

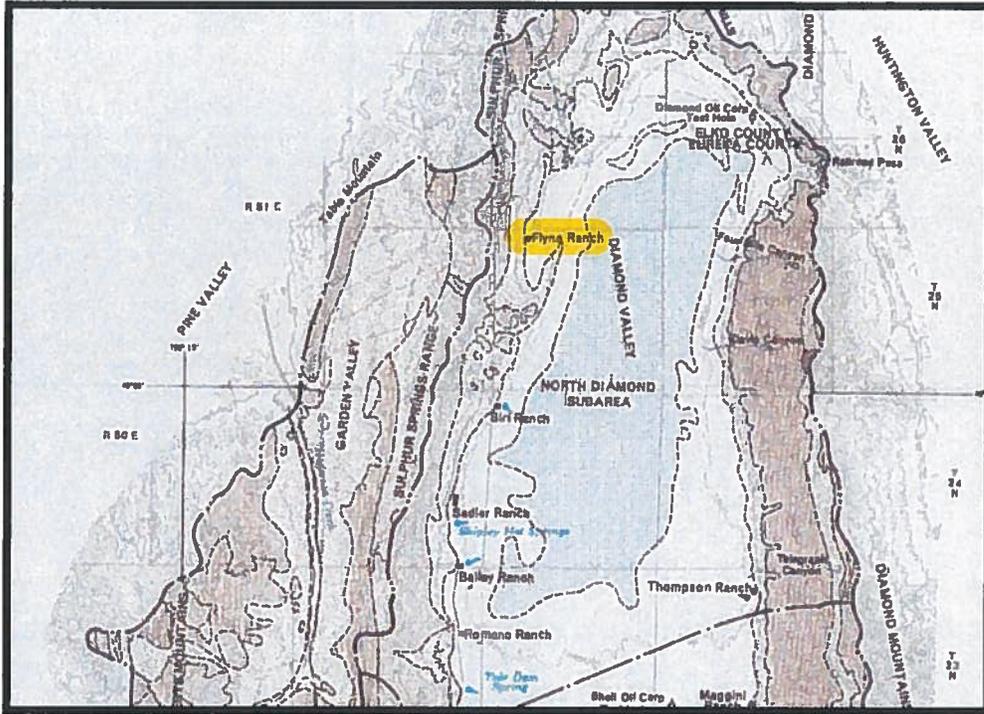
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RNNR_51

Response to State Engineer's Preliminary Order of Determination

Ira R. Renner and Montira Renner, Diamond Valley
Nevada, Hydrographic Basin #153

OUTLINE OF TESTIMONY TO BE PROVIDED



George M. Thiel, P.E., S.W.R.S.



Dated: February 1, 2019

Introduction:

Ira R. Renner and Montira Renner (“Renner”) own approximately 994.19 acres of real property located in Eureka County along the Sadler Brown Road, approximately 40 miles north from the town of Eureka, Nevada. The private property is currently known as Assessor Parcel Numbers (“APNs”) 006-130-05 and 006-220-07.

APN 006-130-05 is located in portions of Sections 31 and 32 in Township 26 North, Range 53 East. The APN was assembled from four different patents, and was historically irrigated from water rights originating from what is called Spring 3, as filed under Proof V10883.

APN 006-220-07 is located in Sections 5 and 6, Township 25 North, Range 53 East. The APN was assembled from nine different patents, and was irrigated from various springs, including Springs 6, 7, and 8, as filed under Proofs V10884, V10885, V02432, and V10886.

Renner also owns several certificated groundwater rights that supplement the water from the springs, as well as some stand-alone groundwater rights, and multiple stock water rights on various springs in the area on or around the private property.

In the late 1970s, the prior owners of the ranch filed several “top filings” of new appropriations over the vested rights of the springs. Specifically, the top filings were not filed to jeopardize, hinder, or interfere with the claim to vested rights. The intent of the applications was to allow for more efficient use of the vested springs and to spread and comingle the rights across the ranch. The filings have been changed over time, and currently are certificated for the current use under Permit 37920/Certificate 11890 (28.96 afa from Spring 6), Permit 37922/Certificate 11891(14.48 afa from Spring 7), Permit 50075/Certificate 12333(403.25 afa from Spring 8), and Permit 50076/Certificate 14026 (61.52 afa from Spring 3). Notably, the top filings did not increase the vested use of the springs, but merely made more efficient use of the same water. The total duty of surface water rights used for irrigation on the Renner ranch is 508.21 afa. This amount has been certificated by the State Engineer, and is the best evidence of the spring flow

and quantity of beneficial use of the spring water. The changes to the vested rights under the top filings and associated change applications relates back to the original appropriation of water under the vested rights, just as the priority of any change application relates back to the base right.

For ease of reference, the discussion in this report is being divided into three sections. Spring 3 is the most northerly surface water irrigation on the ranch, Springs 6 and 7 irrigate the middle portion of the ranch, and Spring 8 irrigates the southern portion of the ranch, which was the original "Scott Ranch" portion of the holding.

Under the various applications, which were top filing on the claims of vested rights, the only issue that remains is the priority. All of the spring sources are commingled for beneficial use on property previously irrigated. Proofs and the chain of title, all support that the property was vested on or before 1873. The measurement of the springs or the field investigation of 1973 by the office of the State Engineer and the presentation of the report is an irrelevant issue as the springs, via lowering of the groundwater table, has been altered due to the over-appropriation in the southern portion of Diamond Valley. The location of the ranch is such that it is one of the lowest portions of elevation in the basin. Field analysis of the spring discharge areas are useful to the fact that you might be able to see remnant vegetation, such as rabbitbrush or other phreatophytic plant types around the vested irrigated areas or areas of spring discharge. What happened in the area is difficult to ascertain when the field investigation is completed 146 years after the first settlement of the subject lands. Only through the evaluation of the history of the property and the early exploration of the cultivation of the land can one determine, perhaps, the historical water useage. The meadows inventoried in the area was grazed upon by livestock and especially after the winter of 1889, harvested for winter feed.

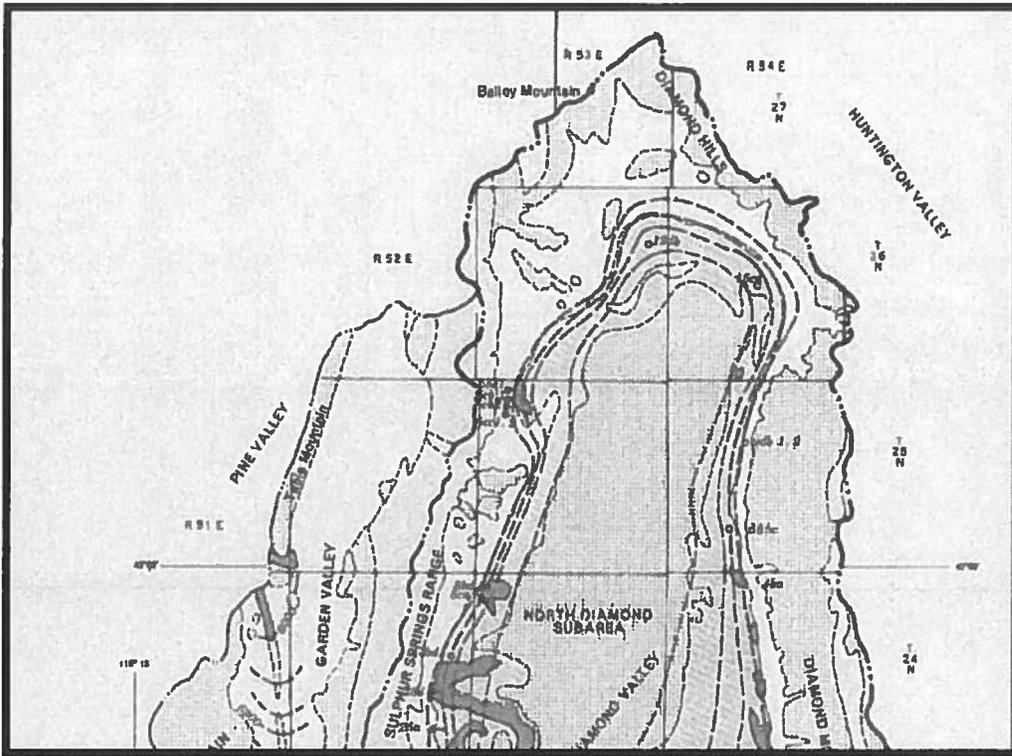
In certain areas of Diamond Valley Spring discharges were allowed to fill reservoirs or ponds that help infiltrate the groundwater system and raise the elevation of groundwater to allow for

consumption of plant types essential for use in the management of a ranch, any excess water would be diverted to surface irrigation structures on adjacent lands. This method of irrigation is documented in the Oral history by Andrew Crofut, *Diamonds in the Dust*. In certain instances the water levels of the ponds/lakes would be elevated by berming the downslope areas. The embankment would be breached to allow flow onto the adjacent properties.

Such is the character of development of ranches in the western United States, land where water occurred naturally was the first settled, the development of wells were unheard of in Nevada during this period of time, also methods to pump water were quite crude and inefficient in developing ranching and farming properties.

Provided below are exhibits that reference the subject vested right filings. The vested right filings correspond with appropriative water rights issued:

- **Spring 1:** V-10845, Permit 37914, Certificate 11390
- **Spring 2:** V-10846, Permit 37915, Certificate 11391
- **Spring 3:** V-10847, V-01882, Permit 37917, 50076 , Certificate 11392 -14026
- **Spring 4:** V-10848, Permit 37918, Certificate 11393
- **Spring 5:** V-10849, Permit 37919, Certificate 11394
- **Spring 6:** V-10850, V-10884, Permit 37920, 37921, Certificates 11890, 11395
- **Spring 7:** V-10851, V-0885, Permit 37922, 37923, Certificates 11891, 11396
- **Spring 8:** V-10852, V-10886, Permit 37925, 50075, Certificate 11397, 12333



Bulletin 35, Plate 2-Map Selected Lithologic Units, Phreatophytes and Water Level Contours for 1950, Diamond Valley Eureka and Elko Counties, Nevada

Illustrated on the plate is the irrigation/phreatophytic discharges on the Renner Property, see T25N, R53E and T26N, R53E.

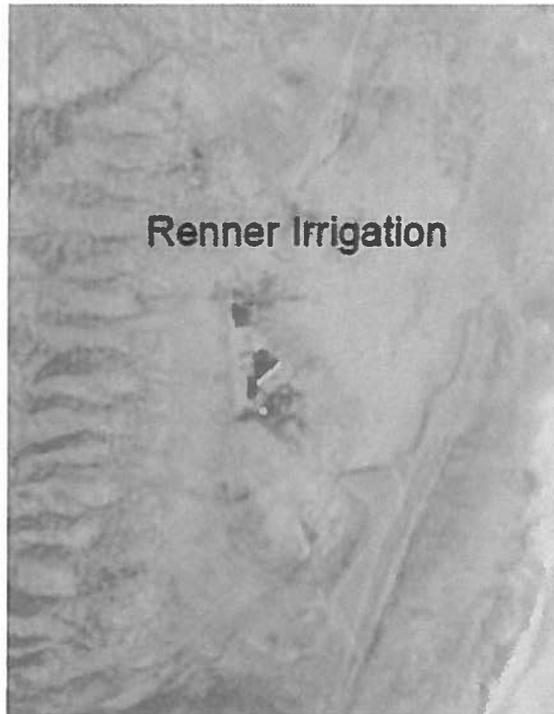
GROUND-WATER DEVELOPMENT

Initial Development

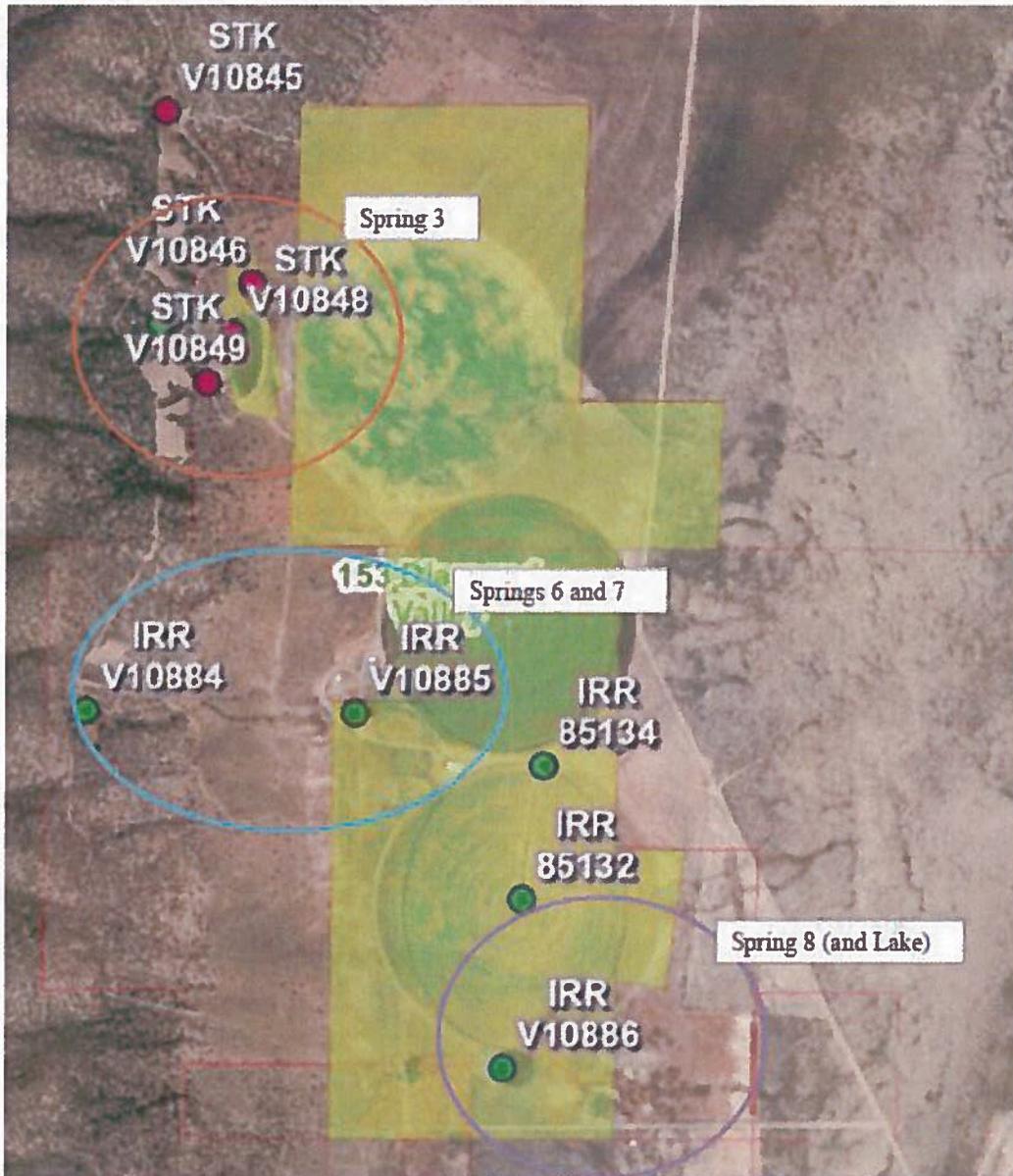
The earliest development in the valley was in the North Diamond subarea where settlers constructed ditches and shallow pits to utilize the discharge of springs. As ranching became established along the east and west sides of the valley, additional improvements were made to utilize all readily available discharge from springs. No attempts were made to develop additional supplies until the 1940's when flowing wells were drilled on the Romano and Flynn Ranches. These wells were successful, and subsequently flowing wells were also drilled on the Siri and Saddler Ranches.



Google Earth Imager 1991 illustrating discharge from Lake Dou Pah Gade



USGS Aerial Imagery June 1954



I. Spring 3: 15.38 ac



A. Quick Description

The Point of Diversion for Spring 3 is within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 31, T.26N., R.53E. While the spring is comingled with other rights to irrigate the ranch, the adjacent and historic place of use is within Lot 4 (SE $\frac{1}{4}$ NE $\frac{1}{4}$), Lot 9 (NE $\frac{1}{4}$ SE $\frac{1}{4}$), Lot 10 (SE $\frac{1}{4}$ SE $\frac{1}{4}$), Section 31, T26N, R53E (all within APN 6-130-05).

B. Water Rights

Proof V10883 is filed to prove vested irrigation use. Also Proof V10847 is for stockwater purposes. Permit 37917, Certificate 11392, is a top filing for stockwater use, and Permit 50076, Certificate 14026 (changed 37916) is the top filing for the irrigation use.

C. Existing Evidence submitted to NDWR

- 1912 Payne: no indication that Payne went this far north, not mentioned in notes
- Attached to Proof
 - August 20, 1887: water claim filed by Robert D. Bailey, page 494
 - “I, Robert Bailey, do hereby locate, claim, and appropriate all the water running, issuing, and flowing, or which may hereafter issue, flow, or run from this certain Spring situated in Section 31, Township 26 N. Range 53

E. I also claim the right to divert or conduct the water from said spring to any accessible point that I may desire by means of ditches, canals, pipes or otherwise in accordance with the Laws of the State of Nevada. I also further claim and locate sufficient land of the Public Domain in and around and above said Spring for the combined use and enjoyment of the same.”

- Possessory Claim: 8/22/1887 Marietta Bailey in Section 32, later issued in Patent 8214
 - Possessory Claim: State of Nevada to Marietta Bailey, 7/7/1891
 - Eureka County Tax Roll, 1891, includes “Tract of Farming Land” in multiple sections, including 80 acres in E1/2 SE1/4 Section 31, T26N, R53E, 40 acres in NW1/4 SE1/4 31, 26N, R53E, 40 ac in SE1/4 NE1/4, Section 31, T26N, R53E
 - Possessory Claim: 8/25/1892 Unrecorded Contract with State No. 6287
 - Eureka County Tax Roll, 1892, Robert Bailey, includes “Tract of Farming Land” in multiple sections, including 80 acres in E1/2 SE1/4 Section 31, T26N, R53E, 40 acres in NW1/4 SE1/4 31, 26N, R53E, 40 ac in SE1/4 NE1/4, Section 31, T26N, R53E
- Aerials: Aerials from the 1950s and 1970s show water use off this spring consistent with claimed acreage
 - NDWR Field Investigation
 - Page 8, flow measured at 0.106 cfs. Sufficient water to irrigate the 15.38 acre claimed.
 - Area below ditches is harvestable
 - Contains and abundance of grasses with sage and rabbit brush mixed in

II. Springs 6 and 7



A. Quick Description

Springs 6 and 7 are two springs that area to the West of the cabin on the Main Ranch in Sections 5 and 6, T.25N., R.53E. The historic place of use is generally within Lot 4 (NW NW) and SW NW Section 5, T.25N., R.53E.

B. Water Rights

➤ Spring 6: 18.26 ac

Proof V10884 is filed for vested irrigation use, Proof V10850 is filed for vested stockwater use, and Permits 37920 and 37921 are top filings to the vested rights. The Point of Diversion is within the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 6, T.25N., R.53E, directly west of the “Main” ranch area.

➤ Spring 7: 13.26 ac

Proof V10885 is filed for vested irrigation use, Proof V10851 is filed for vested stockwater use, and Permits 37922 and 37923 are the related top filings. The point of diversion is within the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 5, T.25N., R.53E

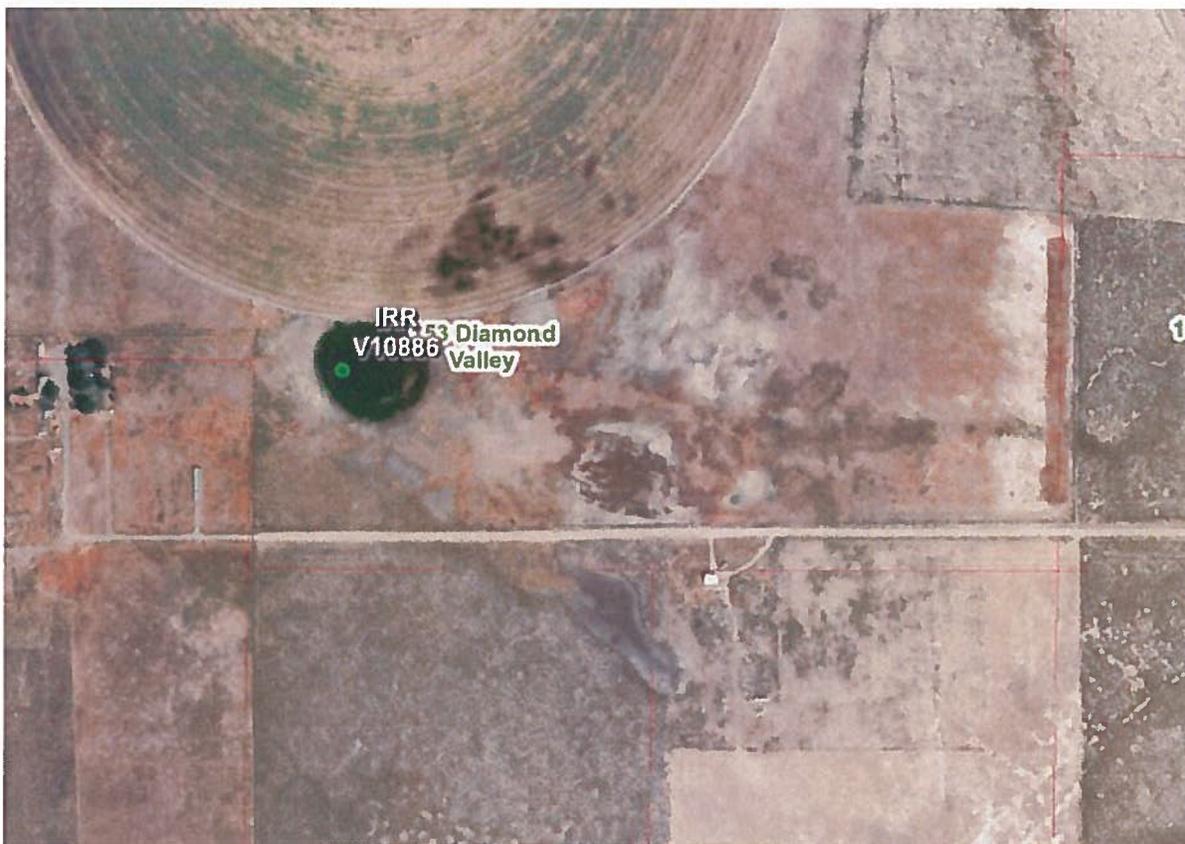
C. Existing Evidence submitted to NDWR

- 1912 Payne: no indication that Payne went this far north, not mentioned in notes
- 1870 GLO Plat: cabin shown at this location
- Possessory Claim: 8/22/1887 contract with Marietta Bailey
- Possessory Claim: 8/25/1892 contract with Marietta Bailey

- Eureka County Tax Roll, 1891, includes “Tract of Farming Land” in multiple sections, including acres in sections 5 and 6 T25N, R53E
- Page 3: Eureka County Tax Roll, 1892, Robert Bailey, includes “Tract of Farming Land” in multiple sections, including acres in sections 5 and 6 T25N, R53E
- Aerials: Aerials from the 1950s and 1970s show water use off these springs

- Field Investigation by NDWR
 - Page 12: “Historical USGS photo dated May 23, 1954 shows much of the claimed acreage in use.”
 - Page 10 “The land claimed as irrigation looks irrigable in the historical imagery but has changed since modern irrigation practices have been implemented.”

III. Scott Ranch/Spring 8/Lake



A. Quick Description

The lake/Spring 8: 102 acres (25 ac of cultivated/tilled land, rest as pasture, meadow or grain)
Point of diversion in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 5, T.25N., R.53E

B. Water Rights

Proofs V02432 and V10886 were filed for the vested irrigation use and Proof V10852 was filed for the vested stockwater use. Top filings include Permit 50075, Certificate 12333, and Permit 37925.

C. Existing Evidence submitted to NDWR

- 1912 Payne: "Seven miles above Siri's is the Scott Ranch which has recently been purchased by Joseph Flynn of Mineral Hill. There is a good spring here, but it is situated so low that water must be pumped from it to the land for irrigation. There is only about 25 acres under cultivation at the present, but Mr. Flynn states that he intends breaking up a great deal more and putting in alfalfa. The right is an old one."

- Eureka County Assessor Tac Roll 1872 to William Scott, 160 acres known as the Guy Ranch. Includes 90 horses, 150 cattle, 50 milk (aka milch) cows, 1 bull, and 11 hogs. Noted as “agriculture and grazing land” and includes 90 head of horses, 150 head of stock cattle, 50 milch cows, 1 bull, 11 head of hogs.
- Eureka County Assessor Tax Roll 1873
- Eureka County Assessor Tax Roll 1874
- Mortgage – John B. Schott to Smith Harris and Hiram Crowell, 7-2-1874, A/139
- Mortgage – J.B. and William Scott to T. I. Reed, 2-1-1876, A/375
- Deed – John B. Scott to R. Sadler and G.W. Bailey, 4-17-1884, 11/136
- Deed – G.W. Baker, R. Sadler, John B. Scott to Robert Bailey, 4-17-1884, 11/136
- Eureka County Assessor Tax Roll 1888, Robert Bailey, 160 acres
 - “All of that certain hay and vegetable ranch....containing one hundred and sixty acres, more or less, and known as and by the name of the J.B. Scott Ranch. This conveyance is intended to cover and convey all the land and premises owned or claimed by me in said Diamond Valley under the name of aforesaid Scott Ranch consisting of hay and tillable land, including about twenty acres already broken up and fenced, as well as all lands which I claim in the vicinity which is not broken up and enclosed.”
- Eureka County Assessor Tax Roll 1891, Robert Bailey, 160 acres
- GLO Plat and notes
 - GLO Plat shows the lake with a surrounding colored area
 - The general description in the GLO notes, pages 147 to 149 (also stamped as pages 200-201) that the only settlement is in the NW1/4 of Section 5, which is situate in a basin of “splendid agricultural land” with a “rank growth of vegetation.” The GLO notes are dated 12/6/1870.
- NDWR Field investigation
 - Page 5: “water from the lake naturally flows out on the northeast side and saturates a small portion of the center pivot in the same 40 acre parcel that the lake resides.”

The State Engineer incorrectly discounted the other irrigation use around the lake because of the referenced in the 1880 deed and the 1912 notes by Mr. Payne that only 20-30 acres had been “broken up.” However, these notes in the deed and Payne’s field notes actually support the acreage claimed in the vested claim. About 30 acres is shown as agricultural land above the spring, which was land that was tilled or “broken up” and used to grow a crop. This land is above the spring and water was raised up to irrigate it. There is, however, additional pasture and meadow land that was irrigated from the spring. The spring was controlled by an earthen dam, which was breached to irrigate the lower fields to be beneficially used for meadow, hay, and pasture. This is clearly evidenced on the 1957 proof map filed for V02432. Meadow and pasture irrigation would not be land that is “broken up” and just because some land was used for a crop does not negate the beneficial use of irrigation of non-crop lands.

Note: This same map also shows some of the vested uses for Springs 6 and 7 to the north, before the changes made through the top filing.

IV. Other (stockwater):

V10845: Spring 1

V10846: Spring 2

V10848: Spring 4

V10849: Spring 5

V10855: Stimpson spring

The State Engineer left off animals that were in the tax records. The stockwater rights should be increased to reflect at least 90 horses, 150 cattle, 50 milk cows, 1 bull, and 11 hogs.

V. Priority

On page 134 of the Preliminary Order, the State Engineer concluded the priority should be 1873 because it was the earliest submitted tax record. "The State Engineer believes that the priority date for irrigation on this ranch to be 1873." The first tax records submitted were from 1873; however, the GLO survey was in 1870 and noted that the land had already been settled. The GLO plat also shows irrigation around the lake, denoted in green area. The priority should be prior to 1870.

VI. Relation Back

The field investigation and preliminary order are flawed in that they discredit the relation back of changed to the vested claims. A property owner has the right to change the place of use of their water rights. Just because the irrigation and use of water under change applications and certificates filed since the original vested uses occurred, does not negate the vested claim. Instead, the changes in use relate back to the original appropriation.

- Groundwater rights added some acreage, as already computed by the state engineer. See 2005 letter, 26 acres added to cultivation from groundwater rights above what is under the surface water rights.
- Certificate took lake water, spread over 270 acres, at a duty of about 1.5 af/ac. Added supplemental rights for the remaining, to make up 4af/ac. What is not surprising, is that at 4 af/ac, which would be the spring water alone, this would be 100 acres at 4 af/ac, or the original vested use.
- So took vested water of 102 acres of irrigation, and spread it out through more efficient means
- Because the first permits were top filings, they and all their changes should relate back to the vested rights. Thus, the vested rights should be confirmed, the permits should be recognized as changes to the vested rights, and the permits should relate back to the same priority as the original appropriation. They are top filings and their changes spread out the water, but did not appropriate new water.

VII. Groundwater use:

The State Engineer noted in the preliminary order that “A transcript of an interview with Joseph Flynn Jr. in 1978 provides a rough timeline of improvements that occurred on the ranch from about 1910 when his father purchased it from Robert Bailey up to when he sold the ranch to George Smiraldo in 1957. It does not appear that the larger acreages were put into production until 1977 when underground water was moved...”

- transcripts are not transcripts at all
- the discussion was about old and illegal well use, not surface water
- groundwater was moved to be supplemental to the surface water, and only expanded the acreage by about 26 acres. (see 2005 letter)
- The low numbers referenced by Flynn help support that the main irrigation in 1954 were from the springs, and not from alternative groundwater sources.

In 2005 the State Engineer, then a deputy state engineer, determined that the groundwater on the Renner ranch was supplemental to surface water rights, except for 26.47 acres. Thus, it was already determined that the permits for groundwater only added 26.47 acres when they were comingled with the surface water rights.

While the larger acreage was put into production later, the acreage was increased under change applications to top filings of the vested claims. The surface water right top filings did not add any new water than was originally appropriated, they only spread that water around and used it more efficiently. All this was done pursuant to statutory change application law and does not negate the amounts of the vested use, instead it only changed them.

GEORGE M. THIEL, P.E., S.W.R.S
Principal Engineer
Thiel Engineering Associates, Inc.

EDUCATION

University of Washington, 1976
Continuing Education Courses after graduation

REGISTRATIONS:

Registered Civil Engineer in Nevada
Certificate Number 6493, 1983
(Current)

Registered Civil Engineer in California
Certificate Number 37645, 1984
(Current)

Registered Civil Engineer in Utah
Certificate Number 274333, 1994
(Current)

Registered Civil Engineer in Arizona
Certificate Number 22825, 1989
(Current)

Registered Civil Engineer in Idaho
License # P-12718
(Pending renewal)

Nevada State Water Rights Surveyor
Certificate Number 696, 1983
(Current)

SUMMARY

Mr. George M. Thiel is a licensed Professional Engineer in the State of Nevada, California, Arizona, Idaho and Utah, registered in Civil Engineering. Mr. Thiel is a graduate of the University of Washington, Seattle, Washington, holding a Baccalaureate Degree in Civil Engineering. He has furthered his professional career by taking master level courses in Air and Water Resources and Solid Waste Management.

Mr. Thiel is also licensed in the State of Nevada as a State Water Rights Surveyor, and has been recognized by the Division of Water Resources as an “expert” in the field of water rights and water resources in technical proceedings and administrative proceedings before the State Engineer as well as the First, Second and Fifth District Courts and Federal Courts in these matters.

Mr. Thiel gained a significant amount of his experience through employment with the Nevada Division of Environmental Protection, Washoe County District Health Department, and the Nevada Division of Water Resources. After spending a substantial amount of his career with these agencies, he left to seek a career in the engineering consulting field. Since he started consulting, he has been involved in a multiplicity of projects throughout the state of Nevada, California, Arizona, Idaho and Utah.

Mr. Thiel has functioned as a Civil Engineer involved in a multitude of Residential Development projects from Planning through Construction in Nevada and Utah. He was the former Principal Engineer for TEC Engineering, Reno, Nevada prior to selling his company to Associates within the firm. He now does private consulting work on Development and Water Projects in the Western States where he is licensed. His most recent endeavor involved working on the developers behalf overseeing the development of water infrastructure and roads involving Design Review, Implementation and Coordination of a Multi-Million dollar construction project in support of Apple’s Cloud Technology Center located outside of Reno, Nevada.

Mr. Thiel has lived in Nevada for over sixty years and offers an excellent ability to fulfill the needs of a client in gaining the expeditious and cost effective completion of a project due to his familiarity of the state.

Mr. Thiel has been involved in consulting for the past 30 years with 7 years working for various County and State agencies.

Career History

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION-Air Quality Division

Mr. Thiel through his experience with NDEP, developed Air Quality Models for the department in conformation with the Air Quality Act mandated through Congress for identification and prevention of Air Quality Deterioration in the State of Nevada. His area of

responsibility included evaluating ambient air quality standards and to prepare dispersion models for attainment of air quality standards throughout the State of Nevada. Experience with the Division included assignment to the Tahoe Regional Planning Agency with regard to impact to the air quality associated with various pollutants. Representing the State of Nevada Mr. Thiel's analysis of traffic improvements, and other mitigating factors led to appeals by the State of California. The State of Nevada prevailed on the dispute between the two states and based upon this certain infrastructure was allowed to proceed to construction.

WASHOE COUNTY DISTRICT HEALTH DEPARTMENT (Reno, NV):

Mr. Thiel was employed by Washoe County as a Public Health Engineer. His responsibilities include the review of improvement drawings, water and wastewater treatment facilities and field review of construction associated with these subdivisions throughout Washoe County. Issues associated with PCB contamination of the Truckee River and remediation efforts as well as pollutant discharges to surface water sources was associated with his involvement with the Department. Operations of Water Systems and Wastewater Systems, including operations was part of his responsibility.

NEVADA DIVISION OF WATER RESOURCES (Carson City, NV):

Mr. Thiel, through his work experience with the State of Nevada, has gained considerable knowledge in the area of water rights. Mr. Thiel's job responsibilities included working with all three sections of the Nevada Division of Water Resources: office, groundwater, and surface water engineering branches.

He has worked extensively with the Carson and Truckee River Decrees and their tributaries. Part of his job duties included deed and title research to complete the chain of title on various water right assignments.

Mr. Thiel has been deemed an expert in various court cases involving the State Engineer's Office, District and Federal Courts. He has interacted closely with the State Engineer in preparing exhibits for hearings and has provided technical input in those hearings. He prepared rulings, denied applications, and conducted field investigations on behalf of the State Engineer. Significant detail was required in every instance as the potential for litigation was always considered a probability.

Qualifications

Expert testimony in Judicial Courts, Federal Courts and administrative proceedings before the State Engineer also qualify Mr. Thiel as an expert in the fields of Air Quality, Water Rights, and Water Resources and administrative actions with the office of the State Engineer. Mr. Thiel has also been involved in litigation regarding construction design deficiencies due to his experience involving subdivision planning, design and construction of development infrastructure.

Consulting Experience

Mr. Thiel started work in the consultant field by working for Consulting Engineering Services (CES) in Reno, Nevada, with responsibilities to oversee design and construction of infrastructure improvements in Nevada as the Senior Engineer for a branch office of the firm. His duties included project planning, design activities and field observation to determine construction compliance with the plans and drawings prepared by subordinate staff.

Mr. Thiel has been involved with various other consultant firms of which he was the Principal Engineer. He founded Thiel Winchell and Associates and TEC Engineering, located in Reno, Nevada. As the Principal Engineer Mr. Thiel gained additional work experience in the planning, design and construction of public works and private development infrastructure in Nevada, Arizona, California and Utah. During his career with TEC Engineer he ran two offices, Nevada and California and administered engineering services with approximately 70 employees at its peak. Through this experience Mr. Thiel has gained a vast amount of knowledge in the Consulting Field within the following areas of expertise.

DEVELOPMENT/MASTER PLANNING:

Multiple project planning, design, and Construction Compliance:

- Water Systems
- Waste Water Systems
- Water Development
- Waste Water Treatment Plant Design
- Subdivision Design
- Project Management
- Surface Hydrology

WATER RESOURCES:

Qualified as an expert in the following disciplines:

- Water Resources
- Water Rights
- Administrative Procedures – Water Rights-deeds etc.,
- Surface hydrology

AIR QUALITY:

- Dispersion Modeling
- Testimony on behalf of the US Fish and Wildlife Service
- Construction related issues with regard to Suspended Particulate discharges (Dust)
- Stack Sampling

Areas of past Qualification

- Administrative Proceedings-Office of the State Engineer, State of Nevada
- Various District Courts-State of Nevada

- US District Court
- Environmental Commission

Recent appearances where qualification as an expert has been recognized, in depositions and in actual proceedings:

- US Fish and Wildlife Service-Administrative Proceedings protested by TCID United States Department of Energy-numeric modeling of 26 hydrographic regions, support in expert testimony on administrative proceedings on the Yucca Mountain Project for the Nuclear Waste Repository in conjunction with the United States Geological Survey
- Bridal Path Subdivision-Expert Engineering Services with regard to forensic engineering on subdivision design issues, water system design, trails etc., Homeowners vs Land Developer, represented insurance company associated with the land developer-deposition
- Heise Ranch v STPUD-condemnation of property by a utility. Area of Qualification was with regard to water rights and administrative proceedings-hydrology etc.-9th circuit court.
- Tahoe Regional Industrial Center v Pyramid Lake Paiute Tribe/Churchill County-modeling analysis on conveyance of water and the impact on downstream users-administrative proceedings with the State Engineer, appeal settled by all claimants in 2013.
- Wade Development/Lyon County-hearing before the State Engineer on protested applications by the Pyramid Lake Paiute Tribe and Churchill County-qualified as an expert in administrative proceedings before the State Engineer in hydrology, geo-hydrology, administrative proceedings etc., appeal pending to the Nevada Supreme Court
- Mott Creek Adjudication-Douglas County District Court-Water Rights, water resources, Title resolution etc.,
- NDOT Condemnation of certain properties held by Washoe Ranch Properties. Counter claims with NDOT by WRP resulted in Arbitration and Mediation. 2012
- Hearing before the State Engineer on Vested Right appropriations by Daniel Venturacci, protested by Eureka County. Week long hearing, in review by the office of the State Engineer. 2013
- Albemarle V Jason King, State Engineer-5th Judicial Court, Esmeralda County-Hearing concerned the plugging of wells in Clayton Valley Nevada-2017/18
- DLG V Rainbow Trust, Mark Simoncini, Case #16-CV-01001, Third Judicial Court of the State of Nevada, Lyon County-Case concerning the establishment of water rights title via appurtenancy and successor in interest review of Development Agreement-2017
- Kobeh Valley Ranches, AKA Mt Hope Moly-Diamond/Kobeh Valleys-Eureka County, Rebuttal ReportAdministrative action by the office of the State Engineer, protested water rights-testimony at the administrative hearing-2018
- Others provided upon request
- **Published**-Numeric Modeling for the Armargosa Valley region deep carbonate system underflow and basin infill waters for the US Department of Energy Yucca Mountain Project, as well as the groundwater basin system analysis and

appropriations related thereto-Co-authored with Aigou XU, PHD and Greg Bilyeu,
Water Rights Specialist with TEC Engineering (2000)

Compensation:

Time and Materials:

- Hourly rate is \$150.00/hour-Engineering Consulting
- Hourly rate is \$300.00/hour for court proceedings, hearings, and depositions

All costs are passed through on an expense basis and are billed for reimbursement