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1996 JUL -1 PM 3:14

DISTRICT COURT-SRBA
TWIN FALLS CO., 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. See Attachment A
	)	
	)	
Case No. 39576	)	AFFIDAVIT OF
_____	)	MARCI STERLING

36-3A et al

STATE OF IDAHO)
) ss.
County of Ada)

Marci Sterling, being first duly sworn, deposes and states as follows:

1. My name is Marci Sterling. I am an engineer in the Adjudication Bureau of the Idaho Department of Water Resources (IDWR).

2. My work address is Idaho Department of Water Resources (IDWR), 1301 North Orchard, Boise, Idaho 83706. I reside in Boise, Idaho.

1 - AFFIDAVIT OF MARCI STERLING

COPY

3. I make the following statements based upon my personal knowledge of the facts related therein.

4. My educational background includes an Associate of Science degree in general engineering from College of Southern Idaho in 1987, and a Bachelor of Science degree in civil engineering from the University of Idaho in 1989. My course work included, but was not limited to: fluid mechanics, hydrology, hydraulics, statics and dynamics, thermodynamics, soil mechanics, chemistry, mathematics, materials, structures, sanitary engineering, electrical circuits, physics, engineering measurement, computer programming, statistics, economics, writing and report preparation.

5. I have been registered as a professional engineer in Idaho since 1995. To become registered, I spent four years as an engineer-in-training and passed an eight hour exam in engineering fundamentals.

6. I worked for the Idaho Department of Transportation at Shoshone, Idaho, from May to August of 1989, where I assisted in hot plant supervision and surveying.

7. I worked for Dale L. Riedesel, a professional engineer and land surveyor, in Twin Falls, Idaho, from February to September of 1990, where I designed an airport expansion, administered plat preparation, and calculated material removal for a roadway realignment.

8. I worked for Flamingo Engineers, in Twin Falls, Idaho, from July to October 1990, where I completed subdivision rezoning applications.

9. I have been employed by the Idaho Department of Water Resources Adjudication Bureau as an engineer from October, 1990 to the present. I provide engineering and technical support for the Adjudication Bureau in numerous capacities, including, but not limited to:

a. Reviewing work by Consultants.

I review for technical completeness and conformity with generally accepted engineering principles work prepared by consultants employed by IDWR, by claimants, or by other entities as part of IDWR's ongoing adjudication efforts. For example, I reviewed a report by the Idaho Water Resources Institute on the impact of well development on certain springs to evaluate the soundness of the methodology used.

b. Technical Assistance.

I provide technical assistance to IDWR staff on the correct application of IDWR's irrigation diversion rate ("Hubble") methodology for use in the Snake River Basin Adjudication.

I assist in collecting and analyzing appropriate data and research materials as needed to provide technical and engineering input into IDWR policy decisions.

As part of my duties at IDWR, I routinely contribute assistance in various matters that any IDWR Adjudication Bureau staff may have. Some examples include photo needs, measurement questions, the use of equations, or the evaluation of a diversion rate for a particular place of use. My assistance can take the form of performing the desired calculation(s), answering questions on the phone, or accomplishing field work.

I use Geographical Information System (GIS) and "Arcview" software to incorporate data with visual aids. For example, I have produced maps of the Weiser area depicting boundaries of the review area, including a display of overlapping irrigation districts.

c. Refining IDWR Methodologies and Data.

I developed a methodology, outlined in IDWR Adjudication Memo no. 36, which estimates the diversion rate and volume of dairy claims and the consumptive use of stockwater

claims exceeding the 13,000 gallon per day limitation.

I also generated a procedure, profiled in IDWR Adjudication Memo no. 37, for estimating consumptive use of municipal water rights.

I have worked on a draft adjudication memorandum detailing a procedure for estimation of diversion and storage requirements for recreational and fish ponds.

d. Perform Engineering Analysis of Diversion Rates and Volumes.

As part of ongoing settlement negotiations with individual water right claimants I routinely evaluate existing irrigation systems to determine diversion rates and volumes. This includes gathering information on soils, cropping patterns, climate, and data on the physical aspects of the claimant's irrigation system(s) for the place of use in question to determine on-farm irrigation requirements.

I also have provided technical assistance to IDWR Regional Offices to determine diversion requirements for municipal and other water diversion systems.

e. Perform Conveyance Loss Estimates.

I have also employed methodologies to estimate conveyance losses and have employed a computer spreadsheet program to apply the Worstell method of estimating conveyance losses to complex ditch systems.

f. Acquire and Interpret Remote Sensing Data.

I interpret data from various combinations of maps, aerial photography, and satellite information for determining irrigated acreage, priority dates, and/or other elements of a water right. I am responsible for obtaining aerial photography from various private and public sources to aid in investigating priority dates and irrigated acreage.

g. Federal Reserved Right Negotiations.

I am involved in investigating various technical matters at issue in negotiations over federal reserved water rights. For the Fort Hall irrigation project, I assisted in the investigation of the actual irrigated acres which, in turn, were used to determine actual beneficial use for non-Native American water rights.

h. Spreadsheets.

I have created several computer programs utilizing existing spreadsheets to simplify hand calculations. For example, I have developed a spreadsheet which estimates water use for typical dairy operations as well as a spreadsheet which consolidates flowmeter data to provide channel width, cross-sectional area, average velocity, and total discharge through the measured section.

i. Use of Engineering Equipment.

I have had the opportunity to use various engineering equipment that is commonly used such as electronic planimeters and the Polysonic Tyme-Flyte ultrasonic flowmeter numerous times since their acquisition by IDWR and have found the machines to give acceptable accuracy.

10. My additional education/training since college has included, but is not limited to:

a. An aerial photography/remote sensing workshop at the University of Idaho, February 25 - March 1, 1991. The workshop included the understanding, interpreting, and measurement of maps, aerial and satellite imagery as applied by natural resource land managers and personnel.

b. A training course on the use of ArcView 2.0 in Boise, Idaho, November 8 and 9, 1994. Training included the use of this software to perform mapping and incorporate spatial data with maps.

c. An ultrasonic flowmeter training seminar in Twin Falls, Idaho, January 6, 1995.

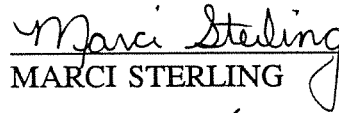
This seminar provided training in the correct usage of the Polysonic Tyme-Flyte flowmeters.

d. A GPS/GIS integration training seminar in Boise, Idaho, March 2 and 3, 1995.

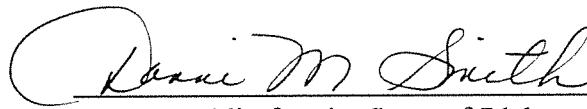
The seminar covered basic concepts of geographic information systems, global positioning systems, GPS data capture for GIS, data integration and real world applications.

e. A basic groundwater hydrology course in Boise, Idaho, March 21 and 22, 1996.

This course provided basic information regarding groundwater hydrology including storativity, transmissivity, and well interference.


MARCI STERLING

SUBSCRIBED AND SWORN to before me this 1st day of July, 1996.


Notary Public for the State of Idaho
Residing at: Boise
My commission expires: 12-5-2000

CERTIFICATE OF SERVICE

I hereby certify that on the 14 day of July, 1996, I caused to be served a true and correct copy of the foregoing AFFIDAVIT OF MARCI STERLING on the following person by hand delivery to the address listed below.

Patrick D. Brown, Esq.
HEPWORTH, LEZAMIZ & HOHNHORST
133 Shoshone Street North
Twin Falls, Idaho


Person or Attorney Mailing Form

ATTACHMENT A

36-00003A
36-00039C
36-00039E
36-00039J
36-00064B
36-00079
36-00085A
36-00092
36-00106
36-00108B
36-10283B