring” was actually comprised of over a dozen springs and seeps emanating along a spring-line that was developed by cutting a trench parallel to the land contour. Flow at Indian Camp Spring was estimated in 1961 at 1.5 to 2 cfs. In 1965, flow was measured at 0.66 cfs and 0.82 cfs in 1966 (540 afa). The spring discharge was believed to have been warm water.⁴³ Mr. Smith believes that artesian wells drilled to the south of the spring in the 1940s to 1950s probably had some initial impact on the flow of Indian Camp Spring, which was later

³⁸ Exhibit No. 108, p. 0.

³⁹ Exhibit No. 108, p. 6.

⁴⁰ Exhibit No. 108, p. 16.

⁴¹ Exhibit No. 304, pp. 71-73.

⁴² Exhibit No. 108, p. 7.

⁴³ Exhibit No. 108, p. 5.

further impacted by regional drawdown sourced from the southern portion of Diamond Valley.⁴⁴ Mr. Smith opines that the artesian wells drilled in the area could have affected the flows at Indian Camp Spring and Shipley Spring and that artesian wells drilled north of Shipley Spring, one on the Sadler Ranch (Middle Well) and one on the Brown Ranch (now owned by Sadler Ranch) may have also created water-level drawdown that resulted in reduced spring discharge.⁴⁵ However, Mr. Smith also believes that as the effects of regional drawdown continue to affect Shipley Spring and Indian Camp Spring.⁴⁶ Mr. Smith notes that all the springs in central Diamond Valley and along the western side of the playa south of the Brown Ranch, except Shipley Spring, have ceased to flow.⁴⁷

The Protestants' expert witnesses Dale Bugenig and Mary Tumbusch note that "[i]t is widely acknowledged that over-appropriation of the groundwater resources in Diamond Valley resulted in a widespread decline in water levels in the basin as well as the reduction in the flow of springs within the groundwater discharge areas mapped by the United States Geological Survey in the northern half of the valley."⁴⁸ They agree that it is possible that discharge from Shipley Spring and Indian Camp Spring has to some degree been diminished by the pumping of junior groundwater appropriators; however, they also assert that other stresses may have affected the discharge from Shipley Spring and Indian Camp Spring. "The most likely influence is groundwater pumping by Sadler Ranch LLC and its predecessors at a location approximately three miles north-northeast of Shipley Hot Springs."⁴⁹

Prior to the Brown Ranch being combined with the Sadler Ranch, three irrigation wells were drilled on the Sadler and Brown ranches. One well was drilled in 1960 on the Sadler Ranch 1.5 miles north-northeast of Shipley Spring. This well originally flowed under artesian pressure at a rate of 400 gallons per minute (gpm) and had a shut-in pressure of 14 feet of water above land surface, but by 1965 the rate of flow had reduced to 100 gpm (160 afa). Two wells were drilled on the Brown Ranch approximately 3 miles north-northeast of Shipley Spring. One well was completed in 1967 and reportedly flowed under artesian pressure at a rate of 400 gpm. Another well was drilled in the same area in 1977. While the well on the Sadler Ranch may have only been used as a stockwater well, the wells on the Brown Ranch historically provided as

⁴⁴ Exhibit No. 108, p. 6.

⁴⁵ Exhibit No. 108, p. 7.

⁴⁶ Exhibit No. 108, p. 8.

⁴⁷ Exhibit No. 108, p. 12.

⁴⁸ Exhibit No. 302, p. 1.

⁴⁹ Exhibit No. 302, p. 1.

much as 2,002 acre-feet per year.⁵⁰ Mr. Bugenig and Ms. Tumbusch performed an analysis to demonstrate that some of the reduction in flow at Shipley Spring and Indian Camp Spring is likely the result of self-imposed harm by locating wells so close to the springs and concluded that, given their proximity, pumping from wells on the Sadler and Brown Ranches may have a greater affect on Shipley Spring flows than irrigation wells south of the playa in the main farm district.

Mr. Bugenig and Ms. Tumbusch also theorize that the decline in Shipley and Indian Camp Springs are caused by other influences such as long-term climate change, watershed and land use changes such as pinion and juniper trees growing in the hills and changes in aquifer permeability due to compaction, mineral precipitation or solution, or sediment movement/accumulation into open fracture spaces.⁵¹ The Protestants' expert witnesses were of the opinion that "78 percent of the cause in decline in Shipley Spring is from pumping in southern Diamond Valley," and "there is an uncertainty of about 20 percent having been not caused by the pumping."⁵²

The State Engineer finds that there is sufficient information to estimate historic flows from Shipley Spring. Figure 1 of Exhibit No. 108 shows reported estimates and reported measurements of flow from Shipley Spring from 1912 to 2012. Accurate measurements, that is, all those made by the USGS and all measurements made after 2000,⁵³ show low to moderate variability in spring flow. Natural variability appears to be about 1 cfs in the 1960s, about 3 cfs based on measurements from the 1980s, and less than 2 cfs since 2008.⁵⁴ There is a distinct declining trend from 1965 to 2012, and the State Engineer finds that this decrease in discharge is caused by the decline in the groundwater table due to agricultural pumping in the areas near Shipley Spring and in the southern portion of the valley. The State Engineer does not agree sufficient evidence exists for a finding of reduced flow at Shipley Spring as a result of climate change, land use and watershed changes, or due to mineral precipitation in the spring vents.

⁵⁰ Exhibit No. 302, p. 23.

⁵¹ Exhibit No. 302, p. 7; Transcript, p. 1283.

⁵² Transcript, pp. 1372-1373, 1402-1403.

⁵³ Transcript, pp. 1296-1297.

⁵⁴ Exhibit No. 108, p. 3.

In the 1960s, estimates of spring discharge by Eakin and Sadler are not consistent with the measurements of the USGS in their National Water Information System, even though Eakin was employed by the USGS. None of the discharge estimates prior to 1960 are represented as actual measurements in their source reports. Even the Nevada State Engineer's estimates from 1912 are noted as estimates, not measurements. Therefore, the State Engineer is discounting all reported discharge estimates made prior to 1970 that were not performed by the USGS, as being unreliable.⁵⁵

It is important to ascertain the actual flow of Shipley Spring prior to the effects of nearby wells, regardless of whether the wells were pumped or flowed under artesian conditions. In 1965, Shipley Spring had an average discharge of approximately 6.8 cfs (4,900 afa annually).⁵⁶ Flows in 1965 are not likely to have been influenced by pumping from the main agricultural area in the southern part of the basin. Harrill indicates the limit of drawdown from pumping in 1966 was still eight miles from Shipley Spring, and as such could not cause a decline in spring discharge. Therefore, the flow of Shipley Spring in 1965 could only have been reduced by natural causes (+/- 3 cfs) or by nearby wells along the northwestern edge of the valley. Wells were drilled as early as the 1940s. Many wells flowed under artesian conditions, and as noted by Smith, natural flows from the wells decreased fairly rapidly from the time they were first drilled.⁵⁷ Wells on the Romano Ranch, 4½ miles south of Shipley, were reported to flow about 4 cfs at the time they were drilled (2,900 afa annualized), but those same wells flowed at 1.2 cfs (840 afa) by 1965. The well on the Brown Ranch, about 1½ miles north of Shipley, flowed at 400 gpm (640 afa annualized) when it was drilled in 1960,⁵⁸ but flow had declined to 100 gpm by 1965.⁵⁹ The total discharge of all the flowing wells in the vicinity of Shipley Spring in 1965 was reported at 1.8 cfs (1,320 afa). The Applicant's expert witness argues that flowing wells at Romano Ranch and Brown Ranch caused a 4 cfs decline in the discharge of Shipley Spring prior to 1965.⁶⁰ That is, a near 1:1 effect relative to initial flow conditions, and by all accounts, more than the average discharge from the flowing wells. The State Engineer finds that a 1:1 decrease in Shipley Spring discharge due to flowing wells 1½ to 4½ miles away is not possible, because there must be a loss of water from storage in the aquifer and associated water table decline at

⁵⁵ Exhibit No. 108, p. 3.

⁵⁶ Exhibit No. 304, Table 9, p. 31.

⁵⁷ Exhibit No. 304, p. 44; *see also*, Exhibit No. 108, p. 6.

⁵⁸ Well log 5526, official records in the Office of the State Engineer.

⁵⁹ Exhibit No. 304, p. 73.

⁶⁰ Exhibit No. 108, pp. 7-8.

ShIPLEY Spring. Furthermore, the average of the flowing wells for the period prior to 1965 is between 4 cfs and 1.8 cfs.

The Bailey Ranch springs lie about two miles south of ShIPLEY Spring, equidistant between Romano Ranch and ShIPLEY Spring. Mr. Wilfred Bailey was born in 1930 and was raised on the Bailey Ranch. His recollections are that flows from Bailey springs did not decline in the period prior to the mid 1960s.⁶¹ Because the Bailey springs lie directly between the Romano Ranch and ShIPLEY Spring, it is unclear how the Romano flowing wells could diminish the flow at ShIPLEY and not diminish the flow at Bailey by an even greater amount. The State Engineer finds that this testimony is credible and significantly limits the decline in ShIPLEY Spring flow that can be attributed to the Romano flowing wells. The State Engineer finds that measured flow from ShIPLEY Spring in the early 1960s had not been significantly affected by groundwater flow from artesian wells in the Romano Ranch area. The State Engineer agrees with the expert testimony and evidence presented by Eureka County that pre-development flows of ShIPLEY Spring were approximately 7 to 8 cfs (5,100 to 5,800 afa).⁶² It should also be noted that the well at Siri Ranch was reported to flow at 0.45 cfs (320 afa annualized) in 1965, but was also pumped, yielding a total 1.8 cfs during the irrigation season.⁶³ This well and its associated water rights are currently owned by Sadler. Unfortunately, it is unknown when the Siri well was drilled.

Sadler's expert, Dwight Smith, opined that the "on-going trend of water level declines south of ShIPLEY Hot Spring since the mid-1990s and earlier, clearly shows a systematic encroachment of drawdown from the southern agricultural center up to ShIPLEY Hot Spring."⁶⁴ He correlates the declining flows at ShIPLEY Spring from 2008 to 2013 with the water-level decline observed to the south, which he indicates does not correlate with water-level measurements from the Brown Ranch.

Terry Katzer, the expert hydrogeology witness for Venturacci, testified that in his opinion the cause of Thompson Spring and the associated spring complex drying up was the cone of depression moving north from the area of concentrated groundwater pumping.⁶⁵ Mr. Katzer

⁶¹ Transcript, p. 1014.

⁶² Exhibit No. 326, pp. 5-14.

⁶³ Exhibit No. 304, p. 73.

⁶⁴ Exhibit No. 189, p. 2.

⁶⁵ Transcript, p. 592-593.

believes the effects of drawdown were first seen in Thompson/Taft Spring in the mid-1960s because there were a series of irrigation pivots that were much closer to the springs than anything found on the west side of the valley and that those specific pivots significantly contributed to the decline in flow at Thompson/Taft Spring.⁶⁶ Mr. Katzer opines that a mountain-front fault that runs along the area where the pivots and Thompson/Taft Spring are found allowed for water-level declines to propagate northward more quickly. However, Eureka County argues that numerous opinions by the Applicants' experts are not based in fact. For example, Eureka County disputes Mr. Katzer's claims that groundwater declines in Diamond Valley started in 1964 or 1965 and the pressure head was coming off the springs at that time. Eureka County asserts that the record reflects that electricity did not come to Diamond Valley until the early to mid 1970s, but later argues that electricity came from 1975 to 1981.⁶⁷ The County asserts that the evidence is that James Moyle did not put in his irrigation pivots, which are the closest pivots to Thompson Ranch, until the late 1970s.⁶⁸ Eureka County argues that Mr. Katzer's testimony is inconsistent with Mr. Harrill's conclusion that the 1964-1965 slight decreases in discharge at Shipley Spring and Thompson Spring were not the result of pumping in the southern Diamond Valley subarea. Mr. Katzer agrees that other factors may have impacted the flow at Thompson Spring. However, he believes the more significant cause is water table decline.⁶⁹ There are not many records for flow from Thompson Spring prior to the 1980s. The USGS measured Taft (Thompson) Spring three times from 1965 to 1966, and the flow varied from 2.06 to 2.33 cfs.⁷⁰ In the mid-1980s, after two consecutive very wet years, the spring resumed flow, discharging up to 4.15 cfs in 1984, with the flow decreasing until 1992, when flow ceased.⁷¹ The Nevada State Engineer measured the flow of two sources at Taft Spring by current meter in 1912, and reported a total flow of 1.54 cfs. The State Engineer also noted that the springs "do not vary in flow."⁷²

Based on the limited available evidence, the State Engineer finds that flow of Taft Spring likely did vary prior to groundwater development in response to annual changes in precipitation, and that variation of up to 4 cfs is documented. Flow measurements in 1912 and the 1960s were

⁶⁶ Transcript, pp. 503-504, 592-593.

⁶⁷ Transcript, pp. 998-999, 1111-1112; Exhibit No. 307, p. 21; Exhibit No. 324, p. 3.

⁶⁸ Transcript, pp. 1129-1132, 1142.

⁶⁹ Exhibit No. 263, p. 2.

⁷⁰ Exhibit No. 206.

⁷¹ Exhibit No. 206.

⁷² Exhibit No. 339.

not affected by groundwater pumping, and are representative of pre-development conditions. Average predevelopment discharge from Taft Spring was probably in the range of 1.5 to 3 cfs.

The perennial yield of the Diamond Valley Hydrographic Basin is estimated to be 30,000 acre-feet.⁷³ “By 1964 permits to pump more than 150,000 acre-feet per year had been issued which greatly exceeded the preliminary estimates of recharge for the entire valley.”⁷⁴ Permits to use groundwater in Diamond Valley currently exceed 130,000 acre-feet annually,⁷⁵ and for decades groundwater pumping in Southern Diamond Valley has exceeded the perennial yield of the basin.⁷⁶ Since the 1960s, the use of groundwater in Diamond Valley has exceeded the perennial yield, peaking in the 1980s at around 125,000 acre-feet per year and currently exceeding 90,000 acre-feet per year.⁷⁷ The estimated consumptive use of groundwater has exceeded the perennial yield since the 1970s, and significantly exceeded it since the late 1970s.⁷⁸ The flow of Thompson Spring dropped substantially after the wet years in the mid-1980s and since the late-1980s has fallen to zero around 2008.⁷⁹

Eureka County acknowledges that pumping of groundwater under junior water rights has impacted spring flow to some extent. However, it asserts that pumping from the southern Diamond Valley irrigators is not the sole reason for the decline in groundwater levels and other factors need to be considered in determining whether to grant the applications. The County argues that, in 1982, the State Engineer acknowledged there were other factors, such as drought and numerous shot holes, contributing to the decrease in spring flow.⁸⁰ The County also argues that Mr. Thompson himself may have diminished the spring flow by building up the embankment around his spring and damming it up.⁸¹

The State Engineer finds there is no dispute that Diamond Valley is significantly over-appropriated, and pumping has been greater than the defined perennial yield for the basin for over 4 decades. The State Engineer finds that the loss of some of the spring flow prior to the mid-1960s at Shipley Spring and Indian Camp Spring may have been a result of the wells drilled

⁷³ Exhibit No. 304, p. 33; Exhibit No. 108, p. 8.

⁷⁴ Exhibit No. 324, p 3.

⁷⁵ NDWR Hydrographic Area Summary for Diamond Valley, official records of the Office of the State Engineer (February 11, 2013).

⁷⁶ Exhibit No. 108, pp. 8, 16; Exhibit No. 302, p. 5; Transcript, p. 1368.

⁷⁷ Exhibit No. 208.

⁷⁸ Exhibit No. 209.

⁷⁹ Exhibit No. 210.

⁸⁰ See Exhibit Nos. 202, 203, 315 at pp. 40, 62-63, 141; and Exhibit Nos. 323 and 332.

⁸¹ Transcript, pp. 1016, 1100, 1138-1139.

on the Sadler and Brown ranches and thus was self imposed, but that the decrease in spring flow caused by the flowing wells at Romano Ranch was minimal. The decline in flow at Shipley and Indian Camp Springs since the 1960s has been caused by groundwater pumping from the area of the springs extending southeasterly to the main farm areas of the valley. The State Engineer finds Applicants have proven by a preponderance of the evidence that the groundwater pumping in southern Diamond Valley is the main cause of decline in groundwater levels at Thompson Spring, which resulted in the spring drying up in the 1970s and again from the 1990s until now. The State Engineer finds the theory that tree regrowth (after heavy logging) or climate change as causes of the decline in the spring is not supported by the evidence and does not outweigh the evidence that the groundwater pumping in southern Diamond Valley is the main cause of stress on groundwater levels in the valley.

VII.

QUANTIFICATION OF VESTED RIGHT CLAIMS BY SADLER

Claim Descriptions

Applicant Sadler provided historical documents and expert testimony to support its position on the quantity of water rights claimed in the filings for Proofs of Appropriation V-03289 and V-03290. H. M. Payne, who was with the State Engineer's office, inspected the Sadler Ranch on November 18, 1912, and references to Payne are from his field notes.⁸²

Proof of Appropriation V-03289, which claims a pre-statutory vested water right, was filed in the Office of the State Engineer on January 15, 1980.⁸³ The proof claims the use of the waters from Shipley Spring and tributaries for the irrigation of 1,657.28 acres of land. A diversion rate was not provided on the proof form, but the amount of water placed to beneficial use was claimed to be 4.5 acre-feet per acre for the various different types of culture. The supporting map filed by Alan S. Boyack (Boyack Map) includes cultural tables that describe the number of acres by legal subdivision and also the type of culture claimed on the acreages. Three types of culture are described: alfalfa (227.85 acres), harvested meadow hay (882.34 acres) and meadow (547.09 acres). The priority date claimed is "prior to 1879" for when construction began on the works of diversion.

Proof of Appropriation V-03290, which claims a pre-statutory vested water right, was filed in the Office of the State Engineer January 15, 1980, for the irrigation of 73.91 acres of land

⁸² Exhibit No. 145.

⁸³ Exhibit No. 26.

by water from Indian Camp Spring and tributaries.⁸⁴ A diversion rate was not provided on the proof form, but the amount of water placed to beneficial use per acre of land was claimed to be 4 acre-feet per acre. The Boyack Map also includes in its cultural tables the number of acres by legal subdivision and type of culture being claimed on those acreages for the Indian Camp Spring diversion. Two types of culture described are: alfalfa (43.1 acres) and harvested meadow hay (30.81 acres). The priority date claimed is “prior to 1879” for when construction began on the works of diversion.

Ranch Description

The Sadler Ranch is comprised of components acquired over time. *See generally, Figure 1*, attached. Payne notes that Mr. Edgar Sadler informed him that the ranch was nearly 3,000 acres (for the purposes of this Ruling, this will be referred to as the “original ranch”). Payne mentions the *Romano v. Sadler* case pending in the courts, and an examination of the map from that case shows an outline of Sadler Ranch as being 74 sixteenth sections, or about 2,960 acres in total.^{85,86} These include lands described by Applicant Sadler as “Upper Fields,” “North Fields,” “North Meadow,” and a portion of “South Meadow.”⁸⁷

Payne also describes the Romano land below the Sadler Ranch: “for some years [Romano’s land] has received the benefit of the wastewater⁸⁸ from Sadler’s field when the latter is irrigating.”⁸⁹ This has also been referred to as the “Romano’s Lower Field”⁹⁰ and at least a portion has been referred to as the “Lower Taft Field.”⁹¹

These Romano lands became part of the Eccles Ranch when Matilda Eccles purchased it along with 80 adjacent acres from a tax auction and then added 120 acres through a Desert Land Entry.⁹² The 120 acres from the Desert Land Entry plus the 40 adjacent acres that were part of the Romano’s Lower Field became known as “John’s Field,” as referenced in the hearing and

⁸⁴ Exhibit No. 27.

⁸⁵ Exhibit No. 145.

⁸⁶ Exhibit No. 138.

⁸⁷ See Exhibit No. 617, p. 6; Transcript, p. 45.

⁸⁸ In this context, “waste water” is drain water that is captured downstream to be placed to use.

⁸⁹ Exhibit No. 145.

⁹⁰ Exhibit No. 138.

⁹¹ Transcript, pp. 988-989.

⁹² File No. 4273, official records in the Office of the State Engineer.

this Ruling.⁹³ The Eccles Ranch was first leased to the Sadlers and was then eventually purchased by them.⁹⁴

ShIPLEY Spring Flow Rate

Payne writes of Shipley Spring (a.k.a. Shipley Hot Spring or Big Shipley Spring):

I intended to take an accurate measurement of this source, but was unable to do so on account of there being a break in the dam at the reservoir, and the water [was] not confined to any one channel. By an estimate, I should place the flow of this spring at about 8 [cfs] or a little more.⁹⁵

The *Romano v. Sadler* stipulation of 1913 is cited by Sadler as an indicator of the amount of water that flowed from Shipley Spring. Because the 5 cfs of water, that the parties stipulated was required to flow onto the Romano lands from January 1st to April 1st, was characterized as one-third of the flow that Shipley Spring could produce, Applicants' experts conclude that Shipley Spring must have been able to produce 15 cfs. However, no evidence was provided as to when or how this might have been measured, and it must be recognized that this requirement was only for the winter flow (January through March). Also, the stipulation provided that the diversion to the Romano lands must not prevent sufficient diversion from the springs for stockwater and domestic purposes by Sadler, which would imply variation in flow of Shipley Spring.⁹⁶

In a different case entitled *Sadler v. Sadler*, the flow rate of Shipley Spring was described as 13 cfs, but these descriptions appear to be information provided in an appraisal of the ranch and there is no evidence that these numbers came from an actual measurement or observation of the spring.⁹⁷

Applicant Sadler's expert witnesses also refer to USGS Water Supply Paper 679-b, which shows an approximate discharge of 5,000 gallons per minute, or about 11.1 cfs.⁹⁸ Mr. Smith's report cites to the book *Eureka Memories* and the interview contained therein of Floyd Slagowski who worked on the Sadler Ranch four years from 1937 to 1940. Slagowski reported the spring discharge to be about 12 cfs.^{99,100}

⁹³ See Exhibit No. 617, p. 6; Transcript, p. 45.

⁹⁴ See Exhibit 340, pp. 19, 21.

⁹⁵ Exhibit No. 145.

⁹⁶ Exhibit No. 138.

⁹⁷ Exhibit No. 139, pp. 319-320.

⁹⁸ Exhibit No. 121.

⁹⁹ Exhibit No. 108, p.1

¹⁰⁰ Exhibit No. 132, p. 22.

Wilfred Bailey testified that Floyd “Tiny” Sadler treated the flow at 3,200 gallons per minute, which is a little more than 7 cfs.¹⁰¹

Thomas E. Eakin with the USGS reported in 1961 field notes that the discharge was about 12.5 cfs.¹⁰² The inside cover of the USGS report by Eakin (*Ground-Water Resources – Reconnaissance Series Report 6*) has a caption for the Shipley Hot Springs labeled “Discharge is reported to be about 15 cfs,” but nothing indicates from where this value comes from.¹⁰³ Mifflin apparently reports this value in 1968, but it is not cited.¹⁰⁴

Harrill reports in *Hydrologic Response to Irrigation Pumping in Diamond Valley, Eureka and Elko Counties, Nevada, 1950-65* (Water Resources Bulletin No. 35) three USGS measurements of the spring in the years 1965 and 1966: 7.2 cfs, 7.0 cfs and 6.2 cfs.¹⁰⁵

As explained in Finding of Fact VI above, the State Engineer finds that the measurements by USGS were the most reliable for the pre-development flow rate of Shipley Spring. The State Engineer finds that the references to flow rates in the *Romano v. Sadler* stipulation, the *Sadler v. Sadler* case, the inside cover caption from *Reconnaissance Series Report 6* and the reference by Mifflin do not cite a source for the values, and therefore cannot be accepted as evidence of actual flow. The State Engineer finds that 7-8 cfs is the best estimate of discharge from Shipley Spring prior to extensive groundwater development.

Sadler Ranch Beneficial Use from Shipley Spring – Upper Fields

Payne describes the acreage under cultivation as being hard to determine, but was informed by Edgar Sadler that the ranch was nearly 3,000 acres, about 250 of which was alfalfa, grain and garden, and the rest was meadow land, “part of which [was] cut for hay and the remainder used for pasture.”¹⁰⁶ Descriptions of the Sadler Ranch from testimony in the *Sadler v. Sadler* case come from appraisals and inventories admitted into evidence in that case. The Sadler Ranch was described as 3,120 acres with 600 acres covered by the springs and reservoir, 160 acres in alfalfa and 80 acres for garden (240 acres total of alfalfa and garden), 200 acres in tame hay and 300 acres for pasture, and the balance in pasture and wild hay (suggesting 1,780 acres).¹⁰⁷ Wilfred Bailey testified that Floyd “Tiny” Sadler paid a crop duster for 200 acres, 40

¹⁰¹ Transcript, p. 975.

¹⁰² Exhibit No. 151.

¹⁰³ Exhibit No. 303.

¹⁰⁴ Exhibit No. 108, p.2.

¹⁰⁵ Exhibit No. 304, p. 31.

¹⁰⁶ Exhibit No. 145.

¹⁰⁷ Exhibit No. 139, pp. 319-320.

acres of which was at the Indian Camp, leaving 160 acres of alfalfa at the Upper Fields.¹⁰⁸ Proof of Appropriation V-03289 claims the use of the waters from Shipley Spring and tributaries for the irrigation of 1,657.28 acres of land, of which 227.85 acres is shown on the Boyack Map to be alfalfa in the Upper Fields.¹⁰⁹ Payne's field notes and the *Sadler v. Sadler* case have a comparable description of the number of acres placed to use for alfalfa, grain and garden (240 to 250 acres). Mr. Bailey's testimony is consistent with the *Sadler v. Sadler* case with respect to the number of acres in alfalfa (160 acres).

Irrigation of the Upper Fields occurred from April 2nd, after water was no longer needed to be turned down to the meadowlands and into Romano's lands, to November 30th, when irrigation of the fields would have to cease and the water was diverted into the "duck pond" reservoir.^{110,111}

The State Engineer finds that at the time beneficial use was established, the Upper Fields were irrigated for 160 acres of alfalfa and 80 acres of grain and garden from April 2nd to November 30th.

Sadler Ranch Beneficial Use from Shipley Spring – Meadow Sloughs

As described above, in Payne's 1912 field notes, he describes the acreage under cultivation as being hard to determine, but states he was informed by Edgar Sadler that the ranch was nearly 3,000 acres, about 250 of which was alfalfa, grain and garden, and the rest was meadow land, "part of which [was] cut for hay and the remainder used for pasture."¹¹² According to Payne, Edgar Sadler was unable to say how many acres were cut for hay, but that he "puts up several hundred tons of hay." This might suggest 2,750 acres of meadowland; however, the terrain is hummocky and only the sloughs would have received water and grown meadow grass.¹¹³ Descriptions of the Sadler Ranch were given in *Sadler v. Sadler* which considered appraisals and inventories admitted into evidence in that case. The Sadler Ranch was described as 3,120 acres with 600 acres covered by the springs and reservoir, 160 acres in alfalfa and 80 acres for garden (240 acres total of alfalfa and garden), 200 acres in tame hay and 300 acres for pasture, and the balance in pasture and wild hay (suggesting 1,780 acres).¹¹⁴ Mr. Bailey

¹⁰⁸ Transcript, p. 957.

¹⁰⁹ Exhibit No. 26.

¹¹⁰ Exhibit No. 138.

¹¹¹ Transcript, pp. 958-959.

¹¹² Exhibit No. 145.

¹¹³ Transcript, pp. 63-64.

¹¹⁴ Exhibit No. 139, pp. 319-320.

testified that there was about 250 acres of the meadow hay that could be cut.¹¹⁵ Proof of Appropriation V-03289 claims the use of the waters from Shipley Spring and tributaries for the irrigation of 1,657.28 acres of land, of which 882.34 acres of harvested meadow hay and 547.09 acres of meadow are shown on the Boyack Map.¹¹⁶

In support of Proof of Appropriation V-03289, the claimant procured the deposition of Reinhold (“Reiny”) Sadler, on January 23, 1976.¹¹⁷ Mr. Sadler described the ranch as more or less natural meadows where water stayed in sloughs. However, Sadler testified that the meadowlands in the sloughs received one to two feet of water in the winter, and might have received drain water from the irrigation of alfalfa during the spring to allow additional growing time before the grass dried out, which allowed it to be cut in July or August. This water would freeze as it flowed away from the spring and through the sloughs. In the spring, the water, which was effectively stored during winter, would thaw to irrigate the meadow sloughs. Reiny Sadler’s testimony is supported by Mr. Bailey’s testimony, where Bailey described 3 months when water was diverted to the John’s Field through the sloughs during winter and was then diverted to the alfalfa fields in spring, where run-off would be transported into the sloughs and ultimately to John’s Field.¹¹⁸ The *Romano v. Sadler* stipulation of 1913 required that water be allowed to flow onto the Romano lands from January 1st to April 1st.¹¹⁹ Reiny Sadler described how his father (Edgar Sadler) would allow 2 cfs to flow to the Eccles Ranch, since it would otherwise be wasted out onto the alkali flats. This water travelled by the natural slough, but could be stopped.¹²⁰

Assuming a flow of 2 cfs reached the Eccles Ranch and that this was one-third of the total flow turned down the sloughs, then 4 cfs of flow was converted to ice as it flowed (which would then thaw in spring to irrigate the sloughs). A flow of 4 cfs over three months is approximately 724 acre-feet. If one to two feet of water was placed on the meadowlands in the winter, then the land irrigated was about 360 to 725 acres.

The State Engineer finds that the irrigated area of the meadow sloughs was not more than 725 acres of harvestable meadow hay and pasture land irrigated from January 1st to April 1st.

¹¹⁵ Transcript, p. 964.

¹¹⁶ Exhibit No. 26.

¹¹⁷ Exhibit No. 340, pp. 10-11.

¹¹⁸ Transcript, pp. 958-959.

¹¹⁹ Exhibit No. 138.

¹²⁰ Exhibit No. 340, pp. 20-22.

Sadler Ranch Beneficial Use from Shipley Spring – Stockwater Pond

Reiny Sadler described in his deposition how water would only flow off of the deeded lands of Sadler Ranch in wet winters. When water did flow outside of their fenced area, it would pool in a pond on 80 acres they owned where it was used for watering livestock.¹²¹ This is also supported by Mr. Bailey's testimony, where he described how during one month of the year water would be diverted to a "duck pond." Rather than storing water for irrigation on lower lands, Mr. Bailey characterized the diversion to the pond as waste, but "necessary waste" when irrigation was not needed "because you had to go someplace with your water" from the continuously flowing spring.¹²² Doug Frazer testifying for Applicant Sadler, characterized the area as a lake that is often flooded.¹²³ The State Engineer finds that the water diverted to the "duck pond" or "lake" was at best placed to beneficial use only for watering wildlife or stock from December 1st to December 31st.

Sadler Ranch Beneficial Use from Shipley Spring – Eccles Ranch

As described above, Reiny Sadler testified in his deposition how his father (Edgar Sadler) would allow 2 cfs to flow to the Eccles Ranch when it would otherwise be wasted out onto the alkali flats. This water travelled by the natural slough, but could be stopped.¹²⁴ A flow of 2 cfs over three months is approximately 362 acre-feet, and over about 160 acres would be a little over 2 acre-feet per acre of land, which is consistent with Sadler's deposition testimony that the meadowland sloughs would get one to two feet in the winter. Also, 2 cfs is approximately the diversion rate allowed under Permit 4273, Certificate 964, which serves Romano's Lower Field and John's Field.

Romano's Lower Field became part of the Eccles Ranch when Matilda Eccles purchased it along with 80 adjacent acres from a county tax auction and added 120 acres¹²⁵ through a Desert Land Entry. In order to gain entry, Mrs. Eccles had to demonstrate beneficial use of water on the lands with works and title. Although allowed 5 cfs from the stipulation resolving the *Romano v. Sadler* case of 1913, Mrs. Eccles filed on this same water under Application 4273 to be able to demonstrate a water right in support of her Desert Land Entry application. Permit

¹²¹ Exhibit No. 340, pp. 9-11, 15.

¹²² Transcript, p. 959.

¹²³ Transcript, p. 46.

¹²⁴ Exhibit No. 340, pp. 20-22.

¹²⁵ These 120 acres plus the 40 adjacent acres that were part of the Romano's Lower Field became known as "John's Field," as referenced in the hearing and this Ruling. See Exhibit No. 617, p. 6; Transcript, p. 45.

4273 was approved October 22, 1917, with the understanding that it was not an additional appropriation of water from Shipley Spring, but rather, was a filing on the same water allowed from the Sadler lands above.¹²⁶

Mike Buschelman, expert for Applicant Sadler, testified that irrigation was occurring outside the areas depicted on the Boyack Map.^{127,128} However, in the course of proving beneficial use for Permit 4273, a map prepared by C.F. De Armond was filed in support of the Proof of Application of Water to Beneficial Use. In a letter dated December 29, 1923, the State Engineer requested clarification about a note on the map that read:¹²⁹

The area within the dotted line and fence is flooded with water from Big Shipley Spring during the months of January, February and March. The soil is such that the moisture is then held until time for haying.

It was unclear whether the note referred to the colored area of the map depicting the culture, or the area of the map that was not colored. In a response dated December 31, 1923, Mr. De Armond explained how the water was used in this area that would become known as John's Field:¹³⁰

The entire area within the dotted line and fence is flooded as shown on the map, both the colored and uncolored portions. However the entire area does not consist of meadow, much of it being a short salt grass.

The culture shown does not result from irrigation during other months than those named in the permit and proof. The land is adobe and it is necessary to divert the water away from it after March so that it will be dry enough to cut by haying time. The land is practically level, being part of the old lake bed.

The implication then is that the place of use of Permit 4273, Certificate 964, is how the water had been placed to use on the Lower Romano Field and John's Field, since outside of that area, it was not meadowland and the water simply flowed to waste; hence, the water flowing to waste was not beneficially used.¹³¹ It also follows that irrigation from water flowing onto Romano's Lower Field that resulted in the *Romano v. Sadler* case of 1913, was only for the Romano lands, as the 120 acres comprising the rest of John's Field was not disposed of until decades after 1905.

¹²⁶ File No. 4273, official records in the Office of the State Engineer.

¹²⁷ Transcript, p. 286.

¹²⁸ Exhibit No. 114.

¹²⁹ File No. 4273, official records in the Office of the State Engineer.

¹³⁰ File No. 4273, official records in the Office of the State Engineer.

¹³¹ The term "waste" is used here in the same context as in NRS Chapter 533, specifically §§ 533.460 and 533.463 and not as a synonym for drain water.

The portion of Permit 4273, Certificate 964, located within the Romano lands is 99.40 acres, which would also be covered by Proof of Appropriation V-03289. This leaves 134.80 acres not within the Romano lands and only under Permit 4273, Certificate 964. The State Engineer finds that the water flowing outside of the place of use described by Certificate 964 and onto salt grass was not a beneficial use of water. The State Engineer also finds that the water use on the Romano Lower Field could have been pre-statutory, but the water use on the additional 120 acres for John's Field could not have been pre-statutory. Accordingly, any mitigation of the water used at the additional 120 acres comprising John's Field would not be mitigating vested right claims.

Indian Camp Spring Flow Rate

In his report, Dwight Smith described measurements of the flow of Indian Camp Spring:¹³²

Eakin in September 1961 observed that the spring had been developed via a north-south trench cut parallel to contour and was producing an estimated flow of 1.5 to 2 c.f.s. (USGS field notes at Carson City). Harrill (1968) reports discharge from Indian Camp Spring as 0.66 cfs in December 1965, and 0.82 cfs in April 1966 (Table 9, 24/52-26d "Unnamed"). Discharge is believed to have been warm, about 80°F, similar in temperature to Sulphur Spring to the south and Siri Ranch Spring (Eva Spring) to the north.

The State Engineer finds that 1.5 cfs is a conservative estimate of discharge by Indian Camp Spring.

Indian Camp Spring Beneficial Use

Reiny Sadler described the field irrigated from Indian Camp Spring was 40 acres since the irrigation had been improved in 1961,¹³³ and this is consistent with Wilfred Bailey's recollection.¹³⁴ However, prior to that, the field was only irrigated for the production of 10 to 15 acres of wheat. There was also some irrigation by Native Americans prior to this, but Sadler said nothing regarding where or when that occurred.¹³⁵

The State Engineer finds that there was insufficient evidence to support that 40 or more acres of land was irrigated prior to 1905, and that, at best, only 15 acres were irrigated sometime prior to 1961.

¹³² Exhibit No. 108, p. 5.

¹³³ Exhibit No. 340, pp. 12-13.

¹³⁴ Transcript, pp. 957, 966.

¹³⁵ Exhibit No. 340, pp. 12-13.

Priority Dates

Proofs of Appropriation V-03289 and V-03290 both claim a priority date “prior to 1879” for the date construction began on the works of diversion.¹³⁶ Mike Bushelman for Applicant Sadler concluded that the priority date should be “prior to 1870.”^{137,138} Evidence supporting this opinion include the United States General Land Office cadastral field survey notes and plats, which identified structures such as a hay corral and topographical features during the 1870 survey.¹³⁹ Additional evidence of ranching activity comes from Lander County Assessment Rolls for 1870 and 1871.¹⁴⁰ The focus of this evidence was on the Big Shipley Spring diversion, and there is not as much evidence of an appropriation this early from Indian Camp Spring.

The Romano lands were receiving water prior to enactment of Nevada water law based on the 1913 *Romano v. Sadler* stipulation. The stipulation establishes a date of January 1, 1892, as the date water was first turned down through the Romano lands to be placed to beneficial use.¹⁴¹ The map accompanying the stipulation depicts the same ditches as shown on the cultural map filed in support of the proof of beneficial use for Permit 4273.¹⁴² The stipulation states that, in essence, if the water was not used by Romano on his lands for irrigation, then it would flow onto desert where it was wasted; therefore, there was no beneficial use on the lands outside of Romano’s Lower Field prior to Matilda Eccles purchasing it and appropriating the water under Permit 4273, Certificate 964.¹⁴³

The State Engineer finds that the Sadler Ranch water rights from Big Shipley Spring are comprised of three priority dates split between Proof of Appropriation V-03289 and Permit 4273, Certificate 964. Under the proof, the lands nearest the spring were irrigated from April 2nd to November 30th, and water was turned into a pond between December 1st and December 31st, which was used to water livestock, with a priority date of prior to 1870. Meadowlands in the sloughs benefitted from run-off during this period of use and then benefitted from winter irrigation, including the water turned down to Romano’s Lower Field from January 1st to April 1st - this also has a priority date of prior to 1870. The Romano Lower Field received water from

¹³⁶ Exhibit Nos. 26 and 27.

¹³⁷ Transcript, pp. 285-286, 288-290.

¹³⁸ Exhibit No. 105.

¹³⁹ Exhibit Nos. 110, 111 and 124.

¹⁴⁰ Exhibit No. 135.

¹⁴¹ Exhibit No. 138.

¹⁴² File No. 4273, official records in the Office of the State Engineer.

¹⁴³ Exhibit No. 138.

January 1st to April 1st, with a priority date of January 1, 1892. The lower portion was irrigated only under Permit 4273, Certificate 964, from January 1st to April 1st, with a priority date of January 2, 1917.

The State Engineer finds that the evidence is insufficient to determine a priority date for the first diversion of water from Indian Camp Spring under Proof of Appropriation V-03290, or if the first diversion was pre-statutory.

VIII.

DUTY AND MITIGATION APPLICATIONS BY SADLER

Production

According to Payne, Edgar Sadler was unable to say how many acres were cut for hay, but that Sadler “puts up several hundred tons of hay.”¹⁴⁴ In *Sadler v. Sadler* the leased land (*i.e.*, the Eccles Ranch) was described as producing 200 tons of hay per year.¹⁴⁵ Edgar Sadler’s testimony in the *Sadler v. Sadler* case was that the Eccles Ranch would produce about 300 tons of hay per year.¹⁴⁶ Some descriptions of the Sadler Ranch from testimony in that case was from appraisals and inventories admitted into evidence in the litigation. In one description, the ranch could cut up to 1,500 tons of hay, but this would require reseeding. In another description, it could cut 600 tons of hay with potential for more.¹⁴⁷ In a letter to Clarence Sadler admitted in the *Sadler v. Sadler* case, 400 tons of hay was being harvested and the letter indicated that re-seeding was necessary because 1,000 tons of hay should be cut from the ranch.¹⁴⁸ During Edgar Sadler’s testimony, the ranch would produce on average about 400 to 600 tons of hay per year.¹⁴⁹ These values approximately agree with Payne’s 1912 field notes, from the overall size of the ranch, the number of acres in production for alfalfa and garden, and the number of tons of hay that could be cut (400 to 600 tons could reasonably be described as “several hundred tons”). During Mr. Edgar Sadler’s testimony regarding reference to 900 tons of hay related to a mortgage, he stated that these 900 tons included previous year’s cutting and the leased land (Eccles Ranch).¹⁵⁰ Although this testimony is describing the ranch many years after the pre-statutory use, it reinforces and clarifies what Payne found during his 1912 field investigation.

¹⁴⁴ Exhibit No. 145.

¹⁴⁵ Exhibit No. 139, p. 71.

¹⁴⁶ Exhibit No. 139, p. 626.

¹⁴⁷ Exhibit No. 139, pp. 319-320.

¹⁴⁸ Exhibit No. 139, p. 346.

¹⁴⁹ Exhibit No. 139, pp. 625-626.

¹⁵⁰ Exhibit Nos. 139, 626.

The State Engineer finds that the appraisals, which describe the amount of hay that could *potentially* be cut under different circumstances, is not compelling evidence as to how much *actual* production occurred. The State Engineer finds that the maximum hay production from the ranch as a whole is 900 tons. Of these, 300 tons are from the Eccles Ranch. Assuming a proportional distribution over the irrigated acreage, of the 300 tons from the Eccles Ranch, 125 tons are from the Romano's Lower Field portion.

Duty

Sadler's expert, Mike Buschelman, testified that 4.7 acre-feet per acre is the expected duty per acre based on efficiencies for flood irrigation.¹⁵¹ His report builds a case for this duty rate by dividing the NIWR value for Diamond Valley by the irrigation efficiencies from a publication by the Food and Agriculture Organization of the United Nations.¹⁵² However, the State Engineer finds that the mitigation rights, which will allow for on-demand pumping from a well, should be based on modern practices, which require less water per acre of land irrigated.

The U.S. Geological Survey published results of well-efficiency tests by the University of Nevada Cooperative Extension Service Office where the median value of pumping from the wells was around 1,000 gallons per minute, which is equivalent to about 4.4 acre-feet per day per well.¹⁵³ The number of days that wells would be pumping within a season is estimated from the "freeze free" probabilities (105 days with 50% probability to exceed 32.5 degrees F)¹⁵⁴ and reducing the number of days by 21 to account for cutting and baling hay. The result is 84 days of pumping, which, at 4.4 acre-feet per day is 370 acre-feet per well. If each well is driving a pivot to irrigate 125 acres,¹⁵⁵ then the duty per acre of land irrigated is about 3.0 acre-feet (370 divided by 125).

¹⁵¹ Transcript, pp. 286-287.

¹⁵² Exhibit Nos. 105 and 106.

¹⁵³ Freddy E. Arteaga, et al., *Irrigated Croplands, Estimated Pumpage, and Water-Level Changes in Diamond Valley, Eureka and Elko Counties, Nevada, through 1990, Open-File Report 95-107*, (United States Geological Survey), 1995. pp. 8-9, available online at <http://pubs.usgs.gov/of/1995/0107/report.pdf>.

¹⁵⁴ *Length of 'Freeze Free' Season Probabilities*, (Western Regional Climate Center), <http://www.wrcc.dri.edu/>

¹⁵⁵ Freddy E. Arteaga, et al., *Irrigated Croplands, Estimated Pumpage, and Water-Level Changes in Diamond Valley, Eureka and Elko Counties, Nevada, through 1990, Open-File Report 95-107*, (United States Geological Survey), 1995. p. 7.

The U.S. Geological Survey pumpage estimate for the year 1990 by confirming Landsat imagery with field checking, was 64,400 acre-feet on 22,200 acres, resulting in an estimate of 2.9 acre-feet per acre.¹⁵⁶

In Diamond Valley, alfalfa has a Net Irrigation Water Requirement (NIWR) of 2.5 acre-feet per acre.¹⁵⁷ Assuming a pumpage efficiency between 65% and 75%, the gross estimate for the pumping requirement is about 2.9 to 3.3 acre-feet per acre.

Using an arithmetic mean (simple average) of the estimates from these different approaches, the State Engineer finds that in Diamond Valley, the duty of water is 3 acre-feet per acre of land irrigated for alfalfa through modern irrigation practices.

Mitigation

Applications 81719 and 81720 indicate that a groundwater well will be used to provide supplemental resources when water from Big Shipley Spring and tributaries and Indian Camp Springs and tributaries under Proofs of Appropriation V-03289 and V-03290 are not capable of providing sufficient water to irrigate the place of use under the proofs.¹⁵⁸ Application 82268 was filed to change the point of diversion of water claimed to have been appropriated under Proof of Appropriation V-03289. The application indicates that a well designed to intercept the Big Shipley Spring Complex has been completed and test pumped and that the well is in direct communication with the geologic features that provide water to the Big Shipley Spring Complex.¹⁵⁹ Testimony clarified that the purpose of the Application 82268 was to mitigate loss of flow from the spring by allowing an induction well and that Applications 81719 and 81720 were to be used to supplement flow deficits when the Big Shipley and Indian Camp Springs were unable to produce the full water righted duty.¹⁶⁰

¹⁵⁶ Freddy E. Arteaga, et al., *Irrigated Croplands, Estimated Pumpage, and Water-Level Changes in Diamond Valley, Eureka and Elko Counties, Nevada, through 1990, Open-File Report 95-107*, (United States Geological Survey), 1995. pp. 5-6.

¹⁵⁷ *Evapotranspiration and Net Irrigation Water Requirements for Nevada*, Huntington and Allen, 2010, available online at http://water.nv.gov/mapping/et/et_general.cfm, pp. 251.

¹⁵⁸ Exhibit Nos. 3, 9.

¹⁵⁹ Exhibit No. 28.

¹⁶⁰ Transcript, pp. 287-288, 443-444.

The State Engineer finds that the three applications are to work in concert to mitigate loss of spring flow due to groundwater pumping. In modern practice using an efficient pivot with the on-demand water provided by a well, and with modern practices of tilling, leveling, fertilizing, etc., a producer could expect to yield 5 to 6 tons per acre of alfalfa hay. Mr. Bailey, familiar with farming in Diamond Valley, testified that under ideal conditions a farmer could get 6 tons of timothy hay per acre after two cuttings.¹⁶¹ Thus, to get 600 tons (the original ranch production) a modern producer would need to put about 100 to 120 acres into production, and to get 125 tons (the Romano's Lower Field production), 21 to 25 acres would have to be placed into production.

Therefore, 435 acre-feet per season for the irrigation of 145 acres represents the hay production portion, 240 acre-feet per season for the irrigation of 80 acres represents the garden portion, and 300 acre-feet per season for the irrigation of 300 acres represents the pasture grass portion, for a total of 975 acre-feet annually.

The water being intercepted by the proposed point of diversion for Application 82268 (Well A) is the water that would have been discharged from the spring and State Engineer finds that the point of diversion can be changed to the new induction well location. Since Application 82268 is a change of point of diversion for Shipley Spring, it can only be used to mitigate the Shipley Spring portion of the historic production. Unlike being at the mercy of natural discharge, the induction well can be used to provide water on-demand, greatly increasing efficiency. For these reasons, the State Engineer finds that Application 82268 can be approved to change 3 cfs, but not to exceed 975 acre-feet annually, and that use of the water for stock is allowed from January 1st to December 31st of each year, but no additional duty is granted.

Application 81719 was filed to appropriate groundwater to mitigate the loss of the spring water, but the point of diversion is the same well (Well A) as proposed under Application 82268. If the well is diverting spring water by inducing flow, then it cannot logically be used to also develop groundwater. The State Engineer finds that Application 81719 is redundant and approval would not be in the public interest.

¹⁶¹ Transcript, p. 1021.

Application 81720 seeks to appropriate groundwater for mitigation at a point of diversion (Well D) that is even closer to the spring complex, and any such well must be constructed so as not to divert water from the spring source. The water developed from the well is to be used to supplement spring water from Big Shipley and Indian Camp Springs when water is no longer available.¹⁶² The State Engineer finds that Application 81720 can be approved for 3 cfs, but not to exceed 975 acre-feet annually, for use only when water is not available from the surface water sources. The State Engineer finds that the total combined duty of water under Applications 81720 and 82268 shall not exceed 975 acre-feet annually.

IX.

QUANTIFICATION OF VESTED RIGHT CLAIMS BY VENTURACCI

Claim Descriptions

Proof of Appropriation V-01114 was filed in the Office of the State Engineer June 26, 1912, claiming a pre-statutory vested water right for irrigation by waters from Horse Canyon.¹⁶³ See generally, **Figure 2**, attached. Proof of Appropriation V-01115 was filed in the Office of the State Engineer June 26, 1912, claiming a pre-statutory vested water right for irrigation by waters from Taft Springs.¹⁶⁴ Neither a diversion rate nor duty was provided on the proof forms. The waters of Horse Canyon are described as flowing only during a portion of the season from snow melt, and the waters of Taft Springs are described as being consistent in flow. The waters are described as being commingled before being used on a total of 206 acres of land, and it is estimated about 50 acres are irrigated under Horse Canyon and the remaining 156 acres by Taft Spring. The supporting map filed by Geo. S. Nickerson includes cultural descriptions of the number of acres and type of crop by legal subdivision. Two types of culture are described: alfalfa, garden and grain (12.36 acres) and meadow (191.94 acres) for a total of 204.30 acres, a bit less than described in the proof forms. Irrigation from Horse Canyon occurred from April 1st to June 15th of each year, and irrigation from Taft Springs occurred from April 1st to October 30th of each year.

H. M. Payne, who was with the State Engineer's office, inspected the Thompson Ranch on October 14, 1912, and references to Payne are from his field notes.¹⁶⁵ On November 23, 1912, the State Engineer determined the priority and amount of appropriation as required by the

¹⁶² Transcript, p. 288.

¹⁶³ Exhibit No. 419.

¹⁶⁴ Exhibit No. 23.

¹⁶⁵ Exhibit No. 339.

1907 Statutes of Nevada and issued Certificate No. 38 for Proof V-01114.¹⁶⁶ Certificate No. 38 described the appropriation as 50 acres with an 1880 priority date. On November 25, 1912, the State Engineer determined the priority and amount of appropriation as required by the 1907 statutes of Nevada and issued Certificate Nos. 39 and 40 for Proof V-01115. These Certificates described the appropriation as 148.30 acres with an 1880 priority date and 6 acres with a 1901 priority date, respectively. The total of these Certificates from these two sources is 204.30 acres.^{167,168,169}

Proofs of Appropriation V-01114 and V-01115 were amended on January 30, 1975, to increase the amount of meadow grass by an additional 14.41 acres, to include 405.80 acres of diversified pasture and the watering of 500 head of cattle and 100 head of horses.¹⁷⁰ The amendments also expanded the irrigation season to annual, claimed a duty of 4 acre-feet per acre of land irrigated and a variable flow rate of from Horse Canyon and a flow rate of 3.12 cfs from Taft Springs.

Proofs of Appropriation V-01114 and V-01115 were amended again on February 25, 2013, to expand the claimed acreage to 208.97 acres of alfalfa and grain, 646.52 acres of hay and grasses, and 780.87 acres of diversified pasture for a total of 1,636.36 acres.¹⁷¹ The claimed priority for V-01115 was also changed from “1880” to “pre 1879,” and the source was expanded from “Taft Springs” to “springs and seeps.” There were also a third amended proofs filed for each, but this was only to correct offset lines in the cultural table.¹⁷²

Proof of Appropriation V-02845 was filed in the Office of the State Engineer on December 9, 1974, claiming a pre-statutory vested water right for waters from Telegraph Canyon

¹⁶⁶ The 1907 law pursuant to which the certificates were issued was later repealed in 1913, thus the State Engineer finds that certificates cannot be considered to have “adjudicated” the vested rights in 1912. However, the State Engineer finds that the *information* contained within the certificates may be considered, in addition to all other evidence admitted during the administrative hearing, as a record of the State Engineer’s observations made closest in time to when the proofs of appropriation were filed.

¹⁶⁷ Certificate No. 38, Book No. 2, Page No. 38, official records in the Office of the State Engineer.

¹⁶⁸ Certificate No. 39, Book No. 2, Page No. 39, official records in the Office of the State Engineer.

¹⁶⁹ Certificate No. 40, Book No. 2, Page No. 40, official records in the Office of the State Engineer.

¹⁷⁰ Exhibit Nos. 24, 420.

¹⁷¹ Exhibit Nos. 25, 421.

¹⁷² Exhibit Nos. 422; and File No. V-01115, official records in the Office of the State Engineer.

for irrigation of 58.18 acres of pasture grasses at 4 acre-feet per acre and for watering 100 head of cattle and horses.¹⁷³

Proof of Appropriation V-02846 was filed in the Office of the State Engineer on December 9, 1974, claiming a pre-statutory vested water right for waters from Unnamed Springs for irrigation of 13.97 acres of pasture grasses at 4 acre-feet per acre and for watering 100 head of cattle and horses. The remarks section of the proof indicates that a measurement could not be made because the grounds were sub-irrigated.¹⁷⁴

Proof of Appropriation V-02847 was filed in the Office of the State Engineer on December 9, 1974, claiming a pre-statutory vested water right for waters from Cox Canyon for irrigation of 8.51 acres of pasture grasses at 4 acre-feet per acre and for watering 100 head of cattle and horses.¹⁷⁵

Proofs of Appropriation V-02845 and V-02846 were amended on February 25, 2013, and Proof of Appropriation V-02847 was amended on April 15, 2013, to collectively increase the claimed irrigated acreage to 272.07 acres of diversified pasture (red top fescue, Timothy and Johnson grasses) and 72.82 acres of hay and to increase the number of livestock watered to 100 head of horses and 500 head of cattle. The remarks section of the proofs indicate that the water from Telegraph Canyon and Cox Canyon and water from springs and seeps are commingled for the irrigation of the same place of use (on or near the Cox Ranch) under all three claims.¹⁷⁶

Proof of Appropriation V-010368 was filed in the Office of the State Engineer on February 25, 2013 and amended on March 14, 2013, claiming a pre-statutory vested water right for waters from Judd Canyon, unnamed springs and seeps for the irrigation of 102.35 acres of rye grass and 88.24 acres of diversified pasture (red top fescue, Timothy and Johnson grasses) and for watering 100 head of horses and 500 head of cattle.¹⁷⁷

Horse Canyon and Taft Springs (V-01114 and V-01115)

Payne writes, “[t]his ranch...is irrigated from both Taft Springs and Horse Canyon, the latter source being snow water which flows a maximum of 2 [cfs] of water from March 15th to June 15th.” Taft Springs are described as being two sources a few hundred feet apart that “do

¹⁷³ Exhibit No. 428.

¹⁷⁴ Exhibit No. 424.

¹⁷⁵ Exhibit No. 430.

¹⁷⁶ Exhibit Nos. 429, 429, 431.

¹⁷⁷ Exhibit Nos. 426 and 427.

not vary in flow.” A current meter was used to measure both sources. The smaller source flowed 0.25 cfs and the larger source flowed 1.29 cfs. Water from the smaller spring is held in a 100-foot diameter reservoir from which “about 20 acres of alfalfa and grain” are irrigated. The larger spring has an irregularly shaped reservoir of about 5 acres in surface area from which “nearly 200 acres of meadow land” are irrigated. Ditches can carry water from the smaller spring to the larger spring and waste water from the smaller spring ditch can be caught by the ditch from the larger spring. Payne continues, “the water of Horse Canyon is used on the lower end of the meadow, but this is also irrigated by water from the springs.” The appropriator cuts approximately 150 tons of hay from the meadow in the first crop, and the second crop is used as pasture.¹⁷⁸

In support of the second amended proofs, a report was filed by George Thiel, a witness for Applicant Venturacci. Mr. Thiel asserts that to consider only flow rates of Taft Springs would underestimate the actual flow that sustained the Thompson Ranch. He states, “Mr. Milton Thompson, a resident of the springs since 1948, estimated that there were over two hundred springs in this area that he had found over his life time.” Mr. Thiel’s report asserts that the only way to determine the extent of irrigation gained from these seeps and springs is through an examination of all the lands placed to use, as best can be determined through historical record.¹⁷⁹

The State Engineer rejects the argument that the extent of the vested right claims is a measure of all land that may have been wetted from those sources and rejects the assertion that those potential meadow areas can be considered irrigated acreage entitled to a water right. The Nevada Supreme Court in the case of *State v. State Engineer*, 104 Nev. 709, 766 P.2d 263 (1988), addressed the argument by the Board of Agriculture that a physical diversion is required in all instances for an appropriation of water. The court held that a physical diversion was not an absolute necessity for an *in situ* right under the modern water law; however, it made a distinction between appropriative rights under the statutory water law now, and the requirements for a pre-statutory vested water right. The court cited *Prosole v. Steamboat Canal Co.*, 37 Nev. 154, 140 P 720 (1914), which held that both a diversion and application to beneficial use were required to appropriate water. The court, also referencing *Application of Filippini*, 66 Nev. at 22, 202 P.2d 537, indicated that the statutory requirements for appropriating water are distinct from the

¹⁷⁸ Exhibit No. 339.

¹⁷⁹ Exhibit No. 232, p.2

requirements for water appropriation in effect before the enactment of the Nevada Water Law Act in 1913. Referencing *Steptoe Live Stock Co. v. Gulley*, 53 Nev. 163, 173, 295 P.772, 774 (1931), the court noted that under certain conditions, it could recognize an appropriation of water without a diversion when no diversion was needed to put the water to beneficial use, such as in the case of livestock. However, as the Nevada Supreme Court held in *Walsh v. Wallace*, 26 Nev. at 327-328, 67 P. at 918 in 1902, to constitute a valid appropriation of water of a flowing stream (or a spring source) there must be an actual diversion: the cutting of wild grass produced by stream overflow is not an appropriation.

To claim a water right for irrigation, the State Engineer finds a physical diversion was required to appropriate the water to beneficial use. Here, Applicant Venturacci filed pre-statutory vested water rights claims for meadows and grasslands for which there was no physical diversion of water. Although cattle may have grazed on those lands, this does not also mean a water right can be claimed. That some seeps and springs naturally supplied water to allow for meadow grasses to be grown, which in turn could have been used by stock as pasture, is not the same as diverting water for a beneficial use prior to Nevada Water Law being enacted in 1905.

In the 1982 curtailment proceedings, Milt Thompson stated:

A well isn't going to help because most of my land is native meadows and it's not the type of ground that is conducive to irrigation, sprinkler or otherwise, and we are not talking merely about the loss of my springs. Back when we bought that ranch our springs weren't that much used because our meadows were so wet from one end of the ranch to the other, and our problem was too much water, which I have pictures here in bogs, we have bogs all over our ranch. Diamond Springs area was the big bog.¹⁸⁰

Thus, even Mr. Thompson described the land as being naturally supplied water from the springs and bogs, and not from discrete diversions from the springs for irrigation of well defined lands.

The State Engineer does not agree with Mr. Thiel's report. The objective of these applications is to provide mitigation for pre-statutory vested rights that have been impacted by junior appropriators, and issuance of anything in excess of what can be reasonably determined as the extent of that vested right would constitute a new appropriation, rather than mitigation.

In seeking certification of their pre-statutory water rights, it is implausible that the very people making use of that right would not know how they were using the water and fail to claim the full extent of that right. That later owners or the Applicants would 60 or 100 years later seek

¹⁸⁰ Exhibit 315, p. 94.

to amend and expand the claims based on speculation of what might have been possible is not compelling. Mr. Thiel could only describe in vague terms what crops were grown in the valley and was not able to provide evidence of how much land was placed to use or where there was actual irrigation. Mr. Thiel referred to what *could* be grown today or what was *possible now*.¹⁸¹ Stating that, “short of bananas [they] could grow almost any sort of crop”¹⁸² is not evidence of what crops were grown and how many acres were put in to production during the time when the pre-statutory vested water right was claimed to have been established. The State Engineer finds Mr. Thiel’s testimony lacks relevance as to how water had *actually* been placed to beneficial use on the ranch.

Mr. Payne’s 1912 field notes support the 1912 certificates issued for proofs V-01114 and V-01115, and they are the strongest evidence of how the water was placed to use as a pre-statutory vested right. His notes describe actual measurements and the method of measurement and a determination of the area under actual irrigation. The State Engineer finds that Horse Canyon provided a flow rate not to exceed 2 cfs for a season from March 15th to June 15th. The State Engineer finds that Taft Springs provided a combined flow rate of 1.54 cfs during an irrigation season from April 1st to October 30th. Therefore, the maximum amount of water that could have been applied from these sources over the irrigation season as described in the 1912 proofs is about 1012 acre-feet per season. This is more than enough to satisfy the requirements of about 13 acres of alfalfa, grain and garden crops and about 192 acres of meadow grass, even at a high per acre duty of 4 acre-feet stated in the proofs.

Eileen Penrod, who was born and raised on the Thompson Ranch and performed work on the ranch, testified that she would mow meadow in two fields, one northwesterly of the springs and one southwesterly of the springs.¹⁸³ When questioned about the type of grass she mowed, she described it as “wild grass” having “pointy tips.”¹⁸⁴ This description is consistent with sedge, which is a low-nutrition grass that cattle only eat when nothing better is available to them. Ms. Penrod also described a small alfalfa field on the north end of the ranch, but this required pumping water from the spring to hand lines.¹⁸⁵

¹⁸¹ Transcript, pp. 885-887.

¹⁸² Transcript, p. 886.

¹⁸³ Transcript, pp. 908, 934-938.

¹⁸⁴ Transcript, pp. 922, 946-947.

¹⁸⁵ Transcript, pp. 922, 946-947.

Nels Toft, the original claimant for Proofs of Appropriation V-01114 and V-01115, set forth by sworn affidavit what he believed in 1912 had been appropriated. The State Engineer finds that what Nels Toft claimed as appropriated in the 1912 proofs of appropriation carries the greatest weight of the actual rights being claimed, as opposed to repeated amendments and expansion of the claims asserted more than 100 years later.

The State Engineer finds that the information contained within Certificates 38, 39 and 40 issued for Proofs of Appropriation V-01114 and V-01115 on Taft Springs demonstrate the extent of the vested rights. Certificate No. 38 for Proof V-01114 is for the irrigation of 50 acres with a priority date of 1880. The source is snow melt from Horse Canyon, the flow rate is 2 cfs and the period of use is April 1st to June 15th of each year. Certificate Nos. 39 and 40 for Proof V-01115 are for the irrigation of 148.30 acres with an 1880 priority date, and 6 acres with a 1901 priority date, respectively. The source is Taft Springs, the flow rate is 1.54 cfs and the period of use is April 1st to October 30th of each year. All three certificates allow for stockwater and domestic use.

Telegraph Canyon, Cox Canyon and Unnamed Springs and seeps (V-02845 to 47)

Three sources are claimed to have served the Cox Ranch: waters from Telegraph Canyon and Cox Canyon and unnamed springs and seeps. Telegraph and Cox Canyon were intermittent sources resulting from spring snow melt, and the primary source of water would be the springs and seeps under Proof of Appropriation V-02846.¹⁸⁶

Under the originally filed Proof of Appropriation V-02846, the water was diverted from its source by “Sub-irrigated Spring Area,” the means of diversion employed was by “Sub-irrigat[ion]” and the remarks section of the proof indicates that a measurement could not be made because the grounds were “sub-irrigated from a spring area.”¹⁸⁷ In the amended proof, the diversion was described as from “Open Ditches and sub-irrigated spring areas.”¹⁸⁸

As stated above, the State Engineer finds that to claim a pre-statutory water right for irrigation, a physical diversion was required to appropriate the water for beneficial use. Little evidence was provided to demonstrate actual use of the water on the Cox Ranch, and no evidence was provided to determine flow rates from the spring sources that may have been carried in a ditch. The State Engineer finds that there is insufficient evidence to establish the veracity of Proof of Appropriation V-02846; therefore, approval of applications 82570 and

¹⁸⁶ Transcript pp. 715-716.

¹⁸⁷ Exhibit No. 424.

¹⁸⁸ Exhibit No. 425.

82571 would be a new appropriation and not mitigation of a vested right. For that reason, approval of the applications would conflict with existing rights and threaten to prove detrimental to the public interest, because such approval would violate State Engineer's Orders 717 and 815.

Judd Canyon and Unnamed Springs and Seeps (V-010368)

Two sources are claimed to have served the Willow Ranch: waters from Judd Canyon and unnamed springs and seeps. No measurements of these springs are known to have been taken.¹⁸⁹ Little evidence was provided to demonstrate actual use of the water on the Cox Ranch, and no evidence was provided to determine flow rates from the spring sources that may have been carried in a ditch. Application 82573 seeks to replace the vested water right from springs and seeps for the Willow Field.¹⁹⁰ The State Engineer finds that there is insufficient evidence to establish the veracity of Proof of Appropriation V-010368; therefore, approval of application 82573 would be a new appropriation and not mitigation of a vested right. For that reason, approval of the application would conflict with existing rights and threaten to prove detrimental to the public interest, because such approval would violate State Engineer's Orders 717 and 815.

X.

MITIGATION APPLICATIONS BY VENTURACCI

As stated previously, the State Engineer has determined that the duty for Diamond Valley is 3 acre-feet per acre of land irrigated for alfalfa, which has a NIWR of 2.5 feet. The NIWR for grass hay is 2.4 feet, highly managed pasture grass is 2.5 feet and for low managed pasture grass is 2.0 feet, suggesting a comparable duty would be appropriate.¹⁹¹ The total of land irrigated under Certificates 38, 39 and 40 is 204.30 acres,^{192,193,194} which at 3 acre-feet per acre of land irrigated is 612.9 acre-feet.

The State Engineer finds that Applications 81825 and 82572 can be approved for 1.54 cfs, not to exceed a total combined duty of water of 612.9 acre-feet annually, for mitigation of the impacts to Taft Spring.

¹⁸⁹ Transcript p. 558.

¹⁹⁰ Exhibit No. 60.

¹⁹¹ *Evapotranspiration and Net Irrigation Water Requirements for Nevada*, Huntington and Allen, 2010, available online at http://water.nv.gov/mapping/et/et_general.cfm.

¹⁹² Certificate No. 38, Book No. 2, Page No. 38, official records in the Office of the State Engineer.

¹⁹³ Certificate No. 39, Book No. 2, Page No. 39, official records in the Office of the State Engineer.

¹⁹⁴ Certificate No. 40, Book No. 2, Page No. 40, official records in the Office of the State Engineer.

XI.
ABANDONMENT

Pre-statutory vested water rights can be lost by intentional abandonment. *Andersen Family Associates v. Ricci*, 124 Nev. 182, 179 P.3d 1201, 1205 (2008). In Nevada, abandonment of a water right is the voluntary “relinquishment of the right by the owner with the intention to forsake and desert it.” *In re Manse Spring*, 60 Nev. 280, 108 P.2d 311, 316 (1940) (courts must determine the intent of the claimant to decide whether abandonment has taken place, and in this determination may take non-use and other circumstances into consideration).¹⁹⁵ Abandonment requires both action and intent, and under Nevada law is “a question of fact to be determined from all the surrounding circumstances.” *Revert v. Ray*, 95 Nev. 782, 786, 603 P.2d 262, 264 (1979).¹⁹⁶ Non-use for a period of time may inferentially be some evidence of intent to abandon.¹⁹⁷ Although a prolonged period of non-use may raise an inference of intent to abandon, it does not create a rebuttable presumption.¹⁹⁸ At a minimum, proof of continuous use of the water right should be required to support a finding of lack of intent to abandon.¹⁹⁹

In 1982, the State Engineer held meetings in Eureka, Nevada, to discuss Mr. Thompson’s complaints that groundwater pumping was affecting the flow of Thompson Spring and whether groundwater pumping needed to be curtailed. At that time, discussion took place among the farmers about whether they should contribute to drill a well to help Mr. Thompson.²⁰⁰ Mr. Thompson refused this offer, stating:

A well isn’t going to help because most of my land is native meadows and it’s not the type of ground that is conducive to irrigation, sprinkler or otherwise, and we are not talking merely about the loss of my springs. Back when we bought that ranch our springs weren’t that much used because our meadows were so wet from one end of the ranch to the other, and our problem was too much water, which I have pictures of here in bogs, we have bogs all over our ranch. Diamond Springs area was the big bog.²⁰¹

¹⁹⁵ *U.S. v. Alpine Land & Reservoir Company*, 340 F.3d 903 (9th Cir. 2003).

¹⁹⁶ *U.S. v. Alpine Land & Reservoir Company*, 340 F.3d 903 (9th Cir. 2003).

¹⁹⁷ *Franktown Creek Irr. Co., Inc. v. Marlette Lake Co. and the State Engineer of the State of Nevada*, 77 Nev. 348, 354-55, 364 P.2d 1069, 1072 (1961).

¹⁹⁸ *U.S. v. Orr Water Ditch Company*, 256 F.3d 935, 945 (9th Cir. 2001).

¹⁹⁹ *U.S. v. Alpine Land & Reservoir Company*, 291 F.3d 1062, 1077 (9th Cir. 2002).

²⁰⁰ Transcript, pp. 1112-1113.

²⁰¹ Exhibit No. 315, p. 94.

While testimony was provided that no water was spread through the use of a shovel, ditch or anything from 1982 on²⁰² and that in the fall of 1981 or 1982, the condition of the ranch was very rundown, the fields were old and rough and things were not kept up,²⁰³ the loss of the use of water was not through the fault of Mr. Thompson.

Jed Robinson testified on behalf of Venturacci to try to rebut a claim that the water rights on the Thompson, Cox and Willow ranches had not been abandoned prior to Mr. Venturacci's purchase of those ranches. Mr. Robinson works for Private Capital Group, a private lender that had loaned money to a Allen Chamberlain who purchased the Thompson Ranch in 2008.²⁰⁴ Mr. Robinson testified that Private Capital Group foreclosed on the property in 2009 or 2010 when Mr. Chamberlain failed to make his payments. The testimony indicates that Milton Thompson executed a deed to Cedar Ranches, LLC, which was Mr. Chamberlain's limited liability company. Mr. Robinson testified that the deed of trust listed water rights that Private Capital Group was encumbering to secure Mr. Chamberlain's loan as only 4 afa as the annual duty for vested right claims V-01114 and V-01115.²⁰⁵ When Private Capital Group subsequently sold the property to Mr. Venturacci, the deed contained the same annual duty of 4 afa for each vested right claim.²⁰⁶

Mr. Venturacci attempts to use a lender to argue lack of intent to abandon the water rights; however, the State Engineer finds a lender is not the person placing water to beneficial use and cannot demonstrate the intent of whether or not to abandon water rights and gives no weight to Mr. Robinson's testimony on the matter. However, the State Engineer finds that Mr. Thompson's rejection of the offer to drill a well in 1982 does not rise to the level of abandoning the water right. The State Engineer finds while there is no evidence of continual water use, the water was not able to be used as the Thompson Spring had been dried up by groundwater pumping.

Protestants to Applications 81719 and 81720 (Sadler) assert that the water rights claimed under the proofs of appropriation have been abandoned (V-03289 and V-03290). Protestants to Application 82268 (Sadler) assert that the ranch was purchased with full knowledge that the

²⁰² Transcript, p. 1086.

²⁰³ Transcript, p. 1120.

²⁰⁴ Transcript, pp. 896-897.

²⁰⁵ Transcript, pp. 902-903.

²⁰⁶ Exhibit No. 322.

water was not there and the claimed rights have been abandoned (V-03289). Eureka County argues that there were many years of non-use of water on Sadler Ranch prior to the purchase by the current owners. The County points to testimony by Mr. Bailey that indicates that after the Sadler brothers sold the ranch, no more alfalfa was raised on the ranch; however, Mr. Bailey also testified that he never knew anyone as to be so “silly” as to abandon their water rights, and does not believe the Sadlers abandoned their rights.²⁰⁷ James Gallagher testified that Don Sokul was the last owner of the Sadler Ranch who actively irrigated or farmed the property and he left the property in 1990; however, no evidence was elicited from Mr. Gallagher about Sokul, or other prior owners’ intent to abandon the water rights.²⁰⁸ Finally, Mark Moyle testified that since he moved to Diamond Valley in the spring of 1977, he has not observed any irrigation equipment on the property, the irrigation was all flood irrigation out of the pond, which ran down the meadow on its own, and he never observed much hay production or hay stacks on the Sadler Ranch.²⁰⁹ Here, again, however, no testimony was elicited from Mr. Moyle on the issue of an intent to abandon the water rights. The current owners bought the Sadler Ranch in 2011.²¹⁰

As to the Sadler Ranch, the State Engineer finds it was not proven by a preponderance of the evidence that the predecessor owners of the Sadler Ranch intended to voluntarily relinquish the claimed water rights by intending to forsake and desert them.

XII.

UNAPPROPRIATED WATER AND CONFLICTS WITH EXISTING RIGHTS

Protestants assert that there is no unappropriated water from the source, that the proposed use of the water will conflict with existing rights and protectable interests in existing domestic wells and threaten to prove detrimental to the public interest. Protestants claim that the use of the water will only exacerbate the over-appropriation problem in the valley, that the water the applications seek to appropriate is actually groundwater discharge that is accounted for in the estimation of the perennial yield of Diamond Valley, that the State Engineer cannot affirmatively determine there is water available (NRS § 534.110(3)) and that these springs will cease to flow even if only the perennial yield had been appropriated in the valley. They argue the State Engineer has already held there is no unappropriated water in Diamond Valley citing to State Engineer’s Order Nos. 541 and 717 (curtailment orders).

²⁰⁷ Transcript, pp. 963, 1004-1005.

²⁰⁸ Transcript, p. 1101.

²⁰⁹ Transcript, p. 1123.

²¹⁰ Transcript, p. 38.

Protestants argue that Nevada has historically recognized underground water as a separate source from surface water and that Nevada water law provides a bright-line distinction between groundwater and surface water most notably in the adjudication statutes citing to NRS § 534.020(1) and to cases that pre-date the water law. They assert there is no finding that the groundwater and surface water are hydrologically connected and that the State Engineer cannot treat surface water (Thompson/Taft Spring and Shipley Spring) and groundwater as the same source.

Sadler argues that it has presented evidence to show that the mitigation applications will appropriate water from the same source as their pre-statutory vested spring water claims and that this evidence is relevant to the statutory criteria regarding the availability of water. They further assert that the priority date that should be given under any permits granted should be the same as the date of priority for the vested right claims.

Protestants also assert that the Application 82268 is deficient because it proposes to change the point of diversion for a claimed pre-statutory vested surface water right (V-03289) to a groundwater source that is not recognized under Nevada water law as hydrologically connected and that the application is deficient because Nevada water law does not allow a source to be changed through a change application. Protestants claim that the proposed “induction” well under Application 82268 does not serve to induce the infiltration of surface water, but will intercept groundwater and will thus exacerbate the over-appropriation problem in the basin. If these were separate sources the State Engineer would find merit in this argument; however, as discussed below, the State Engineer finds these are not separate sources.

Nevada Revised Statute § 533.370 provides that where there is no unappropriated water in the proposed source of supply, or where its proposed use or change conflicts with existing rights or with protectable interests in existing domestic wells as set forth in NRS § 533.014, or threatens to prove detrimental to the public interest, the State Engineer shall reject the application and refuse to issue the requested permit. The State Engineer finds the Applicants are not requesting a “new” appropriation of groundwater, but rather are requesting a new method of obtaining the groundwater that formerly discharged at the springs upon which they claim pre-statutory vested water rights. The State Engineer finds Section VI provides the evidence that these sources are hydrologically connected.

The State Engineer finds there is no difference in the source of water requested for appropriation under these applications and that claimed under the pre-statutory vested water rights claims and the Applicants have the prior right to use such water.

The State Engineer finds that the evidence shows that, but for subsequent groundwater appropriations, the water would have naturally discharged at the spring sources and was already appropriated by the senior water right holders. Accordingly, the State Engineer need not find there is additional unappropriated water in the basin even though the basin is over-appropriated. The water these applications seek to use is water already appropriated; it is not an additional new appropriation. The State Engineer finds it is these Applicants who have the better claim to this water and they do not have to establish there is additional "unappropriated" water to support the applications as their senior water rights come from the same source.

The State Engineer finds that granting the applications in the amounts determined below will only restore to the Applicants the quantity of water necessary to produce a similar amount of tonnage. The drilling of said wells and the use of the water from those wells will not conflict with existing rights or be detrimental to the public interest. The State Engineer finds that the restoration of a reasonable determined quantity of water already appropriated mitigates the Applicants' senior water rights and does not conflict with junior groundwater right holders.

A similar situation was addressed by the New Mexico Supreme Court in the case of *Templeton v. Pecos Valley Artesian Conservancy Dist.*, 332 P.2d 465 (N.M. 1958). In that case, the court was addressing applications that were filed for permits to drill wells to supplement the water from the river that was no longer sufficient to satisfy the applicant's water rights. The court found that the decrease in the water table from irrigation pumping had decreased the amount of water that flowed into the surface water source from which the applicant held its water rights. The court followed the source and granted the replacement water even though the basin was fully appropriated.

Although the State Engineer understands that groundwater and surface water can be hydrologically connected, he agrees with Protestants' arguments that Nevada has historically regulated underground water as a separate source from surface water and provided a bright-line distinction between groundwater and surface water; however, the State Engineer finds these bright-line distinctions are fading. Here, the evidence is sufficient to support the assertion that the spring discharge is derived from the same source that the junior appropriators are pumping

and that the groundwater and surface water are hydrologically connected. The State Engineer finds the courts are making this connection, as do hydrologists and hydrogeologists. In *Cappaert v. U.S.*, 426 U.S. 128 (1976), the federal court enjoined groundwater pumping that was impacting the pool at Devils Hole to prevent the water level from going lower than a rock shelf which the fish need for breeding. In *U.S. and Pyramid Lake Paiute Tribe of Indians v. Orr Ditch, et al.*, 600 F.3d 1152 (9th Cir. 2010), the court found that the *Orr Ditch* Decree forbids groundwater allocations that adversely affect the Tribe's senior decreed rights to water flows in the river.

XIII.

PRIORITY DATE OF APPLICATIONS

Sadler argues that any applications granted for mitigation water rights must be given a priority date that reflects the priority date of the claimed pre-statutory vested water right, otherwise the right granted by a permit is inferior to the right being mitigated. Nevada Revised Statute § 533.080(3) provides that “[e]xcept as otherwise provided in subsection 4 and NRS § 534.180, 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 provisions of chapter 533 of NRS.” The priority date of an application is the date a completed application is properly filed in the Office of the State Engineer. NRS § 533.355. Sadler argues that “a loss of priority undoubtedly amounts to an ‘impairment’ of water rights in violation of NRS 533.085(1).” (Citing *Andersen Family Assoc. v. Ricci*, 124 Nev. 182, 179 P.3d 1201 (2008)). Sadler argues that since Nevada water law does not allow any impairment of vested water rights, the mitigation right must be given the same priority date as the vested claim, otherwise there will be impairment of the claimed vested rights and mitigation cannot be successful.

As to Change Application 82268, Sadler argues it is entitled to the same priority date of the vested right it seeks to change. As to the “new” appropriations, Sadler argues that they are really change applications because they were filed to appropriate the same water that was already appropriated, just at a different point of diversion.

The State Engineer finds the priority date of the “new” appropriations is the date the applications were filed in the Office of the State Engineer, otherwise the State Engineer is adjudicating the right and violating the water law. However, the State Engineer finds the permit terms should reflect the preliminary finding as to the priority date of the pre-statutory vested

right they mitigate or change. Additionally, the State Engineer finds that the mitigating water rights cannot be severed from the unadjudicated vested claims being mitigated.

XIV.

DOCTRINE OF RELATION BACK

The Nevada Supreme Court stated that when work is necessary to complete the appropriation, the law gives a claimant a reasonable time to do it. Although the appropriation is not complete until water is actually diverted, if the work was prosecuted with reasonable diligence, the priority relates back to the time when the first step was taken to secure it. *Ophir Silver Mining Co. v. Carpenter*, 4 Nev. 534 (1869). However, “[i]t is also settled in this state that the water law and all proceedings thereunder are special in character, and the provisions of such law not only lay down the method of procedure but strictly limits it to that provided.” *In re Application of Filippini*, 66 Nev. at 27, 202 P.2d at 540.

Effective March 1, 1905, the law in Nevada has been that any person, association or corporation desiring to appropriate any of the public waters shall before performing any work in connection with such appropriation make an application to the State Engineer for permission to make the same. This act only applied to surface water. Since March 22, 1913, no lawful appropriation of surface water or artesian groundwater could be made after that date without application to the State Engineer. The intent of the water law was to bring order to the appropriation and use of water in Nevada and to allow continued expansion of pre-statutory vested water rights under the doctrine of relation back past the date that the water law required the filing of an application does not work with the intent of the statute. *In re Application of Filippini*, 66 Nev. at 29. The State Engineer finds that Sadler could not expand the use of its water from Shipley Spring after March 1, 1905, and claim it relates back to an earlier priority date. Any additional use of water past that date required an application to be filed with and approved by the State Engineer.

XV.

ADDITIONAL STUDY

Some Protestants assert that given the state of the Diamond Valley Hydrographic Basin, the State Engineer should require a study prior to granting additional withdrawals from this stressed aquifer. The State Engineer finds that more and more Protestants refer to NRS § 533.368 to assert that the State Engineer should require a study before acting on applications. The State Engineer finds substantial information exists about the resources and use of water in Diamond Valley. The State Engineer finds Protestants merely assert a study needs to be

performed, but provide no reason why another study needs to be conducted or what would be accomplished by that study. The State Engineer finds an additional study is not necessary to act on the applications under consideration in this Ruling.

XVI.

MONITORING AND MITIGATION

Some Protestants assert that if the applications are granted they should be conditioned on the implementation of a monitoring program and if impacts are demonstrated the Applicants should be required to mitigate those impacts. The State Engineer finds the Protestants ignore that it is the over-appropriation of groundwater by the junior groundwater right holders that is creating the greatest impact on Diamond Valley. It is these Applicants who are requesting the State Engineer to protect their senior rights and mitigate the impacts to their senior water rights. The State Engineer currently measures groundwater levels at approximately 100 wells in Diamond Valley on an annual basis, and finds that the level of monitoring already occurring is sufficient.

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.²¹¹

II.

The State Engineer is prohibited by law from granting a permit under an application to change or appropriate the public water where:²¹²

- 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 protectable 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 water the Applicants seek under Applications 82570, 82571 and 82573 was not proven by a preponderance of the evidence to be water that they are entitled under their senior water rights; therefore, approval of these applications would

²¹¹ NRS Chapters 533 and 534.

²¹² NRS § 533.370(2).

conflict with existing rights and threaten to prove detrimental to the public interest because such approval would violate State Engineer's Orders 717 and 815.

IV.

The State Engineer concludes that Application 81719 is redundant to Application 82268; therefore, Application 81719 is denied on the grounds that granting Application 81719 will threaten to prove detrimental to the public interest.

V.

The State Engineer concludes that the water the Applicants seek under Applications 81720, 82268, 81825 and 82572 is water that they are entitled to under their senior water rights, which have been diminished by the junior groundwater pumping; therefore, the applications are not a new appropriation of water. The State Engineer concludes that Applicants' use of their senior water rights will not conflict with existing rights; it is use of the water by the junior water right holders that has conflicted with these senior water right holders.

VI.

The State Engineer concludes that the use of the water under Applications 81720, 82268, 81825 and 82572 for mitigation of impacted senior water rights does not threaten to prove detrimental to the public interest.

RULING

The protests to Applications 82570, 82571 and 82573 are upheld in part and Applications 82570, 82571 and 82573 are hereby denied on the grounds that their approval would conflict with existing rights and threaten to prove detrimental to the public interest. No ruling is made on the remaining protest issues.

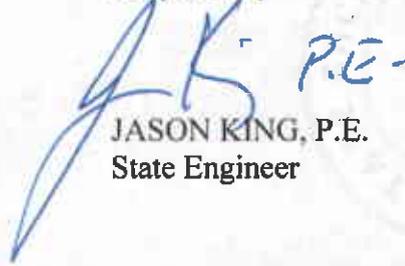
Application 81719 is hereby denied on the grounds that it will threaten to prove detrimental to the public interest; no ruling is made on the merits of the protests to this application.

The protests to Applications 81720 and 82268 are overruled. Application 82268 is approved for 3 cfs, but not to exceed 975 acre-feet annually, and that use of the water for stock is allowed from January 1st to December 31st of each year, but no additional duty is granted. The base right V-03289 is considered abrogated until the source is adjudicated and the extent of the right is confirmed through the adjudication process. Application 81720 is approved for 3 cfs, but not to exceed 975 acre-feet annually. The total combined duty of water under Applications 81720 and 82268 shall not exceed 975 acre-feet annually. Approval is subject to existing rights and payment of statutory fees.

The protests to Applications 81825 and 82572 are overruled, and Applications 81825 and 82572 are approved for 1.54 cfs, but not to exceed a total combined duty of water of 612.9 acre-feet annually. Approval is subject to existing rights and payment of statutory fees.

This is not an adjudication of the relevant vested right claims which remain subject to a future adjudication. The granting of the current applications is to mitigate the loss of spring discharge necessary to produce the amount of historical crop production, as may be produced today using modern and efficient irrigation practices.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'JK P.E.', is written over a faint circular official seal.

JASON KING, P.E.
State Engineer

Dated this 15th day of
August, 2014.

CONSTITUENT PARTS OF SADLER RANCH
DIAMOND VALLEY, NEVADA BASIN 10-153

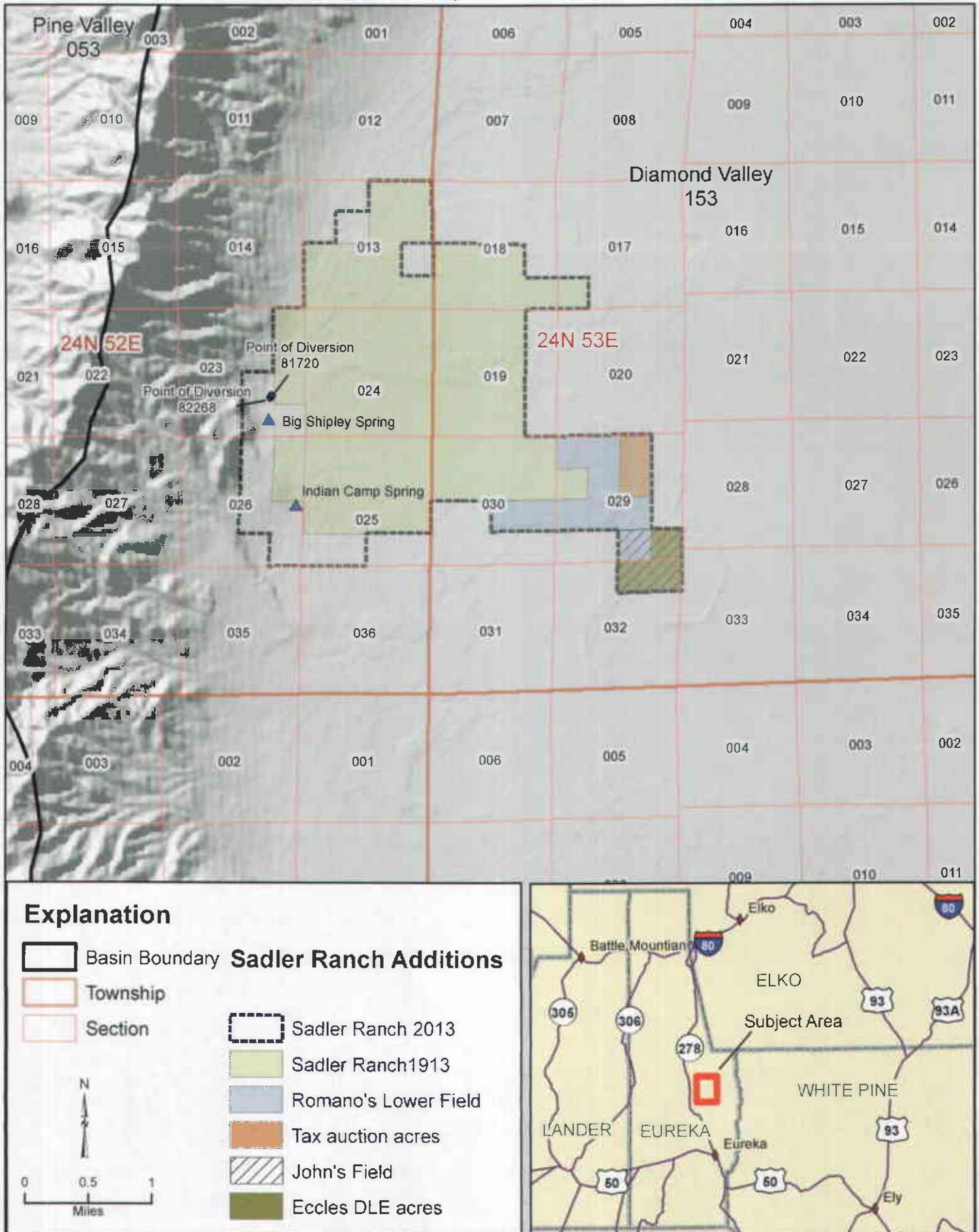
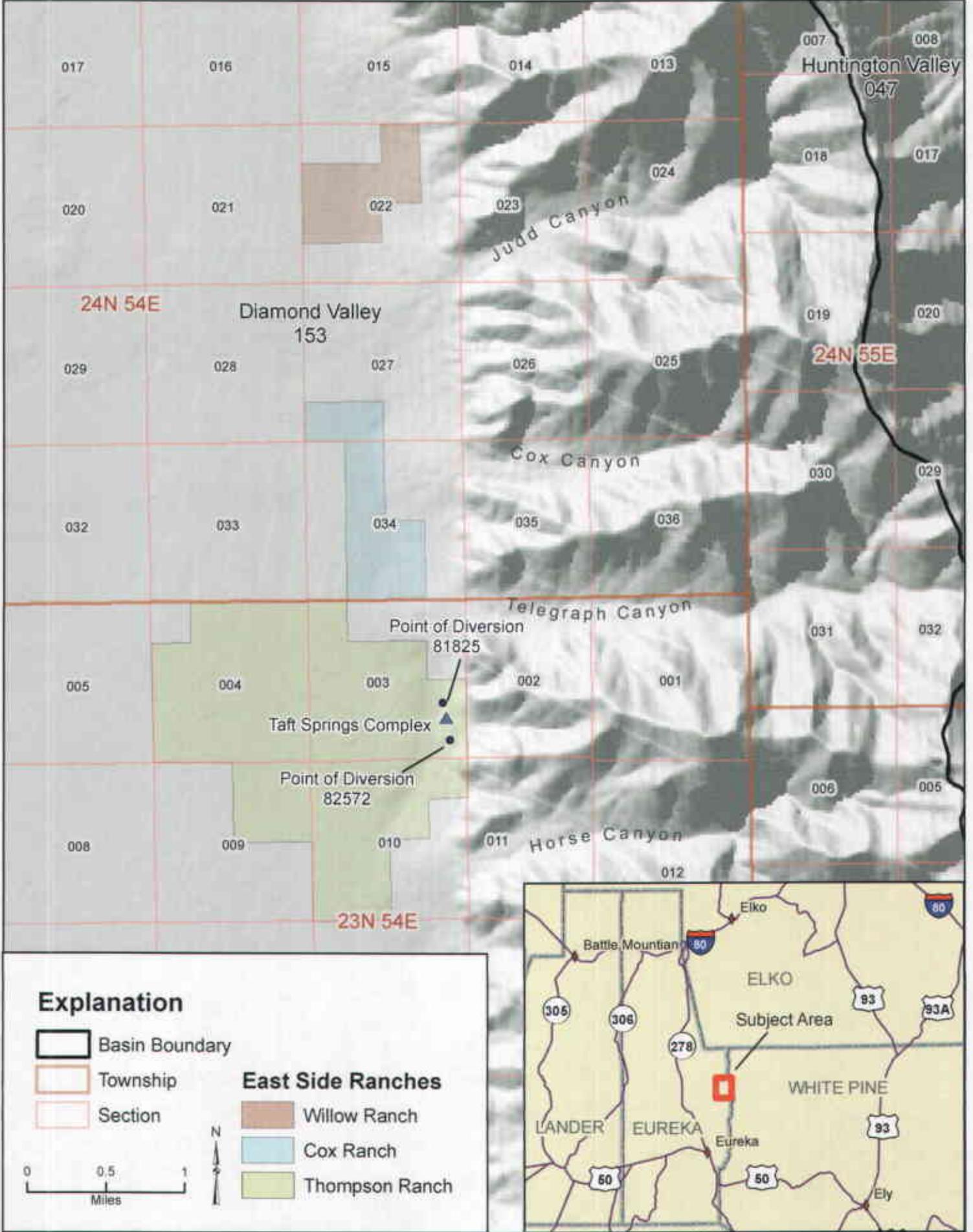


Figure 1

WILLOW, COX AND THOMPSON RANCHES
DIAMOND VALLEY, NEVADA BASIN 10-153



Explanation

- Basin Boundary
- Township
- Section

East Side Ranches

- Willow Ranch
- Cox Ranch
- Thompson Ranch



Figure 2