NEVADA DIVISION OF WATER RESOURCES

ADJUDICATION SECTION

FIELD INVESTIGATION REPORT

DIAMOND VALLEY (BASIN 153) ADJUDICATION

SIMPSON CREEK & FOUR EYED NICK SPRING AREAS,
EUREKA COUNTY, NV

IRRIGATION CLAIMS OF VESTED RIGHT:

V-01084, V-01085, V-01086, V-01089, V-01133; V-02893,
V-03657; & R-04239 filed under

INVESTIGATED: APRIL & MAY 2017

INVESTIGATED & PREPARED BY:

Tony Eng

4/18/2018

Tony Eng – Water Resource Specialist Date

INTRODUCTION

Location and Setting/Terrain – The Simpson Creek area is located approximately 3 miles northeast of the town of Eureka, in north-central Nevada (Figure 1). The area is characterized by low to moderate relief, with low hills in the southeast portion of Diamond Valley, hydrographic basin 10-153. Simpson Creek is one of the largest perennial stream in the basin. In the area of interest (AOI), it drains northwesterly with a 2-3% grade, at elevations ranging from about 6,600 ft to 6,200 ft over a distance and claimed POU of approximately 3 miles. The area is situated between Richmond Mountain (El. 8,382 ft) about 2 miles to the southwest, which is composed primarily of Tertiary mafic volcanic rocks, and the foothills and southern end of the Diamond Mountains to the northeast, which are composed of pre-Tertiary sedimentary rocks, including limestone. The claimed POUs are composed of good quality soils developed generally on top of younger gravels and minor alluvium. The stream is fed by melting snows and springs, mainly draining from the northerly flanks of Richmond Mountain, and to a lesser degree the lower relief portion of the Diamond Mountains. Since the POU and springs are located several hundred feet or more in elevation above the valley floor and within the lower portion of the mountain block, the water sources are not deemed to be affected by the intense pumpage of underground water in Diamond Valley. The center of the Diamond Valley pumpage occurs about 12 miles to the NNW of the AOI, at an average elevation of about 5,900 ft. The approximate 3 mile long, claimed irrigated POU in the AOI is narrow, and generally confined to the main stream channel and subparallel ditches either side of the channel, and on average the POU is generally less than 50 to 100 yards wide along the cultivated stretch.

Brief History of Area – The main ranch on Simpson Creek currently owned by the Baumanns, was formerly known as "Hunter's Ranch", and prior to that "Shannon's Station". The latter name is referenced and used in a boundary description for adjacent White Pine County when it was created in 1869. Therefore, human occupation and settlement of this main ranch precedes 1869 by some years. Also, prior to that date and before the town of Eureka began its boom due to mining, a toll road along part of the creek was a main west to east access across this southern portion of the Diamond Mountains, and was part of a stage line

and road from Austin to Hamilton, Nevada. A published map (Hague, 1883) suggests that much of the area was already settled and at least partially developed for irrigation before 1883, and the GLO map dated 1906 shows much of the claimed POU to be fenced with a few ditches labeled and several named ranches. Tax records from 1869 (Lander County at the time) for J.T. Hunter lists 320 acres of farming land (formerly known as the Trefren Ranch), with improvements of a stockade, barn, houses and fencing, 8 horses, 20 hogs, 24 cattle and mention of the toll road. The farms along Simpson Creek were undoubtedly important suppling alfalfa for cattle, and vegetables and fruit for the miners and residents of nearby Eureka, especially during the boom years of the 1870's when the population due to mining peaked.

Field Work & Weather - During the spring and freshet of 2017, the writer spent approximately 5 days field investigating the area from April 4-6, and May 18-20. Repeat flow measurements were taken at several locations on Simpson Creek and the Four-Eyed Nick springs area during this period, as well as examination and measurements of many nearby springs with associated claims filed for stockwatering purposes. The fieldwork followed a near record year and winter for precipitation in the Diamond Mountains, although snowpack elevation levels were relatively high during the winter period, and for several prior years (2015-16) the Diamond Valley area was classified as being under severe drought conditions. Preceding and during both visits in 2017, late spring snow storms deposited several inches to half a foot of snow within the immediate AOI, and up to a foot or more of snow in the higher elevations of the Diamond Mountains and Richmond Mountain. Therefore, stream flows may have been somewhat higher than would be "normal" for this time of year. Fairly mild, sunny weather followed these snow storms that led to rapid snow melt during the course of the field work.

The report outline is as follows: 1) summary of the proof filings; 2) flow measurements from the claimed sources; 3) field observation of the Points of Diversion (PODs), ditches, crop/culture, etc. in the claimed Places of Use (POUs); and 4) a series of photos documenting the above #3). The summary of the proofs is presented in numeric order, but the field observations, PODs/POUs and photographs are arranged from the headwaters of Simpson

Creek to the downstream areas, beginning with the largest claim V-01133 in the upper portion of the stream. Discussion of Old Bennett Spring (V-01089) and the Four-Eyed Nick area (V-03657, V-02893) follow the claims on Simpson Creek. Figure 2 is a reference topographic map illustrating the PODs, POUs and flow measurement sites discussed in the report.

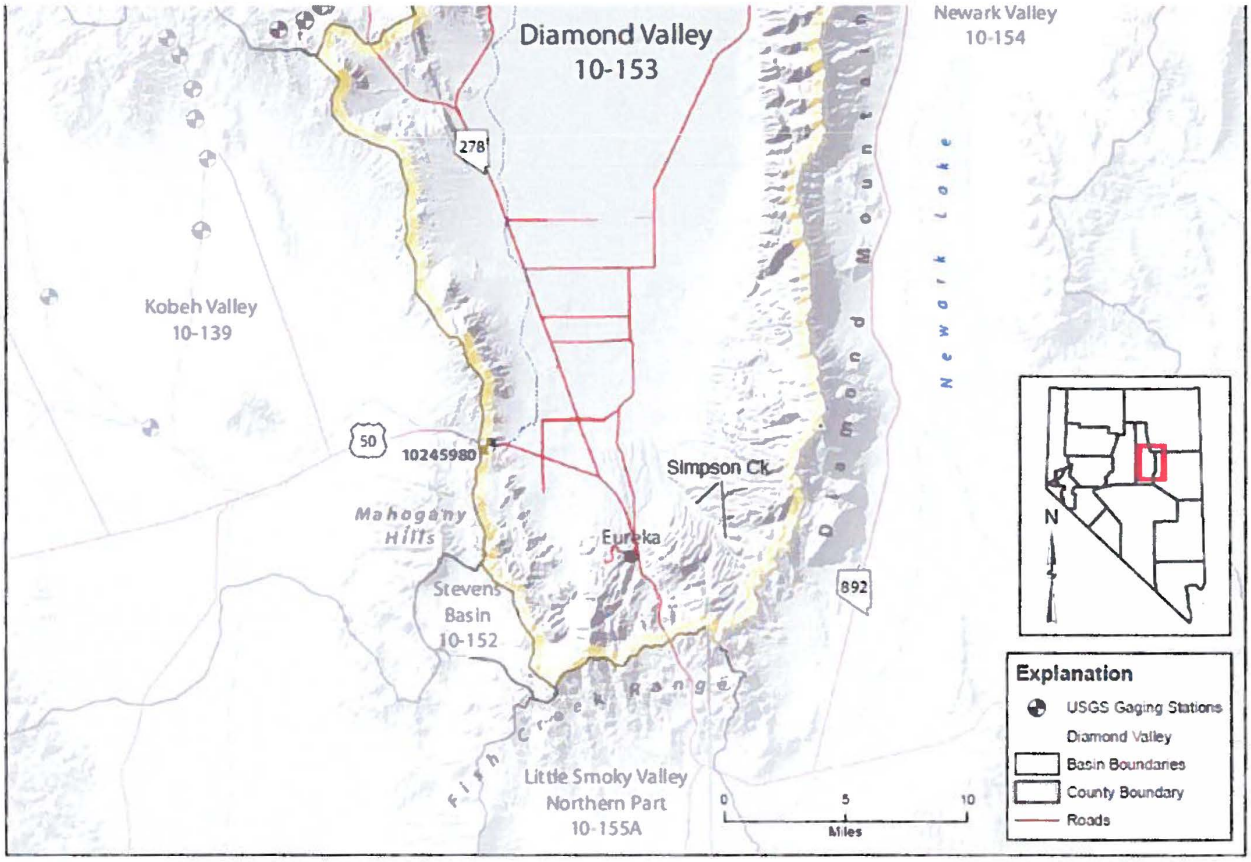

Figure 1 – Map showing location of Simpson Creek (3 miles NE of Eureka) and southern Diamond Valley

SUMMARY OF CLAIMS

Proof of Appropriation V-01084 was filed by John Venturino on April 10, 1912, to divert water from Simpson Creek (Point of Diversion (POD) within the SW¼SW¼ Section 5, T.19N., R.54E., M.D.B. & M.) via ditches to irrigate 38.81 acres of alfalfa, hay, grain, fruits and vegetables from March 1 through October 31 with a priority date of 1877. Stock water and

domestic use is also claimed. The current owner of record for this claim is Mary Bell Fiorenzi and Pernicea Johnson. Irrigation Claims V-01085 owned by James E. and Vera L. Baumann and V-01086 owned by Nathan and Pernicea Johnson also utilizes the same POD.

Proof of Appropriation V-01085 was filed by Pete Edera on April 10, 1912, claiming diversion of water from Simpson Creek (POD within the SW¼SW¼ Section 5, T.19N., R.54E., M.D.B. & M.) via ditches to irrigate 35.99 acres of alfalfa, hay, grain, fruits and vegetables from March 1 to November 1, and a priority date of 1877. Stock water and domestic use is also claimed. The current owner of record for this claim is James E. and Vera L. Baumann. Irrigation Claims V-01084 owned by Mary Bell Fiorenzi and Pernicea Johnson and V-01086 owned by Nathan and Pernicea Johnson also utilizes the same POD.

The POD and POU of this Poof was changed by Permit 6225, Certificate 1951, which moved the POD and POU about 3 miles upstream to the southeast, placing them in the SE¼ Section 16 and just above the POD and POU of V-01133 on Simpson Creek. The certificate was issued in 1933 for 53.5 acres of irrigation, 37.0 acres of which includes and is supplemental to V-01133.

Proof of Appropriation V-01086 was filed by Antonio Tognoni on April 10, 1912, claiming diversion of water from Simpson Creek (POD within the SW¼SW¼ Section 5, T.19N., R.54E., M.D.B. & M.) via ditches to irrigate 44.79 acres of alfalfa, hay, grain, fruits and vegetables from March 1 through October 31, and a priority date of 1877. Stock water and domestic use is also claimed. The current owner of record for this claim is Nathan and Pernicea Johnson. Irrigation Claims V-01084 owned by Mary Bell Fiorenzi and Pernicea Johnson and V-01085 owned by James E. and Vera L. Baumann also utilizes the same POD.

Supporting maps for the three above proofs were all surveyed on 2/20/1912 by Geo. S. Nickerson of Sacramento, CA, and filed in the SEO in the spring of the same year.

Proof of Appropriation V-01089 was filed by Angelo Depaoli on May 4, 1912, claiming diversion of water from Old Bennett Spring (POD within the NE¼NW¼ Section 16, T.19N., R.54E., M.D.B. & M.) via ditches to irrigate 1.1 acres of potatoes and garden truck from April 1

to October 1, and a priority date of 1900. Stock water use is also claimed. The current owner of record for this claim is James E. and Vera L. Baumann. A supporting map was surveyed on 4/9/1912 by Geo. S. Nickerson, and filed in the SEO on 5/4/1912. The claimed POU is entirely enclosed by that of V-01133. It should be noted that the actual source of water is located approximately 1½ miles ESE of the as claimed location, and not at the junction of Newark Canyon with Simpson Creek as filed.

Claim of Public Water Reserve R-04239 was filed on February 7, 1985, by the BLM to divert 0.00173 cfs of water from Bennet Spring (POD within the SW¼NE¼ Section 15, T.19N., R.54E., M.D.B. & M.) to water 40 cattle and 100 deer for livestock and wildlife purposes from January 1 through December 31. This claim was amended on July 12, 2016, by the BLM to change the POD to the SE¼NE¼ Section 15, to increase the diversion rate to 0.01337 cfs, and added human consumption and domestic purposes. In the Remarks section, recreational activities (hiking, horseback riding and camping) were specified, and the source was said to be undeveloped. The source is in the same general area as V-01089, Old Bennett Spring.

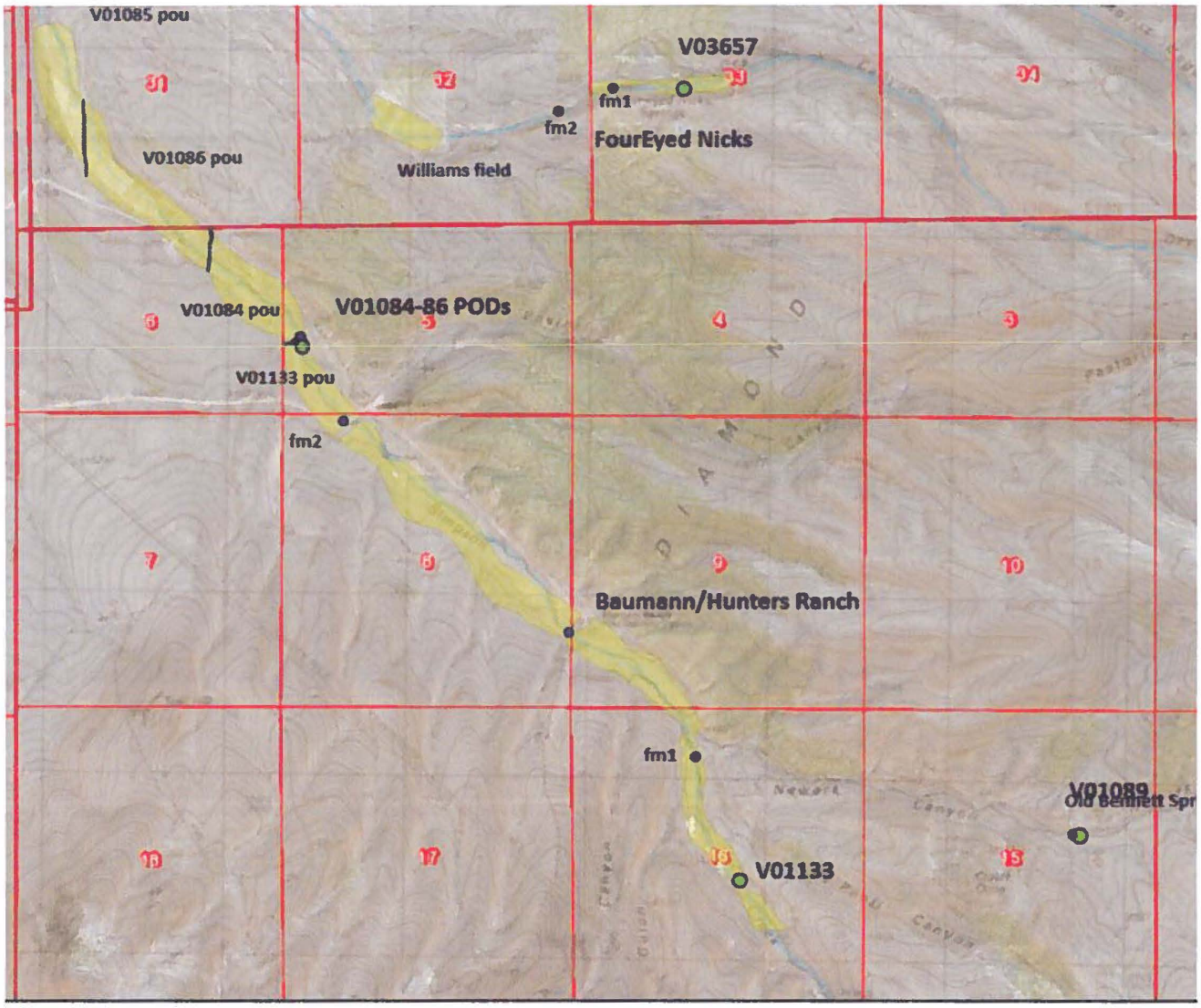

Figure 2 – Topographic map of the Simpson Creek area showing approximate locations of claimed PODs, POUs and flow measurement sites ("fm"); most of area lies in T19N, R54E; the Four-Eyed Nick's area is in T20N; contour interval is 20 ft.

Proof of Appropriation V-01133 was filed by Angelo Depaoli on September 9, 1912, claiming diversion of water from Simpson Creek (POD within the NW¼SE¼ Section 16, T.19N., R.54E., M.D.B. & M.) via ditches to irrigate 133½ acres of alfalfa, timothy grass, grain, vegetables and fruit from April 1 through October 1, with priority dates of 1865 and 1900. An amended proof was filed by James E. and Vera L. Baumann on September 11, 2008, which stated a diversion

rate of 3 cfs, changed the crops to native hay, changed the period of use to January 1 to December 31, and amended the priority date to 1865 inclusive. The current owner of record for this claim is James E. and Vera L. Baumann. A supporting map was surveyed from 8/4-5/1912 by Geo. S. Nickerson, and filed in the SEO on 9/9/1912.

Permit 889 was filed on 3/31/1908 by Angelio Depoali on four spring sources in the upper portion of Simpson Creek, above and generally southeast of the POD for V-01133. However, the described proposed POU was essentially the same as that for V-01133; the permit was subsequently cancelled on 9/28/1910.

Proof of Appropriation V-02893 was filed by United Dressed Beef, Inc. on August 26, 1976, claiming diversion of water from Four Eyed Nicks Springs (PODs within NW¼SW¼, NE¼SW¼, and SW¼NW¼ Section 33, T.20N., R.54E., M.D.B. & M.) via pools and natural channel to water 200 cattle and 1000 sheep from January 1 through December 31, and a priority date of 1886. There is no map filed in the State Engineer's Office in support of this claim, and the current owner of record is United Dressed Beef, Inc. Irrigation Claim V-03657 filed by James E. and Vera L. Baumann also utilizes these sources as PODs and states that stock water is a secondary use.

Proof of Appropriation V-03657 was filed by James and Vera Baumann on March 18, 1981, claiming 0.25 cfs diversion of water from Four-Eyed Nick's Springs (POD within the NW¼SW¼ Section 33, T.20N., R.54E., M.D.B. & M.), via Four-Eyed Nick's Ditch to irrigate 20 acres of alfalfa and meadow hay from January 1 through December 31, and a priority date of prior to March 1, 1905. Stock water was stated as a secondary use. An amended proof was filed on May 27, 2016 by the Claimants which refined the POD to a spring complex (PODs within the SW¼NE¼, SES¼NW¼, SW¼NW¼ and NE¼SW¼ of Section 33), stated a diversion rate of 0.2 to 0.3 cfs, changed the irrigated crops to alfalfa, meadow and diversified pasture, enlarged the irrigated acreage to 27.95 acres, amended the priority dates to 1893 and 1900, and added domestic use. The means of diversion was originally claimed as a ditch, but was changed to a pipeline, with natural channel, pools and troughs for stockwatering. The ditch was said to be 1 ft by 2 ft by 2 ft deep, 5,480 ft long at a grade of 80 ft per 1000 ft. The 6 inch PVC pipeline was

installed in the mid-1980's for a length of 5,480 ft. The irrigation season was changed to April 1 to September 30, with an average of one and maximum of two cuttings per year. A supporting map was surveyed between 10/20-27/2011 by Robert E. Morley of Elko, NV, and filed in the SEO on 9/15/2016. The current owner of record for this claim is James E. and Vera L. Baumann. Stock water Claim V-02893 filed by United Dressed Beef, Inc. appears to utilize many of the same sources as PODs.

Two additional water right permits were filed on Four Eyed Nick's Springs, both of which are cancelled. Application 4969 was filed on 3/18/1918 for mining and domestic purposes by the Eureka-Holly Mining Company for 0.5 cfs; it was permitted on 6/28/1918 and cancelled on 10/6/1922. The permittee planned to construct an approximate 5-mile long, 4 inch pipeline from the springs in the NW¼ SW¼ Section 33, to the Company's Holly mine in the main Eureka district. Under Item 7 the following statement was made: "This application is not to interfere with any existing rights to the waters from this source". Application 6880 was filed on 4/18/1923 for 2.4 cfs and 240 acres of irrigation by M.F. Williams; it was permitted on 10/11/1923 and cancelled on 4/9/1930. According to several proofs filed prior to cancellation, work consisted of 3 miles of ditches, with 50 acres of land cleared and irrigated since 1922 or 1921. Mr. Williams purchased the property and ranch from the Holly Mining Company in 1921, and stated that the water had not been used since 1913.

FLOW MEASUREMENTS

Simpson Creek – Four flow measurement sites were established in the creek area in 2017, one of which is in the general area of historic readings by the USGS. The data is summarized in Table 1. The measurements can be grouped into three areas as follows: upper, middle and lower creek, together with one larger tributary spring. The site(s) on the upper creek, generally in the NE¼ NW¼ Section 16 have the best record with six measurements by the USGS from 1965-1966. These range from 0.27 to 0.47 cfs, were taken mainly during the late springtime and early fall, and average 0.37 cfs. On the basis of these measurements, Simpson Creek average annual streamflow was estimated at 267 AFA, and has the second highest streamflow of the dozen or so streams measured in Diamond Valley, the largest being Cottonwood Creek at approximately 435

AFA, located about 7 miles to the north of the Bauman Ranch (Lamke, Table 4 *in* Harrill, 1968, DWR Bull. 35). The two recent measurements taken in April and May 2017 from the same general area as the 1965-1966 USGS site ranged from 0.33-0.63 cfs. The higher reading may be elevated due to the wet winter and recent melting snow, while the reading from 5/19/2017 of 0.33 cfs is similar to the average of the USGS readings. This site is a fairly easy set-up for monitoring, with a weir at a culvert above the Bauman Ranch and near the Newark Canyon road (Photo 1a).

A larger tributary spring, here named Hunter Ranch spring, was measured at 52 gpm on 4/5/2017, and discharges directly above the northeast bank of the creek just below the main Baumann ranch buildings. The flow from the spring appears nearly as large as that from the spring complexes near the creek's headwaters, a mile or more to the southeast of the ranch, yet the spring is not mapped on any topographic or other maps. It is undoubtedly one of the reasons the ranch was established at its current location. The Baumanns report there are two hand dug wells for domestic use immediately southeast of the ranch house and above the spring which are no longer in use. Their domestic water is now provided by several spring boxes within the upper meadow POU and above the 2017 weir site. A brief inspection of the two larger upper tributary spring complexes indicate the larger one located near the SE corner of Section 16 was flowing in the range of 50-75 gpm on 5/19/2017. The other main tributary spring complex in the NW¼ NW¼ Section 8, is more dispersed and flows a comparable amount from all sources.

Table 1 – Summary of Flow Measurement data, Simpson Creek and Four-Eyed Nick areas

Proof No	Towns	Range	Sect	QQ	Water Source	Field Site Name	Date	Time	Flow Rate	Method	Rating	Water/Air°F	Claimant	Remarks
V01133	19N	54E	16	NWSE									Baumann	
			16	NENW	upper Simpson Creek	V01133.1fm	5/19/2017	4:20	0.33 cfs	90° weir	good	57°/53°		at upper culvert
							4/4/2017	3:00	0.63 cfs	90° weir	fair	55°/50°		
					upper Simpson Creek	USGS site 19/54-16ba	10/20/1966		0.37 cfs	pygmy?	N/A			from Harrill, 1968, Bull. 35, Map #10
							6/27/1966		0.27 cfs	pygmy?	N/A			
							5/17/1966		0.34 cfs	pygmy?	N/A			
							3/31/1966		0.39 cfs	pygmy?	N/A			
							9/21/1965		0.37 cfs	pygmy?	N/A			
							5/13/1965		0.47 cfs	pygmy?	N/A			
					upper Simpson Creek	at head of field/POU	10/25/1912		0.25 cfs	visual	N/A			by H.M.Payne, SEO; likely several 100 yds upstream
			8	NESE	Hunters Ranch spring	Hunters Ranch spring	4/5/2017	5:30	52 gpm	90° weir	excellent	40°/50's		tributary to middle Simpson Ck
			8	NWNW	middle Simpson Creek	V01133.2fm	5/19/2017	2:15	1.30 cfs	pygmy	excellent	63°/same		higher due to melting snow
							4/5/2017	3:15	0.97 cfs	pygmy	excellent	62°/same		
V01084-86	19N	54E	5	SWSW	lower Simpson Ck								Fiorenzi/Johnson/Baumann	
				NW5W	lower Simpson Ck	V01084fm, lower Simp.Ck	4/5/2017	1:00	1.28 cfs	pygmy	fair	60°/62°		same POD for V01085, V01086
				NWSW	lower Simpson Ck	V01084fm2, lower Simp.Ck	5/19/2017	12:00	0.67 cfs	direct	poor	51°/50's		culvert 215 yds below pygmy site
V01089	19N	54E	15	SWNE	Old Bennett Spring	V01089fm	5/19/2017	5:45	15 gpm	direct	excellent	47°/50's	Baumann	POD in Newark Cyn, POU Bauman Ranch
							4/4/2017	5:00	15 gpm	direct	excellent	47°/50's		tributary to Simpson Ck
V03657	20N	54E	33	NESW	Four-Eyed Nicks sprs								Baumann	
				NWSW	Four-Eyed Nicks sprs	upper spring brook	4/6/2017	11:15	24 gpm	direct	good	47°/50's		
V02893	20N	54E	33	NWSW	Four-Eyed Nicks sprs	main karst spring	4/6/2017	10:15	64 gpm	indirect	good	50°/50's	United Dress	3 PODs listed
							pre-1978		75gpm	(N/A)	N/A	52°		from Mifflin & Hess, 1978; 52°F USGS, 8/7/2008
			32	NESE	Four-Eyed spring brook	V03657fm2	5/20/2017	12:30	112 gpm	direct	good	60°/65°	Baumann	discharge pipe; co-mingled water, all sources
				NESE		V03657fm1	4/6/2017	2:30	88 gpm	90° weir	good	52°/63°		co-mingled water, all sources

A pygmy site ("V01133.2fm") directly below the main road and creek crossing near the NW corner of Section 8 (Photo 3a), gave readings of 0.97 cfs on 4/5/2017 and 1.30 cfs on 5/19/2017. This is an excellent site for monitoring purposes. Two measurements about ¼ mile below the pygmy site, and just below the claimed POD location for V-01084-86, ranged from 0.67-1.28 cfs. Collectively the Simpson Creek measurements indicate that the creek is a gaining stream throughout much of its upper reach. Below the area of the road crossing and POD for V-01084-86, or the lower approximate 1½ miles of the claimed POU, it is a losing stream. According to Mr. Baumann, the creek generally flows year-round but flows are generally minimal during the late summer. Mr. Fiorenzi stated that the creek flowed 110-130 gpm (0.25-0.29 cfs) during much of the summer of 2017 in the POU area of V-01084, above his small reservoir and lift pump. These flow amounts are consistent with H.M. Payne's statement from 1912 that once snow water subsides in the spring, normal flow to the irrigated claimed acreage is about 0.25 cfs. Therefore, the creek flows are barely adequate to irrigate the claimed POU when the waters are used judiciously and conservatively.

Old Bennett Spring flow measurement – see V-01089 in Section below

Four Eyed Nick's Springs flow measurements – see V-03657 in Section below

FIELD OBSERVATIONS & FINDINGS

V-01133 (Baumann, upper and middle creek) – H.M. Payne noted there were probably 140 acres irrigated in a narrow piece when he inspected the POU on October 25, 1912, consisting of alfalfa, with a little garden and orchard. He described four small reservoirs, the two largest being 6 ft deep by 75 ft by 125 ft. On the basis of his inspection together with the filed proof and map, pre-statutory certificate number 148 was issued on 3/21/1931 for irrigation of 65.0 acres of alfalfa between April 1 and October 1, with a priority of 1865 and number one on the stream. Certificate number 152 was also granted for 68.5 acres in the same POU legal description for alfalfa, grain and garden, with a priority of 1900 and number 3 on the stream; other uses were stockwatering and domestic.

Examination of the POU in 2017 showed that the entire claimed POU was well irrigated with pasture grasses, with only a few minor areas of sagebrush, willows or other non-crop vegetation. The POU below Newark Canyon is especially well maintained (Photo 1b), with main ditches on either side of the natural stream channel, and numerous U- or V-shaped secondary ditches within the wider portions of the claimed POU. Cows and some horses were observed grazing and watering in the POU (Photos 2a-b). Minor portions of the upper POU around Newark Canyon and the upper weir measurement site, have a bit more sagebrush and small local areas approaching diversified pasture in terms of crop culture. Minor adjustments to the claimed irrigated acreage using GIS analysis and topography, may result in a reduction of 5% or so the claimed acreage, since the 1912 proof map is rather generalized and is not tied to surveyed corners.

V-01084 (Fiorenzi/Johnson, lower creek) – H.M. Payne described about 35 acres being irrigated in 1912, principally alfalfa by a larger reservoir in the center of the field with

dimensions of 3 ft deep by 20 ft by 40 ft., and another slightly smaller reservoir fed by a very small spring. On the basis of his inspection together with the filed proof and map, pre-statutory certificate number 151 was issued on 3/21/1913 for irrigation of 38.81 acres of alfalfa and small garden, with a priority of 1877 and number two on the stream; period of use and other uses were the same as for certificate number 152 (V-01133).

When examined in 2017, the upper-most portion of the claimed POU consisted of less maintained pasture, largely subirrigated by the stream channel and better-irrigated land upstream to the southeast across the property boundary fence. At the location of the claimed POD, the creek is quite incised and has mostly down-cut below the elevation of the bounding two former claimed ditches. Willows were cleared a year or so before and stacked in several areas, and portions of the south side had considerable sagebrush in the area of the claimed POU. Upon re-examination in May, about 15 acres in the upper portion of the POU were recently cleared and disked revealing dark, organic-rich soils (Photo 3b). A 60 HP lift pump is located below a smaller vegetated reservoir near the middle of the claimed POU. According to Mr. Fiorenzi, the pump is rated at 350 gpm and pumps to 8" and 6" pipelines for about ¾ mile, to four sprinkler guns which pump at about 70 gpm, and irrigate mostly pasture grasses in the lower V-01084 POU and also most of the V-01086 POU immediately below. It is apparent that in more modern times, this has been the main method of irrigation rather than by the original ditches and flood irrigation.

V-01086 (Johnson, lower creek) – H.M. Payne mentions about 55 acres being irrigated in 1912, principally alfalfa. An old reservoir near the house was abandoned 11 years prior to his visit due to porous, gravelly soil which resulted in water losses. Pre-statutory certificate number 150 was issued on 3/21/1913 for the irrigation of 44.79 acres of alfalfa and small garden, with a priority of 1877 and number two on the stream; period of use and other uses were the same as for certificate number 152 (V-01133). In 2017 most of the claimed POU was well irrigated by the pipeline and sprinkler guns described above (Photos 4a-b), as well as by the natural stream channel and several ditches. Reportedly, 25-30 acres of alfalfa was planted 3-5 years prior (and likely irrigated by handlines); some crested wheatgrass and june grass were also recently planted. The northeast ditch was maintained, while the southwest ditch appeared mostly unused. Per the

other Simpson Creek proofs, minor adjustments and possible minor reductions in acreage may be required with detailed GIS analysis.

V-01085 (Baumann, lower creek) – H.M. Payne mentions about 35 acres of alfalfa and a little garden being irrigated in 1912, with water stored in a small 3 ft by 20 ft by 40 ft reservoir. Pre-statutory certificate number 149 was issued on 3/21/1913 for the irrigation of 35.79 acres of alfalfa, small garden and orchard, with a priority of 1877 and number two on the stream; period of use and other uses were the same as for certificate number 152 (V-01133). As discussed previously, this proof was stripped by Permit 6225 filed in 1920. In 2017, no active managed irrigation was occurring in the former POU, but it was subirrigated by V-01086 to the southeast, as well as by the natural stream channel (Photo 4c). Vegetation consists of pasture grasses, lesser crested wheat and diversified pasture. Stone ruins belonging to an old historic structure occur along the southwest edge of the former POU.

V-01089 (Baumann, Old Bennett Spring) – H.M. Payne states in his inspection of 10/25/1912 that he estimated flow of about ¼" (2.81 gpm). Water flowed into a 4 ft by 40 ft by 60 ft reservoir ½ mile below the spring, which required 5 or 6 days to fill. When released to irrigate the claimed garden/POU above the old Hunter Ranch, the water lasted for about 6 hours. He states the water was used for the past 14 years (or since about 1898) and considered it an individual right separate from those on Simpson Creek. Pre-statutory certificate number 42 was issued on 11/25/1912 for 1.1 acres of irrigation with a priority of 1900, and secondary stockwatering and domestic purposes.

Old Bennett Spring was visited twice in 2017 and flows of 15 gpm and temperature of 47°F were measured on both occasions. The flow consisted of 12 gpm discharging from a 2½" black PVC pipe on the lower south bank of the drainage, along with an estimated unmeasured 3 gpm from the nearby immediate area near the pipe (Photos 5a-b). Three metal T-fence posts likely anchored an older style, green Powder River metal stock tank. The tank reportedly was washed down the drainage several hundred yards during a storm in 2016. The probable remnant of the small reservoir described by Mr. Payne was observed along the south side of the Newark Canyon road, but it was mostly filled in with dirt and no longer in use, with the spring brook flowing

directly down Newark Canyon and into Simpson Creek. With melting snow and heavier precipitation, flows reached Simpson Creek in the morning hours, but there was lesser to no flow at the junction by afternoon on the several visits.

The claimed POU for V01089 is entirely encompassed by that of V-01133, and no remnants of a garden were seen. Reserved Right R-04239 is also located near the same claimed source as Old Bennett Spring. According to information provided by the BLM, they locate the spring about 70 yards to the southeast of the measured pipe discharge, and just above the mapped spring on the USGS topographic map. The BLM reported a flow rate of 6 gpm and temperature of 46°F from this location at 8 AM on 4/13/2016.

V-03657 (Baumann, Four Eyed Nick's Springs, IRR); V-02893 (United Dressed Beef, STK)
This area is located about two miles north of the Baumann Ranch. There is one distinct, larger karst spring located in the NW¼ SW¼ Section 33, here named Four-Eyed Nick Spring proper ("4ENS"). In addition, there are a series of springs and/or a spring complex in a low-lying area, mostly along the north boundary of the SW¼ of Section 33; this constitutes the upper/east portion of the claimed POU under V-03657. The spring complex extends for nearly ½ mile in an E-W direction, with a half dozen or more fairly distinct spring sources in addition to 4ENS proper, the largest of which flows about 5 gpm; several of the springs have minimal to no measurable flow. Collectively these upper or eastern springs flow at 24 gpm, as measured on 4/6/2017 in the spring brook directly above and before the point where 4ENS proper discharges into the spring brook (Photo 6a). 4ENS itself discharges about 30 ft in elevation above the spring brook from a small 3 ft wide cave-like karst feature in what is mapped as a large landslide megabreccia block of Ely Limestone (Photo 6b). Flow from 4ENS was measured indirectly by subtraction at 64 gpm, with a temperature of 50°F on 4/6/2017. A historic estimate for the spring taken sometime before 1978 reported flow of 75 gpm, with a temperature of 52°F on 8/7/2008 reported by the USGS. Two sites were measured in the lower spring brook, below the west fence and property boundary, the first of which is about 170 yards WSW and below 4ENS proper. This site yielded 88 gpm and 52°F on 4/6/2017 using a 90° rectangular weir, and 90 gpm by bucket and stopwatch. On 5/20/2017 the intake for the buried irrigation pipeline was found about 190 yards southwest and below the above described weir site. Flow was measured at 112 gpm and

60°F from a short section of 16" steel pipe, discharging directly above the mostly buried pipeline intake (Photo 7a). These two measurements represent comingled water in the spring brook from 4ENS proper and the spring complex to the east, with over half to two-thirds of the flow being attributable to 4ENS proper.

In the upper, east claimed POU in Section 33, there are no active developed diversions or ditches. All sources are natural springs with no apparent human modification, and the POU consists of naturally subirrigated meadow, with lesser aspens and low brush, particularly along the south-central portion of the claimed POU (Photo 7b). The spring sources for irrigation (V-03657) are probably more or less the same as those claimed for stockwatering under V-02893, although no proof map, tie, bearing and distances were given in the latter proof, only the general 40 acre legal descriptions for the springs. There is evidence of human occupation and possible historic use in the upper spring areas, including minor ruins from a former stone structure, and a small juniper log and sod-metal roof, shack-like structure said to be the remains of an old still dating from the prohibition period (1920-1933). Both of these structures are located north of 4ENS proper, the latter along the north bank of the spring brook and the former along the north boundary of the claimed POU. There is also evidence of more recent human use of the area for recreational purposes (undeveloped campsites, his and her porta potties), along with the partially maintained road/trail access and newer barbwire fencing.

In addition to the buried pipeline intake described above, there is evidence of an older ditch along the northwest end of the upper, east claimed POU, which drained WSW for about a ¼ mile to a 50 ft diameter dozer (?) excavated stock pond, which is mapped on the USGS topographic map near the east-center of Section 32. The pond does not appear to have been used for several decades or more, and the ditch and/or trail continues westerly at a steeper gradient to the NE corner of the "Williams Field". There is also evidence of a possible modest-size reservoir about ½ an acre in size, at the break in slope and just east of the Williams Field and lower main claimed POU in Section 32. The possible reservoir is now mostly filled-in, but may have been used to irrigate the field to the west in historic times. The Williams Field or the main claimed 16.0 acres of irrigation in the NE¼ SW¼ of Section 32, was mostly idle when visited on several occasions in early 2017. Formerly managed pasture grasses are evident, along with several

handlines and one intact wheel line about 500 ft long (Photo 8a). These may have irrigated about 11 acres of alfalfa or other harvest crop within the last 3-5 years in this part of the claimed POU. To the WNW of the managed area, is about 2 acres of less managed but well irrigated pasture grass, and below that another 2½ acres of sage-rich diversified pasture. A larger stock tank at the north end of the wheel line was observed (Photo 8b), and several round spring boxes constructed of metal culverts were found in the well irrigated pasture area below the wheel line. The latter are likely the intakes for the two described pipelines to stock tanks mentioned in the proof, about ¼ and 1 mile to the WNW of the Williams Field. It should be noted that the main intake pipeline for the Williams Field is mislocated as described in the proof and map, and is in the NE¼ SE¼ of Section 32, not as claimed and illustrated on the proof map.

OTHER EVIDENCE

Evidence From Other Maps

Simpson Creek Area - An old published geologic map of the Simpson Creek area was obtained which supports human development and probable irrigation in the various claimed POUs. The map, here referred to as the "Hague map" was publish by the USGS in 1893 as part of studies on the ore deposits and geology of the Eureka mining district. The topographic and plane table surveys for the map were completed in 1880, and the associated geologic map was published at the scale of 1" = 1,600 ft with 50 ft contours. Therefore, the cultural features mapped date from 1880 or before. The map shows a probable fenced field and irrigated area along the middle and lower portion of Simpson Creek that is about 3¼ miles long, averaging about 500 ft in width, which begins near the junction of Newark Canyon (Figure 3). This represents an area of about 200 acres and corresponds to the claimed POU under V-01084, 85, 86, 86, 89, and most of V-01133. It is annotated "The Italian Ranch", and the stream labeled "Hunter's Creek" on the adjacent sheet. A small field measuring about 4 acres is also mapped to the south of the Newark Canyon junction, which corresponds to a portion of the upper-most part of the V-01133 claimed POU. In addition to the mapped fences and/or fields, there are a half dozen or so buildings or structures mapped, and several possible hay stack yards and/or corrals, with the greatest number of these features being in the vicinity of the current main Baumann Ranch. For the Old Bennett Spring area (V-01089), the adjacent Hague map sheet labels several springs in the immediate

corresponding area, along with a probable fenced field/irrigated area of about 10 acres extending up Newark Canyon, but mostly above the mapped springs. About a ¼ mile to the west of the Old Bennett Spring area, are several structures labeled "Milk Ranche"; this is the approximate location of the small reservoir indicated on the filed claim map.

The GLO map for T19N, R54E in the Simpson Creek area was surveyed mostly in June 1905, and signed on 11/20/1906. The map shows all of the claimed POU on the creek to be fenced, and labels several features as ditches along with dwellings by the then owners' name. The fenced area is considerably wider and larger than the area claimed for irrigation on the proof maps, as well as what is inferred as irrigated fields and depicted on the 1893 Hague map. The fenced portion of the stream area on the GLO map extends for nearly 2 miles SSE of the junction of Newark Canyon to the west center of Section 22, where the main cluster of Simpson Springs are located; much of this fenced area is not claimed for irrigation and the southern half was never patented. For Old Bennett Spring, the GLO map places the spring about ¼ mile west of its actual location within Section 15, and no cultural features are annotated in the vicinity unlike the Hague map.

Four Eyed Nick Springs ("4ENS") Area – The 1893 Hague map labels four features as "sprs" in the upper east claimed POU, including the main 4ENS proper. A large area on the east totaling about 140 acres is shown as being fenced, and is most likely not entirely fields or irrigated land, since much of the area is steeper, non-arable hillside. Several structures are indicated in the vicinity where the stone ruins were observed in 2017. In the lower POU for V-03657 to the west, i.e. the "Williams Field", a fenced field and possible irrigated area is shown, and extends over an area of about 25 acres, including some gentle hillside on the north. A spring is also mapped in the south center of the field in the vicinity where the several spring collection boxes were observed in 2017. The overall shape of the fenced area resembles that claimed on the 2016 filed proof map. The GLO map for T20N, R54E was surveyed in 1893 and signed on 3/3/1894. A rectangular irrigated field measuring about 14 acres is depicted in the west central portion of Section 33, along with a structure labeled "cabin" near the west section line. It is possible that this field may be the Williams Field, but is mislocated about ½ mile too far to the east.

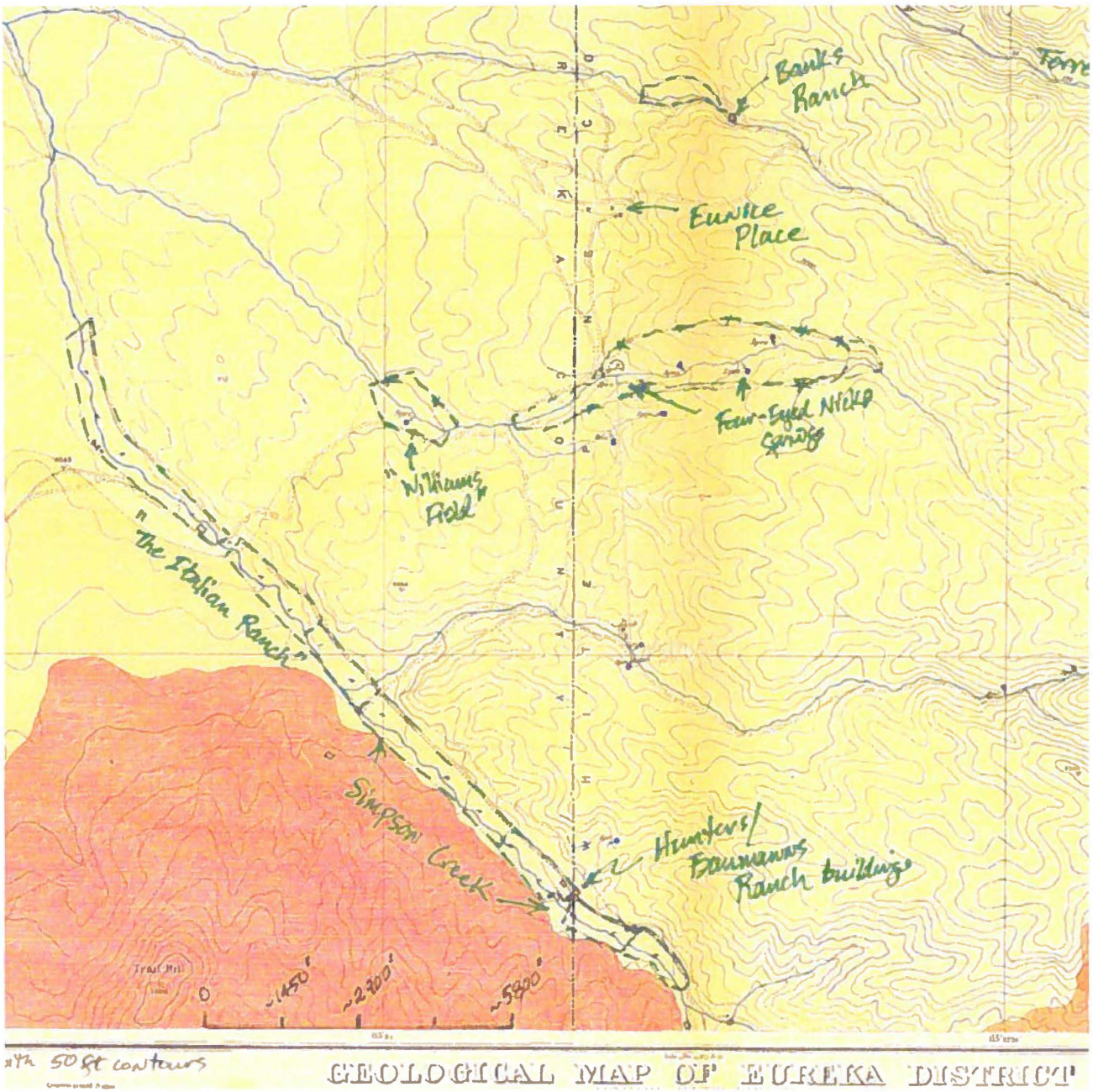

Figure 3 – The Hague 1883 geologic map showing fenced and probable irrigated fields (edited with green dashed lines) in Simpson Creek and Four Eyed Nick areas.

VERACITY OF CLAIMS & CONCLUSION

The claims filed on Simpson Creek (V-01084, 85, 86, 89, and -01133) all appear generally valid in terms of historic use, irrigated acreage and priority. However, minor adjustments to the POU areas and likely minor (<5-10%) reduction of claimed acreages may be necessary with further study and GIS analysis using topography and more accurate, modern survey control than the un-tied 1912 filed proof maps. Measured streamflows are just barely adequate to irrigate the claimed POUs, and most claimed lands are currently being fully irrigated along Simpson Creek. Priority dates for V-01084 through -01086 of 1877 appear justified based on the Hague topographic surveys of 1880 and associated 1883 geologic maps, which show fenced and probable irrigated fields in much of the Simpson Creek POU. The only tax assessment record submitted is 1869 for the general Bauman Ranch/V-01133 area (former Hunters Ranch), and supports occupation and development of 320 acres of farming land; this date is close to the amended claimed priority date of 1865. Recent use of Old Bennett Spring, V-01089 has been mainly for stockwatering purposes, with the irrigation limited to co-mingling of water with Simpson Creek, and used within the upper V-01133 portion of its claimed POU. Based on this, the Public Water Reserve R-04239 does not appear valid.

There is conflicting data regarding the validity of the Four Eyed Nick springs area, V-03657. The 1883 Hague map suggests fencing and some development of the area including the lower Williams Field, and the 1894 GLO map crudely illustrates an irrigated field in the upper claimed POU under V-03657, which is likely the mislocated Williams Field. However, the cancelled permits under Permit 4969 (mining and milling) and Permit 6880 (irrigation) would suggest that irrigation was not being conducted in the claimed POU in 1918 and 1923, respectively. The lower POU/Williams Field under V-03657 appears more legitimate, with the upper POU in Section 33 limited to subirrigation only, as the smaller spring sources there are undeveloped and ditches are lacking. V-02893 filed for stockwatering appears invalid based on the above, and it also lacks a filed supporting map.

SUPPORTING PHOTOGRAPHS

Photos 1a-b – a)(upper photo) upper-most flow measurement site on Simpson Creek (V01133.1fm), looking NW; flow measured with 90°weir at culvert entrance was 0.63 cfs on 4/4/2017, and 0.33 cfs on 5/19/2017; b)(lower photo) upper portion of V01133 POU showing well irrigated field and ditches, looking NW with Baumann Ranch in center distance; photo 1a location and Newark Canyon are behind photo to left and right, respectively.

Photos 2a-b – a)(upper photo) Baumann Ranch (aka Hunter's Ranch and Shannon's Station), ~160° panoramic, looking SW with Richmond Mountain on skyline, and well irrigated fields and Simpson Creek in middle distance; photos 1a-b and weir site are in far distance, just left of photo; b)(lower photo) middle and lower portion of Baumann Ranch and V01133 POU, showing well irrigated fields and maintained ditches, ~160° panoramic, looking SW; ranch buildings in far left distance; pygmy site (V01133.2fm) and road crossing are just out of view at far upper right; both photos taken 4/4/2017.

Photos 3a-b – a)(upper photo) Pygmy flow measurement site on Simpson Creek (V01133.2fm) at road crossing, looking NE; flow measured at 0.97 cfs on 4/5/2017, and 1.30 cfs on 5/19/2017; b)(lower photo) V01084 upper POU, looking ESE showing recently disked field on right and irrigated pasture grasses on left; lift pump and small reservoir are just left of center by power drop; taken 5/18/2017.

Photos 4a-c – a)(upper photo) POU of V01084 in right 2/3's of photo, and upper portion of V01086 on left; ~160° panoramic looking east; b)(middle photo) POU of V01086 showing sprinkler guns fed by pipeline from lift pump, looking ESE; c)(lower photo) lower-most POU of V01086 on right, and fallowed/stripped V01085 POU on left, ~160° panoramic looking east, note stone wall structure at lower left; all photos taken 5/17/2017.

Photos 5a-b – a)(left photo) V01089, Old Bennett Spring; flow measured at 12 gpm from PVC pipe, with ~3 gpm un-measured from immediate spring area, looking east; there is only minimal flow in the Newark Canyon drainage above the spring; b)(right photo) overview of site and spring, looking east; PVC pipe and T posts are in right center, with small weir site (white object) just below in the springbrook.

Photos 6a-b – a)(left photo) V02893/V03657, main Four-Eyed Nick's spring proper, looking SSE; spring source is located on hillside in upper center of photo; flow determined indirectly at 64 gpm; main E-W drainage is just left of photo; b)(right photo) close-up of actual discharge point in karsted limestone, looking south; temperature at discharge 50°F.

Photos 7a-b – a)(upper photo) Four-Eyed Nick's springbrook with 4" screened intake for buried irrigation pipeline in lower center of photo (below orange flagging), looking ENE; flow of 112 gpm was measured from 16" steel pipe discharge on right behind brush, for entire flow of springbrook and co-mingled sources; site is at an elevation of 6590 ft, ~1,000 ft WSW of 4ENS proper; b)(lower photo) V03657 upper claimed sub-irrigated POU, looking ENE with Diamond Peak on skyline; 4ENS proper is out of view ~75 yards behind photo location; several of the other undeveloped spring sources are in upper portion of meadow in middle distance; porta potty for scale.

Photos 8a-b – a)(upper photo) V03657 lower POU/Williams Field looking ENE; inactive wheel line stretches across field in middle distance, with former alfalfa above, and sub-irrigated pasture grasses below; b)(lower photo) same area, lower Williams Field, stock tank and north end of inactive wheel line, looking WNW; valve for stock tank and wheel line in center is fed by the buried pipeline and intake in Photo 7a.

	MARCH 2018	APRIL 2018
cancelled permits	5	10
cancelled rfc apps		
rejected applications		
can review, resent 30-day notice	6	4
voided cancellations		
extension den/info/warning letters		4
extension review with April/Mark	24	9
extension review with Amanda	29	
problem extension rev. with Jason		1
ext. to prevent forfeiture letters	10	13
processed env. Per. Update		
draft corrected certificate letters		
drafted certificates		
final draft certificates reviewed	63	28
PBU rej./no cert fees rec.		
map table training	April/Katherine - 2, Kat - 5	Katherine - 3
training		Micheline F. Shellie L. and Jared M. - new employee orientation
certificate review	10 sessions - 88 drafts, 2 returns	5 sessions - 51 drafts, 1 return
meetings		
webinars	dam safety webinar	
RFA REVIEW	4 sessions - 34 apps	2 sessions, 12 apps
subdivisions		
	interviews for tech III	
sick leave	20 hrs	8 hrs
annual leave	0 hrs	
	115 apps, 53 proofs	