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ATTORNEYS FOR THE IDAHO GROUND WATER APPROPRIATORS

BEFORE DEPARTMENT OF WATER RESOURCES

STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHT NOS. 36-02551 & 36-07694 (RANGEN, INC.)	Docket No.: CM-DC-2011-004 **NOTICE OF SERVICE OF REDACTED HEARING EXHIBIT NO. 2172 (Church Opening Report)**

PLEASE TAKE NOTICE that the Idaho Ground Water Appropriators, Inc. (IGWA), acting for and on behalf of its members, hand-delivered to IDWR and served on all parties on June 20, 2013, a redacted version of the John S. Church Opening Report (Hearing Exhibit No. 2172) that removes those portions stricken by the Director's *Order Granting In Part and Denying In Part Rangen's Motion to Strike John S. Church Report* dated March 4, 2013.

DATED this 20th day of June, 2013.

RACINE, OLSON, NYE, BUDGE & BAILEY, CHARTERED

By: _____
THOMAS J. BUDGE
Attorneys for IGWA

CERTIFICATE OF MAILING

I certify that on this 20th day of June, 2013, the foregoing document was served on the following persons in the manner indicated.

Signature of person mailing form

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Expert Witness Report by John S. Church

Economist

December 21, 2012

Prepared on Behalf of the

Idaho Groundwater Appropriators, Inc.

In the Matter of Distribution of Water to
Water Right Nos. 36-02551 and 36-07694

John S. Church, duly sworn and of his own knowledge hereby states:

1) I am president of Idaho Economics, an economic consulting firm located in Boise, Idaho. The firm's mailing address is P.O. 45694, Boise, Idaho 83711. I am an independent economic consultant and a Lecturer in the Economics Department at Boise State University. I have a Bachelor of Science degree in civil engineering from the University of Washington, a Bachelor of Business Administration degree from Boise State University, and Master of Science degree in economics from the University of Idaho. Prior to becoming an economic consultant I was corporate economist for Idaho Power Company in Boise, Idaho.

2) I have 17 years of professional experience at Idaho Power Company as corporate economist and 14 years experience as an independent economic consultant. I have experience in building economic models and performing economic and fiscal impact analysis studies. I have constructed and maintain a long-term economic forecasting model for the purpose of forecasting economic activity and demographic characteristics of the State of Idaho and each of Idaho's forty-four counties.

The output of this economic forecasting model is regularly used by various clients around the state of Idaho for their long-term business and resource planning needs. In addition, I have experience in the economic valuation of long-term resource purchase contracts, the economic evaluation of decision alternatives, economic modeling of local area impacts resulting from transportation improvement projects, and the development of long-term forecasts of population and the detailed demographic characteristics of those populations for selected Idaho counties for private clients.

3) I have prepared economic impact studies for the Idaho National Laboratory, resorts, planned communities, mining companies, manufacturing, utility, retail developments, and service industry firms. For many of these economic impact studies I have also prepared fiscal impact studies for site or regulatory approval. I have prepared and presented sworn testimony before state regulatory authorities, legislative committees, and to state and federal courts.

4) I have reviewed numerous materials pertaining to the Rangen water delivery call. These materials include, among others:

- Rangen's Petition for Delivery Call, of December 13, 2011 and Exhibits 1 -11;
- Dr. Charles Brendecke's expert report and accompanying materials in this case;
- Previously prepared economic studies evaluating the effects of shutting off ground water wells as generally requested by Rangen;
- Documents produced by Rangen in this case; and
- Several sources of data concerning income, jobs, local and state tax collection, and Idaho's agricultural economy.

5) A Brief Trout Farming Economic History:

Trout farming began in Idaho and other states in the early 1900's. However, significant expansion of the U.S. trout industry did not occur until the 1970's and 1980's.

Of the most commonly cited factors that contributed to the expansion of the trout industry was the development of dry, pelleted feeds. Pelleted feeds caused a reduction in the cost of production and stimulated further development in the industry by eliminating the need to prepare fresh feeds onsite and therefore making feeding the trout less labor intensive.

The first major rainbow trout processing plant was constructed in Idaho during the 1950's by the Snake River Trout Company. A processing plant allowed trout producers to adopt a greater market diversification (more products) and a greater potential for wider distribution of their products.

Soon thereafter, automated processing equipment was developed, followed quickly by development of automatic feeders, graders, and fish pumps. Concurrent with pelleted feed development, the evolution of trout production from simple earthen ponds to concrete raceway production systems also increased trout production significantly, while reducing labor for cleaning, grading, moving, and harvesting. Some industry studies have indicated that the switch from earthen ponds to concrete raceways can increase trout production by 25-40 percent with the same quantity of water. Although many earthen ponds in commercial trout culture remain nationally, well over 90.0 percent of production is estimated to come from concrete raceways.

Nationally, most of the output of farm raised, food sized trout goes to processing plants. Food size trout are defined by the U.S. Department of Agriculture as fish that are 12 inches or larger.

This is particularly true in the two largest trout producing states, Idaho and North Carolina. Many of the trout produced in other states may go directly into the nearby fresh seafood markets, which allow the producer to command higher prices. However, because of the volume of trout produced in Idaho and the long distances to the larger fresh seafood markets Idaho producers do not receive those higher prices. On average, over the last twenty years, Idaho producers received only 75.0 percent of the national average price for food sized trout.

Production of food size trout (defined by the U.S. Department of Agriculture as fish that are 12 inches or larger) in the U.S. between 1992 and 2008 averaged 56.85 million pounds per year, ranging from a low of 50.70 million pounds in 2003 to a high of 66.9 million pounds in 2007. Food sized fish typically account for close to 80.0 percent of total farm raised trout sales in the U.S.

Then as the U.S. recession took hold in 2008 trout production, both in Idaho and the U.S., dropped dramatically. In 2008, U.S. and Idaho trout production fell by 32.3 and 39.3 percent, respectively, from 2007 levels.

Nationally, the total value of food sized fish sales in 2008 fell by a smaller amount, 9.5 percent as an increase in the U.S. average price per pound of trout somewhat held up the value of trout sales.

In Idaho, where the majority of trout production goes to processing plants, a 6.5 percent increase in the average price received by producers for food sized trout in 2008 could not prevent a dramatic 24.5 percent decrease in the total wholesale value of food sized trout sales from the state.

Annual average U.S. and Idaho trout production, the value of total sales for food sized trout, and the annual average price per pound received is shown in Table 1 below.

The 2008 downturn in food sized trout production was not only an Idaho phenomenon. Because Idaho producers command a great majority of U.S. food sized trout production they received the brunt of the downturn in production. Nevertheless, it can be seen in the national production statistics that other states producing trout were proportionately affected by the economic downturn.

The production of food sized trout, nationally and in Idaho, increased by a small amount in 2009 but then continued to decline in 2010.

In 2011 Idaho posted a small 200,000 pound increase in trout production, but increases in the price of trout have allowed producers to see increased revenues from their production. Industry executives have indicated that processed trout products from Idaho are primarily marketed to the food service industry nationally and end up in high-end to mid-range food service establishments. We have only now experienced a significant turnaround in these sectors.

While Idaho trout producers can be optimistic because of recent increases in demand and the average price for food sized trout the industry still faces future hurdles.

The fact remains that in better economic times the production of food sized trout remained relatively constant over the last twenty years. A further troubling indicator for the trout industry is the increasing amount of imported trout coming into the U.S.

U.S. and Idaho Foodsize Trout Sales Statistics: 1992 - 2011

Year	U.S. Trout Producers: Statistics for Fish 12" +						Number of Producers Selling Trout				Idaho Trout Producers: Statistics for Fish 12" +							
	Number of Fish (x 1,000)	Ann. Pct. Chg.	Value of Fish Sales ($ x 1,000)	Ann. Pct. Chg.	Annual Average Price per Pound	Ann. Pct. Chg.	U.S.	Ann. Pct. Chg.	Idaho	Ann. Pct. Chg.	Number of Fish (x 1,000)	Ann. Pct. Chg.	Pounds of Fish (x 1,000)	Ann. Pct. Chg.	Value of Fish Sales ($ x 1,000)	Ann. Pct. Chg.	Annual Average Price per Pound	Ann. Pct. Chg.
1992	64,500		$51.0		$0.92		461		30		50,000		41,500		$27,805		$0.67	
1993	60,900	-5.6%	54.3	6.5%	0.99	7.6%	452		33		47,000	-6.0%	40,000	-3.6%	28,000	0.7%	0.70	4.5%
1994	58,300	-4.3%	52.7	-2.9%	1.01	2.0%	466	3.1%	35	6.1%	46,000	-2.1%	40,000	0.0%	30,000	7.1%	0.75	7.1%
1995	60,200	3.3%	60.8	15.4%	1.09	7.9%	437	-6.2%	33	-5.7%	45,000	-2.2%	40,000	0.0%	32,600	8.7%	0.82	8.7%
1996	56,500	-6.1%	56.9	-6.4%	1.06	-2.8%	423	-3.2%	33	0.0%	43,000	-4.4%	40,000	0.0%	32,000	-1.8%	0.80	-1.8%
1997	59,300	5.0%	60.7	6.7%	1.07	0.9%	465	9.9%	33	0.0%	45,000	4.7%	42,000	5.0%	31,500	-1.6%	0.75	-6.3%
1998	57,600	-2.9%	60.3	-0.7%	1.04	-2.8%	451	-3.0%	28	-15.2%	44,000	-2.2%	41,000	-2.4%	30,750	-2.4%	0.75	0.0%
1999	61,000	5.9%	65.0	7.8%	1.08	3.8%	476	5.5%	33	17.9%	47,500	8.0%	46,000	12.2%	37,260	21.2%	0.81	8.0%
2000	58,500	-4.1%	63.7	-2.0%	1.08	0.0%	447	-6.1%	33	0.0%	45,500	-4.2%	44,500	-3.3%	36,935	-0.9%	0.83	2.5%
2001	54,500	-6.8%	64.4	1.1%	1.13	4.6%	428	-4.3%	29	-12.1%	40,000	-12.1%	39,500	-11.2%	34,365	-7.0%	0.87	4.8%
2002	50,200	-7.9%	58.3	-9.5%	1.07	-5.3%	378	-11.7%	30	3.4%	38,000	-5.0%	37,400	-5.3%	34,365	0.0%	0.92	5.6%
2003	45,900	-8.6%	55.4	-5.0%	1.09	1.9%	331	-12.4%	28	-6.7%	34,000	-10.5%	34,600	-7.5%	26,642	-22.5%	0.77	-16.2%
2004	47,500	3.5%	57.1	3.1%	1.04	-4.6%	365	10.3%	29	3.6%	37,000	8.8%	40,400	16.8%	32,320	21.3%	0.80	3.9%
2005	55,500	16.8%	62.6	9.6%	1.05	1.0%	362	-0.8%	26	-10.3%	44,000	18.9%	43,600	7.9%	35,316	9.3%	0.81	1.3%
2006	52,450	-5.5%	67.7	8.1%	1.10	4.8%	412	13.8%	26	0.0%	38,000	-13.6%	46,500	6.7%	40,920	15.9%	0.88	8.6%
2007	59,700	13.8%	80.0	18.2%	1.15	4.5%	390	-5.3%	29	11.5%	45,400	19.5%	49,900	7.3%	46,407	13.4%	0.93	5.7%
2008	40,400	-32.3%	72.4	-9.5%	1.38	20.0%	525	34.6%			27,600	-39.2%	35,400	-29.1%	35,046	-24.5%	0.99	6.5%
2009	41,100	1.7%	68.6	-5.2%	1.40	1.4%	349	-33.5%			29,800	8.0%	35,600	0.6%	35,956	2.6%	1.01	2.0%
2010	38,700	-5.8%	63.1	-8.0%	1.39	-0.7%	320	-8.3%			28,500	-4.4%	32,800	-7.9%	33,784	-6.0%	1.03	2.0%
2011	38,400	-0.8%	$69.5	10.1%	$1.53	10.1%	283	-11.6%			27,600	-3.2%	33,000	0.6%	$37,620	11.4%	$1.14	10.7%

Source: U.S. Department of Agriculture, National Agricultural Statistics Service: Trout Production, 1991 - 2012
Internet web site: http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1172

As the production and the value of food sized trout in the U.S. fell in 2008 the amount of trout imported into the U.S. increased dramatically in 2009, 2010, and 2011. Indications are that a majority of the imported product is coming from aquaculture facilities in Ontario, Canada. U.S. trout imports and exports are shown in Table 2, below.

Table 2

U.S. Trout Imports and Exports: 1999 - 2011

Year	Imports			Exports		
	Tons	Sales $ x $1,000	Average $ / lb.	Tons	Sales $ x $1,000	Average $ / lb.
1999	1,271	$5,536	$2.18	770	$2,855	$1.85
2000	1,833	$7,287	$1.99	824	$2,893	$1.76
2001	1,936	$7,521	$1.94	488	$1,577	$1.62
2002	1,734	$6,145	$1.77	528	$1,632	$1.55
2003	1,959	$7,623	$1.95	1,176	$5,048	$2.15
2004	2,158	$8,896	$2.06	517	$2,091	$2.02
2005	1,863	$8,313	$2.23	425	$1,721	$2.02
2006	1,990	$10,065	$2.53	395	$1,909	$2.42
2007	1,917	$10,238	$2.67	362	$1,710	$2.36
2008	1,777	$10,512	$2.96	498	$2,422	$2.43
2009	2,584	$14,484	$2.80	438	$2,041	$2.33
2010	2,858	$17,306	$3.03	295	$1,446	$2.45
2011	2,491	$16,597	$3.33	223	$1,221	$2.74

Source: National Marine Fisheries Service (NMFS), Fisheries Statistics Division, Imports and Exports of Fishery Products: Annual Summaries, 1999 - 2011

It appears that Idaho's trout industry faces an increasingly competitive industry. The national recession provided proof that sales of food sized trout is sensitive to economic conditions, particularly changes in household incomes. Increased U.S. imports of trout, and declining amount of trout being exported from U.S. producers to overseas markets provides a further area for concern about the future of the industry. Lastly, the industry is being squeezed by the increased cost of the inputs for trout feed.

6) Rangen's Delivery Call and Requested Remedies:

Rangen states in their December 13, 2011 Petition for Delivery Call:

Because of the unavailability of enough water to satisfy the volumes of its five decreed water rights "Rangen has suffered, and will suffer, material injury as a result of junior priority ground water pumping....."

And,

"Rangen has expended reasonable efforts to divert water for right nos. 36-02551 and 36-07694"

As a remedy Rangen asks for:

"...immediate curtailment before any hearing is held because: I) immediate curtailment is necessary to secure an important government or public interest, to-wit, the guaranteed delivery of water rights obtained under the laws of the State of Idaho."

7) Rangen's Reasonable Efforts to Divert Water:

Rangen states that they have expended reasonable efforts to divert water for water rights 36-02551 and 36-07694. However, Rangen did not state what those reasonable efforts are, and the evidence produced by Rangen via discovery indicates that Rangen's reasonable effort has mainly relied upon the administrative solution of the Delivery Call.

It is without doubt that the availability of water is key to operation of the Rangen Research Hatchery.

Prior to the current delivery call Rangen had, in September/October 2003, used the delivery call mechanism in an attempt to maintain its water volumes. Ultimately that effort was unsuccessful.

In June 2005 Rangen applied for three grants under the Eastern Snake Plain Aquifer Assistance Grants program administered and funded by the Idaho Department of Commerce and Labor. Only one of those grant applications (ultimately referred to as Contract No.: ESPAM Grant 03 by the Department of Commerce and Labor) was approved for funding. However, Rangen did not exercise the option to take advantage of the grant and the monies were returned to the State's general fund. The two other Eastern Snake Plain Aquifer Assistance grant applications submitted by Rangen were not accepted for funding under the program.

Rangen's approved ESPAM grant had a projected total project cost of $37,375, and envisioned the availability of an additional 1.0 cfs of water from Curren Tunnel to the Rangen Research Hatchery.

The out of pocket infrastructure cost to Rangen for a nearly immediate increase of 1.0 cfs to their aquaculture facility was nearly zero. And, if cost of arranging agreements with other affected Curren Tunnel water rights holders was equal to the amount of the grant ($37,000) Rangen's choice to pass up the ESPAM grant may indicate the value that they place on 1.0 cfs of additional water.

The other two ESPAM grant applications were for:

1) A feasibility evaluation of a horizontal well in the vicinity of the Curren Tunnel. This evaluation primarily consisted of installing three vertical test wells in the canyon rim above the Curren Tunnel. If the evaluation indicated that there could be potential benefits to a vertical well near the Curren Tunnel that could be undertaken for a projected cost of nearly $250,000, and,

2) The evaluation of the feasibility of ground water pumping for water supply augmentation at the Rangen aquaculture facility.

Two other options for augmenting water supplies suggested by Rangen in their June 2004 grant application cover letter to the Idaho Department of Commerce and Labor were:

1) A feasibility evaluation to reduce, if present, downward vertical flow through existing wells in the area upgradient of the Curren Tunnel;

2) Pump back and re-use water from the Rangen aquaculture facility.

Another option explored in the deposition of Rangen employees was the rerouting of the water delivery system within the Rangen facility in order to allow the water to be used in a more efficient manner.

Rangen has not implemented any of the above options to more efficiently use or to augment its water supplies. As explained below, each of these options is a reasonable means of increasing the supply of water available to Rangen. Other aquaculture facilities in the Magic Valley applied for and received ESPAM grants for similar measures.

For example, Canyon Springs Golf Course and Fish Farm applied for an ESPAM grant which would install a pump-back system to recirculate 4.0 cfs at its fish ponds (with oxygen and ozone systems) at a cost of $78,715 – or about $19,700 per cfs. This grant was denied in lieu of another ESPAM grant application by Canyon Springs Golf Course and Fish Farm for the installation of the same pump-back system to recirculate 4.0 cfs at the fish ponds (without oxygen and ozone systems) at a cost of $23,090 – a cost of about $5,770 per cfs.

Also, Clear Springs Foods applied for and received an ESPAM grant for $76,750 to construct a 4.0 cfs pump back system to re-use water for process plant holding ponds This translates to cost of $19,200 per cfs.

Fisheries Development Co. applied for and received an ESPAM grant of $77,500 to rework its piping within its aquaculture facility so flows from its western spring are routed to the upper end of the hatchery instead of just the lower raceways. This will reroute and augment about 2.0 cfs to the upper end raceways – about $38,750 per cfs.

The ESPAM grants demonstrate that reasonable costs of water augmentation measures in the Magic Valley can be implemented at costs ranging from $5,770 to $38,750 per cfs – an average of $11,700 per cfs for the four projects above (including the grant awarded to Rangen).

In deposition, Rangen employees did not indicate that any of these or similar measures to more efficiently use or augment the spring flows have been implemented at the Rangen Research Hatchery.

Clearly Rangen has not expended even a minimum effort beyond the option of filing an administrative delivery call to more efficiently use or to augment the waters available to its facility.

8) Rangen's Request for Immediate Curtailment of Junior Groundwater Rights:

An immediate curtailment will not provide immediate enhancement of spring flows to the Rangen Research Hatchery. In Exhibit 11 to Rangen's December 2011 Petition for Delivery Call its own consultant, Leonard Rice Engineers Inc., states that:

"If the IDWR curtailed junior-priority ground water pumping, the Rangen spring would likely recover approximately 17.0 cfs within 21 years."

A similar analysis performed by Dr. Brendecke using the ESPAM2.1 model indicates that a curtailment of 479,200 ground water irrigated acres over a 15 year period would yield a 17.13 cfs increase in water flows at the Rangen springs complex, and specifically a 5.65 cfs increase in spring flows at the Curren Tunnel.

In contrast, assuming a diversion rate of 0.02 cfs per acre, the curtailment of 479,200 ground water irrigated acres would immediately eliminate beneficial use of 9,584 cfs. By this comparison, Rangen would receive less than two-tenths of 1% (0.0018) of the curtailed water.

There are many more reasonable alternatives than a curtailment of nearly 479,000 acres of ground water irrigated lands that would increase the availability of usable waters at the Rangen Research Hatchery. Any of the aforementioned methods used by other aquaculture facilities in the Magic Valley should be pursued before the option of the curtailment of junior-priority ground water users is considered.