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CLIVE J. STRONG-STATE
TWIN FALLS, IDAHO
FILED

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT

OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	)	Subcase No. 36-07071
	)	
Case No. 39576	)	AFFIDAVIT OF STEVE CLELLAND
	)	AS TO THE INVESTIGATION OF CLAIMS
_____	)	IN THE HAGERMAN AREA

STATE OF IDAHO)
) ss.
County of Twin Falls)

Steve Clelland, being first duly sworn on oath, deposes and states as follows:

A. WORK EXPERIENCE AND EDUCATION

My name is Steve Clelland, and I am a Senior Water Resource Agent with the Idaho Department of Water Resources (IDWR). I make the following statements based upon my personal knowledge of the facts related therein.

1. My work address is Idaho Department of Water Resources (IDWR), Southern Regional Office, 222 Shoshone St. East, Twin Falls, ID 83301-6105. I reside in Twin Falls, Idaho.

2. I have previously been qualified by the Snake River Basin Adjudication Court as an expert in the field of water rights investigation and so testified as such in the trial of subcase no. 36-00003G.

3. My educational background includes a bachelor's degree in Agricultural Education from the University of Idaho in May, 1982. As part of my college education, I took classes pertaining to soils, crop management, farm business management, accounting, agricultural engineering, surveying, water measurement and animal science courses related to livestock production and management.

4. My work experience includes the following:

a. In 1981, I worked as an irrigation scheduling field technician for Stukenholtz Consulting where I was responsible for determining the irrigation requirements for fields under a variety of irrigation systems. Determining the irrigation requirements for these fields involved the use of tensiometers, instruments that measure soil tensile strength. (A high tensile strength tensiometer reading indicates a low moisture content in a particular soil sample; conversely, a low tensile strength tensiometer reading indicates a high moisture content in a particular soil sample.) Throughout the growing season, I monitored specific fields; charting tensiometer readings, and taking soil and crop samples to determine nutrient and irrigation requirements. I used this information to assist the farmer in determining

proper irrigation and fertilization requirements and techniques for specific soil and crop types, and specific irrigation systems.

b. Upon my graduation from college, I worked with Simplot Soilbuilders from 1982 to 1986 as a fieldman. My duties in that position included but were not limited to: developing my knowledge of sprinkler systems to help farmers determine the proper application of fertilizers and pesticides; determining farm tract acreages from a variety of maps to resolve disputes regarding the area over which a particular fertilizer or pesticide had been applied; and conducting field examinations which often involved speaking with the farmer about their crop rotation practices, and their application and use of fertilizers and pesticides. During these field examinations I took crop and soil samples to determine nutrient and pesticide requirements for specific soil and crop types. Often, I could apply pesticides or fertilizers to a field by using the field's irrigation system. Thus, I had to learn about and understand various aspects of specific irrigation systems, including the area irrigated by the system, type of irrigation system, and the system's flow rates.

c. I then worked for the Twin Falls Canal Company for two years from 1986 to 1988 where I was responsible for helping the company's engineer plan and construct water diversion structures and canals, and for ensuring that water measurement devices were both accurate and properly maintained. My duties also included: surveying potential canal and diversion sites to prepare for construction of measurement devices and structures; in conjunction with the company's engineer, drawing plans for measurement devices and structures; building weirs and other

measuring devices using welding equipment; and monitoring the work of construction crews to ensure that measuring devices and structures were being built in accordance with plans.

d. After working for Twin Falls Canal Company, I started a position with the Idaho Department of Water Resources as a Water Resource Agent in 1988. After one year in this position, I was promoted to Senior Water Resource Agent. I have held this position for the past seven years. My duties as a Senior Water Resource Agent are detailed in the attached job description. During my employment with the Idaho Department of Water Resources, I have received professional training in: hydrology; the use of polysonic flowmeters; the use of IDWR's methodology for calculating field irrigation diversion rates (see IDWR's Report Regarding Evaluation of Irrigation Diversion Rates); the preparation and use of claim verification records; and the use of ArcView geographical information systems. Through my experience while employed in this position, I have gained a good working knowledge (or become more practiced where I already had a familiarity) with the following:

- i. Water flow measurement methods through the use of flow meters, various types of weirs, bucket and stopwatch, and other measurement devices and methods;
- ii. The interpretation of aerial photography;
- iii. The calculation of acreage using aerial photographs, ortho photo quads, and other photographs and maps using grids, planimeters and other devices and techniques;
- iv. Reading and interpreting legal descriptions in order to locate that area described on maps or aerial photographs;
- v. The public land survey system;
- vi. Global positioning equipment;
- vii. All types of irrigation systems and methods;
- viii. Different types of wells and pumps and the calculation of pump

- outputs;
- ix. All of IDWR's electronic databases;
- x. The various diversion systems in the Hagerman Valley, including locations of all points of diversion and places of use of all the various water right claims.
- xi. Farming practices and techniques, including historic cropping patterns and irrigation practices in the Hagerman Valley.

Using this knowledge and other methods and devices, I have conducted over 400 water right claim field exams during my period of employment with IDWR..

B. FAMILIARITY WITH THE HAGERMAN VALLEY

Beginning in July, 1990, as part of my duties as a senior water resource agent with IDWR, I began conducting field examinations in the Hagerman Valley. During the irrigation seasons of 1990 through 1992, I visited the Hagerman Valley approximately 200 times to investigate aspects of specific claims to water rights. Since 1992, I have visited the Hagerman area many times for various purposes, including: verifying earlier observations relating to IDWR water right recommendations; examining new claims; familiarizing other IDWR personnel, Deputy Attorneys General, and SRBA Court personnel with the water delivery systems in the Hagerman Valley. In the course of my investigation of the Hagerman claims, I have examined and diagrammed all of the various water delivery systems in the Hagerman Valley. I have gained a detailed working knowledge of the nature, location, and configuration of all major collection and delivery structures from the various major springs, as well as from Riley and Billingsley Creeks. This includes knowledge of the location and configurations of all major delivery ditches and the points of diversion and places of use of the rights delivered from them.

C. CLAIM INVESTIGATIONS GENERALLY

1. The details and results of my water right claim investigations and field examinations are documented in the claim files of every claim that I investigated. IDWR used this information as the basis of its recommendations for water right no. 36-07071.

2. When beginning the investigation of a water right in the Hagerman Valley, I would generally receive a file with the following documents and information:

- a. The notice of claim.
- b. Any documents concerning change of ownership.
- c. Any correspondence regarding the claim. (Typically no correspondence was present).
- d. Request for evidence of priority from IDWR (if the claim was to a beneficial use right).
- e. Proof of priority (not always present).
- f. Claim verification report (added to file by investigator if not present).

3. After receiving the file, if a claim verification report (CVR) was not present, I would proceed to print one using the computer and place it in the file. The CVR is the document that compiles all information pertinent to investigation of the claim to the water right; using information already in IDWR's electronic database and information obtained through my investigation of the claim. The CVR would serve both as an organizer so that I could tell what information was needed to complete the investigation, and as a checklist to ensure that I investigated all elements of the claimed right.

- a. IDWR's electronic database contains information reflecting elements of both the claim to the specific water right and the existing water right as licensed or decreed. Thus, the CVR, as generated by IDWR's computer system presents a comparison of each of the elements as claimed to each of the elements as licensed or

decreed. I used this comparison to determine whether there was a discrepancy between the claim and the existing record of the right that I needed to investigate and resolve.

b. If the claim to the water right is based on beneficial use, and there is no existing right or claim, and no information in IDWR's database to compare to the claim, the CVR will contain information reflecting only the claim. Therefore, in the case of a beneficial use claim, I would have to investigate every element of the claimed right as if it were a new right being established through the permit application process.

c. The CVR is a dynamic document; the information it contains can change up to the time the Director's report is issued. When my investigation revealed information different from that either claimed, licensed or decreed, I would generally document the information with a handwritten explanation on the CVR page corresponding to the element investigated.

d. The CVR is divided into subsections by water right element, which is listed in the top left-hand corner of each page. Although the pages of the CVR are numbered, those numbers do not correspond to a specific element or subsection of the CVR. Rather, the number of pages a CVR contains is determined by the amount of information available in IDWR's database as to the specific claim.

e. In each of the subsections, there are indications by the computer as to whether a field exam or verification of a specific element is required due to a discrepancy or remark noted by the computer. As the investigating agent, I had the

discretion to verify the element by either conducting a field examination or by using some other method. I would note in the specific CVR subsection the results of the field examination or verification.

4. The specific subsections of the CVR are broken down as follows:

a. The first page is generally the checklist page (Although the checklist page is not labeled as Page 1, it is placed at the front of the CVR to better assist the investigating agent.) This page acted as a tracking device to let me know whether the computer had detected a discrepancy between elements of the claim and elements of any existing water right record (as entered into IDWR's database). Using this information in combination with other information in the claim file, I was able to determine whether I needed to conduct a field exam as to a specific element or whether some other type of review would suffice. This page also helped me to ensure that all elements in the CVR (and thus the claim) were reviewed before issuance of the director's report.

b. The first subsection after the checklist page is the general information sheet. This subsection contains information from IDWR's database as to the claimant's address and phone number, and also contains any remarks the claimant listed in the claim. In this subsection, there is also a designated area in which the field examiner may make notes.

c. The second subsection is the priority date review sheet. This subsection contains information as to the priority date claimed and as to the priority date of the existing water right record. There is a designated area in which the field

examiner may make notes and an area in which the investigating agent may either use the priority date as listed in IDWR's database, or make a recommendation as to the priority date.

d. The third subsection is the point of diversion review sheet. This subsection contains information as to the point of diversion and source claimed and as to the point of diversion and source of the existing water right record as listed in IDWR's database. This subsection lists other claims with a point of diversion within the same 40-acre tract as the subject claim. The same information is listed with respect to water right records in IDWR's database. There is a designated area in which the field examiner may make notes and an area in which the investigating agent may make a recommendation as to the point of diversion and source.

e. The fourth subsection is the place of use review sheet. This subsection shows the water right numbers of any claims split from the same water right as the subject claim. This subsection shows the number of irrigated acres as claimed, as shown in IDWR's database, and as shown by Landsat imagery. There are also areas to show the number of irrigated acres as found by the field examiner and as recommended. There is a designated area in which the field examiner may make notes and an area in which the investigating agent may make a recommendation as to the total irrigated acres.

f. The fifth subsection is the purposes review sheet. This subsection shows the purposes of use, seasons of use for each use, and quantity diverted for each use as claimed. The same information is listed with respect to water right records in

IDWR's database. There is a period of use section where the investigating agent indicates whether the period of use should be recommended as claimed or recommended differently based on other standards or information. There is also a designated area in which the field examiner may make remarks and notes.

g. The sixth subsection is the diversion amount review sheet. This subsection contains a comparison of the total claimed diversion rate of all claims split from the same water right, to the diversion rate of the original water right from which those claims were split. The investigating agent uses this comparison to ensure that the total claimed diversion rate from all claims split from the same water right does not exceed the diversion rate of the original water right. There is a section to indicate the measurement method used to determine the diversion flow rate. There is a section listing all rights used on the same place of use (overlapping rights). There is a section in which the investigating agent completes his calculations as to the flow rate, consumptive use, and diversion volume required for the particular claim. There is a designated area in which the field examiner may make remarks and notes, and an area in which the investigating agent may make recommendations as to purposes of use, period of use, diversion rate, diversion volume, and consumptive use.

h. The seventh subsection is the basis of claim review sheet. This subsection guides the agent as to whether the claimant owns a claimed water right, whether the claimant has abandoned or forfeited a claimed water right, or whether an additional diversion amount claimed is necessary. There is a section containing a split water right review to help the agent ensure that the recommended diversion rate does

not exceed that of the original water right. There is a designated area in which the field examiner may make remarks and notes.

i. Finally, there is an authentication subsection the investigating agent signs after the initial investigation is complete.

4. If a field exam was necessary, I would travel to Hagerman to conduct the exam. Normally, I conducted the field exam to establish the farm's location, the irrigated area, the purposes for which the water was used, and the presence of a water delivery system to deliver water pursuant to the claimed water right. I also used the field exam to confirm any other element or aspect of the claim that could be confirmed through observation, and sometimes used the field exam to take certain measurements. Before leaving the office for a field exam in Hagerman, I would ensure that I had the necessary claim file(s), and the appropriate maps and photographs, including the appropriate NAPP infrared photographs, ASCS maps, and orthophoto quad maps.

a. The NAPP photographs I used in my investigation of claims in the Hagerman area are listed as follows:

i.	IDWR# AA69NE	NAPP#419-61	06/25/87
ii.	IDWR# AA69NE ~~NE~~ SE	NAPP#419-51	06/25/87
iii.	IDWR# AA70NW	NAPP#439-45	08/01/88

b. The ASCS maps I used in my investigation of claims in the Hagerman area are listed as follows:

i. 1977 ASCS map covering Hagerman, Idaho

ii. 1987 ASCS map covering Hagerman, Idaho

c. The orthophoto quads I used in my investigation of claims in the Hagerman area are listed as follows:

- i. IDWR# AA69 1974 Hagerman, Idaho
- ii. IDWR# AA70 1974 Tuttle, Idaho

a. When preparing for a field exam, I would not typically make an appointment with the claimant as it was difficult to determine the time I would be available to conduct the exam. However, if the claimant requested a meeting to discuss their claim or to show me some aspect of their property or delivery system, I would try to accomodate their wishes. If I had not previously spoken with the claimant, I generally attempted to contact them while at the exam site.

b. I did not typically use the field exam as an opportunity to determine the size of an irrigated tract. Instead, I would confirm irrigated areas (not acres) as shown on NAPP photos, orthophoto quad maps and ASCS maps. I would confirm the accuracy of these items by checking whether an area shown as irrigated by a photograph or map was actually irrigated. Further, I would check to ensure that that the geographical landmarks shown on maps or photographs matched the actual geographical landmarks. Through this procedure, I was able to determine that the maps and photos fairly represented conditions as they actually existed. I could then accurately establish the irrigated acreage through the use of a planimeter, ASCS maps and other maps.

c. Although the date of the field exam listed on the CVR is the date I formally investigated a claim to a water right, I generally observed the property

several times. On many occasions, I had opportunity to observe a property where I had previously conducted a field exam while I was conducting a field exam on the adjoining property. Although not documented in the claim files, I took the opportunity to observe a diversion system on property a second, third or fourth time to confirm the results of my initial field examination.

d. There were occasions when the investigation of a particular claim required an additional field examination to confirm or add new or more detailed information. For example, when IDWR began using the Hubble methodology (see IDWR's Report Regarding Evaluation of Irrigation Diversion Rates) to evaluate claims to irrigation water where the claimed diversion rate exceeded .02 cfs per acre (excess flow claims), I returned to properties I had previously examined to obtain information such as soil types and irrigation system types necessary to complete the calculations that are a part of that methodology.

e. As part of the claim investigation process, I generated notes that I organized in notebooks. I also generated some field notes that I organized in a file in my office. To the extent that the information reflected in any of these notes were part of the recommendation as to a specific claim, I documented the information in the claim file.

5. After a field examination, I would typically determine the irrigated acreage for a specific claim by developing a map of the property. From this map, I was also able to determine other elements of the claimed right such as: point of diversion, location, delivery system, etc.

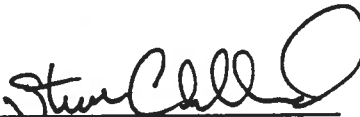
- a. My method for estimating the irrigated acreage claimed is as follows:
- i. I used a transparent scaled grid on an orthophoto quad to measure the size of the irrigated acreage as represented by the photo and as confirmed by my field examination. I then converted the measurements to their proper scale to come up with an accurate measurement of the irrigated acreage.
 - ii. I then compared my estimate against that of maps made by the Agricultural Stabilization and Conservation Service. My estimates were generally somewhat higher than those of ASCS. If one of my estimates was lower than that of ASCS, it indicated to me that I may have missed something in my investigation, and that I needed to ensure that both the bases for my estimate and my estimate itself were correct.
 - iii. I sometimes used a planimeter on an orthophoto quad, ASCS map, or some other map to confirm my estimate obtained from using the grid system. During my field examination, I ensured the accuracy of any map I planned to use as a part of my investigation by comparing the map to actual conditions.
 - iv. When finished with my estimate, I noted the irrigated acreage on the appropriate page of the CVR and proceeded with my investigation.

6. As part of the final phase of my investigation, I completed the CVR with information obtained from the field exam and derived from other information determined during the field exam. For example, if the claimant irrigated her property with sprinklers, I would calculate the recommended flow by applying IDWR's standard of .02cfs/acre to the number of irrigated acres I estimated as a part of my investigation.

7. When the investigation was complete, the information in the claim files listed above included the following:

- a. Copies of any maps or photos I used in the investigation, including those I made myself.
- b. Memorandums regarding conversations with the claimant or IDWR personnel regarding the interpretation or recommendation of the claim.
- c. Copies of the calculations and figures used as a part of recommending a flow rate based on the Hubble methodology.
- d. Copies of the calculations and figures used to estimate conveyance losses based on the Worstell method. (See also IDWR's Report Regarding Evaluation of Irrigation Diversion Rates)
- e. The elements of the right as recommended in preparation for publication of the Director's Report. This document is labeled as an "Adjudication Claims Proof Reading Report," is stamped "verified," and is initialed by the reviewing agent.
- f. Any split analysis necessary to show that a right was part of a previously existing, decreed right.
- g. The notice of claim.

8. Upon completion of my investigation, I turned the claim file over for review by Allen Merritt, then the IDWR Southern Region Adjudication Supervisor, now the Regional Manager for IDWR's Southern Region.


Steve Clelland

Subscribed and sworn to before me this 17th day of September, 1996.


Notary Public for Idaho
Residing at: Boise ID
My commission expires: 12/5/2000

Certificate of Service

I certify that on the 17th day of September, 1996, I hand-delivered copies of the foregoing document, including all attachments to the following:

Patrick D. Brown
133 Shoshone St North
Twin Falls, ID 83303



Person delivering document(s)