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DEPARTMENT OF
WATER RESOURCES

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Attorneys for Claimants

**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	)	For Water Right Claims: 72-16778;
	)	72-16779; 72-16780; 72-16781; 72-16782;
Case No. 39576	)	72-16783; 72-16784; 72-16785; 72-16786;
	)	72-16787; 72-16788; and 72-16789
	)	
	)	

AFFIDAVIT OF BRIAN HAMILTON

STATE OF IDAHO)
) ss
COUNTY OF CUSTER)

BRIAN HAMILTON, being first duly sworn upon his oath, deposes and says that:

1. My name is Brian Hamilton. I make this affidavit based upon my own personal knowledge and belief of the facts contained herein.
2. I am a licensed civil engineer. I work for the U.S. Department of Interior, Bureau of Reclamation (BOR), Salmon Field Office, 102 South Warpath, Salmon, Idaho 83467. I am the Upper Salmon Basin Liason. In this position I coordinate projects for fish recovery. I am the point of contact between landowners and designers.
3. From approximately 1995 to 2002, I managed the water measurement portion of the Water Conservation Field Services Program for BOR's Pacific Northwest Regional Office in

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Boise Idaho. In this position I regularly measured numerous canals within the Pacific Northwest Region. I also designed numerous water measurement structures. In 2002 I moved to Salmon to begin my current position with BOR. In this position I regularly take water measurements for diversion and measuring structure design and monitoring.

4. I am the BOR point of contact for the water users that divert water from the East Fork of the Salmon River ("East Fork") and its tributaries. In my position with BOR's Salmon Field Office, I have performed several measurements for the water users along the East Fork.

5. Diversions from the East Fork are denominated in ascending order, beginning with the furthest downstream diversion located a short distance upstream from the confluence of the East Fork with the Salmon River (EF-1). The majority of the East Fork diversions are located on the west side of the river.

6. There are several tributaries to the East Fork located in the vicinity of the East Fork diversions. The majority of the tributaries that discharge to the East Fork are located on the East Side of the River. These tributaries are called Road Creek, Herd Creek, McDonald Creek, Fox Creek, Pine Creek, and Baker Creek. Big Lake Creek and Big Boulder Creek discharge to the East Fork from the west. There are diversions from several of these tributaries.

7. Idaho Power Company ("IPCo") manages a stream gage station on the East Fork that is located between the furthest downstream East Fork diversion (EF-1) and the confluence of the East Fork with the Salmon River. Daily readings from this station (no. 13298050) are available at IPCo's website.

8. I measured several diversions from the East Fork and a few of its tributaries on June 6, 2008. These measurements are reported in my affidavits filed in support of late claims

filed by Wayne and Melodie Baker and by Edwin Baker Sr. and Edwin Baker Jr. The East Fork flow measurement at the IPCo station on June 6, 2008 was 518 cfs.

9. On July 28, 2009 I measured East Fork water flows at a point upstream from EF-18 (approximately 19 miles from the confluence with the Salmon River) and at a point approximately 15 miles from the confluence. I did this with the assistance of another BOR employee under my supervision. At the same time, we measured the East Fork diversions that were active. Most of the East Fork Water Users were not diverting water on July 28th because they were cutting hay. Most of the active East Fork diversions on that day were located on the east side of the river. The only tributary inflow to the East Fork that we measured that day was Big Boulder Creek. We measured two diversions from Big Boulder Creek.

10. A diagram showing the July 28, 2009 measurements is attached hereto as **Exhibit A**. Exhibit A includes a list showing the measurement methods we utilized at each point of measurement. These measurements show that this reach of the East Fork is a gaining stream. East Fork flows were: 187 cfs at the upstream measurement; 238 cfs at the 15 mile measurement, and 390 cfs at the downstream (IPCo) measurement. The gain in flows on July 28th was: 51 cfs from the upstream measurement to the 15 mile measurement; 152 cfs from the 15 mile measurement to the downstream measurement; and 203 cfs for the entire reach from the upstream measurement to the downstream measurement.

11. On September 9, 2009, I and another BOR employee with water measurement experience, performed comprehensive instream, inflow, and outflow measurements of the same reach of the East Fork on September 9, 2009. On that day, most of the East Fork and tributary diversions were active, and the East Fork water users were irrigating their fields. In addition to

diversions, we measured inflows from all of the tributaries in this reach.

12. A diagram showing the September 9, 2009 measurements is attached hereto as **Exhibit B**. Exhibit B includes a list showing the measurement methods we utilized at each point of measurement. Like the July 28, 2009 measurements, the September 9, 2009 measurements show that this reach of the East Fork is a gaining stream. East Fork flows were: 99.1 cfs at the upstream measurement; 112.2 cfs at the 15 mile measurement, and 183 cfs at the downstream (IPCo) measurement. The gain in flows on September 9th was: 13 cfs from the upstream measurement to the 15 mile measurement; 70.8 cfs from the 15 mile measurement to the downstream measurement; and 83.9 cfs for the entire reach.

13. These measurements show that there is a significant inflow of water from subterranean sources (return flows from seepage and/or groundwater) within this reach of the East Fork. The sum of all diversions from the East Fork is 154.2 cfs. The sum of all tributary inflows is 53.8 cfs. These measurements yield the following water balance for the entire reach:

upstream (measured):	99.1 cfs
diverted (measured):	-154.2 cfs
tributary inflow (measured):	<u>+ 53.8 cfs</u>
	- 1.3 cfs
subterranean (unmeasured)	<u>+184.3 cfs</u>
downstream (measured)	183.0 cfs

My calculations showing an inflow of approximately 184 cfs to the entire reach from subterranean sources are included in Exhibit B. I made similar calculations showing subterranean inflow of approximately 46 cfs to the upstream reach (19 miles to 15 miles from confluence), and approximately 138 cfs to the downstream reach (15 miles to confluence).

14. I am confident that the measurements reported in Exhibit A and Exhibit B accurately represent the measured water flows on the dates of measurement.

Further your affiant sayeth naught.

Dated this 14 day of October, 2009.

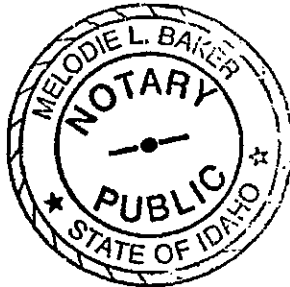


Brian Hamilton

STATE OF IDAHO)
)ss.
County of CUSTER)

On this 14th day of October, 2009, before me, the undersigned, a notary public in and for said state, personally appeared BRIAN HAMILTON, known to me to be the individual that executed the foregoing affidavit, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.




Notary Public for 12/11/12 Clayton IDAHO
Residing at Clayton ID
My Commission Expires: 12/11/12

EXHIBIT A

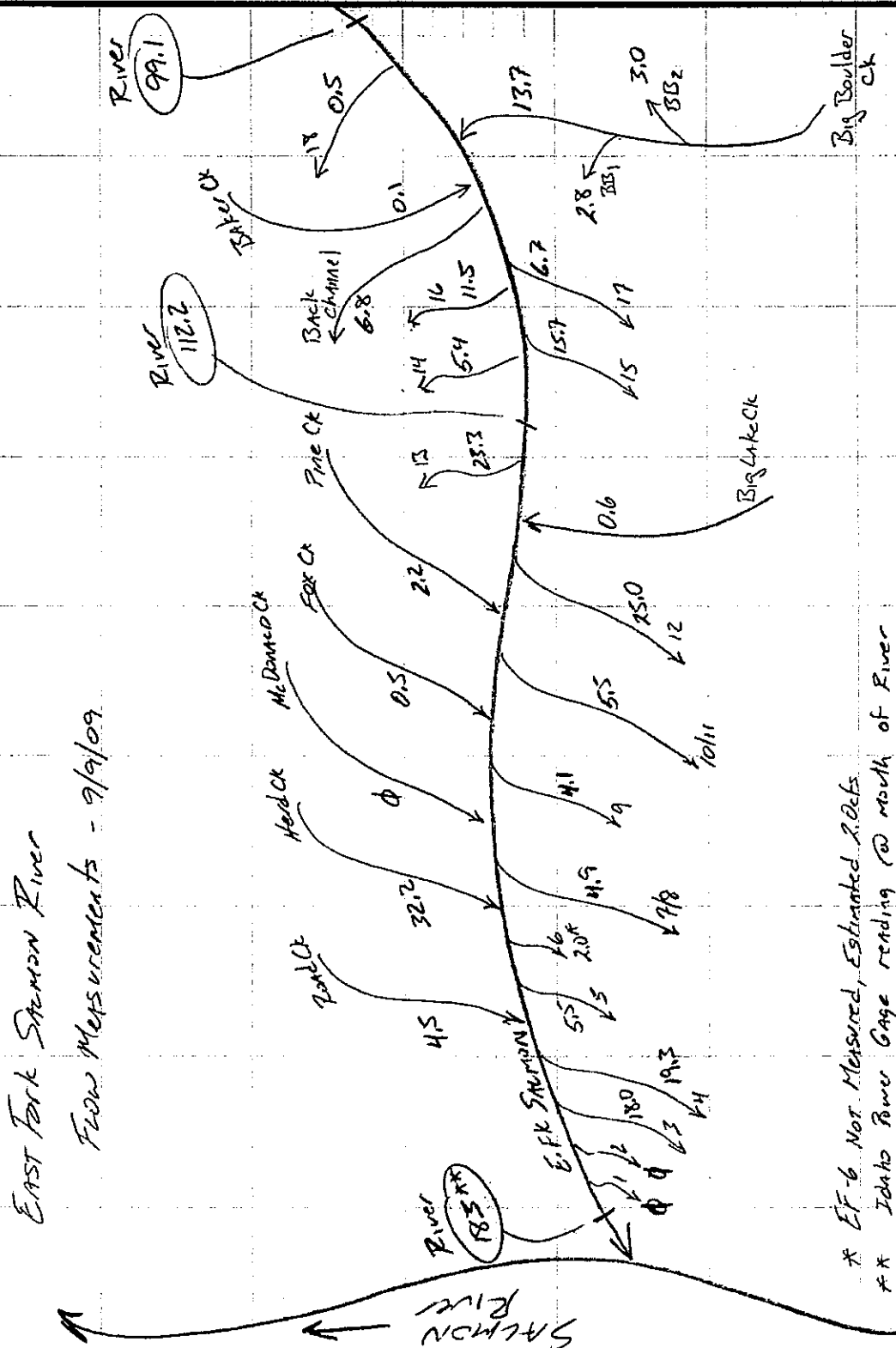
Methods of Measurement
East Fork of the Salmon River & Tributaries
July 28, 2009

<u>East Fork Instream</u>	<u>Method</u>
East Fork Upstream	current meter
East Fork Midway	current meter
East Fork Downstream	IPCo Gaging Station
East Fork Back Channel	current meter
<u>East Fork Diversions</u>	
EF-3	observed no diversion
EF-4	flume w/ gage & rating curve
EF-5	no measurement
EF-6	no measurement
EF-7/8	observed no diversion
EF-9	observed no diversion
EF-10/11	observed no diversion
EF-12	observed no diversion
EF-13	current meter
EF-14	current meter
EF-15	observed no diversion
EF-16	current meter
EF-17	observed no diversion
EF-18	flume w/ gage & rating curve
<u>Tributaries</u>	
Big Boulder Creek	current meter
<u>Tributary Diversions</u>	
BB-1	flume w/ gage & rating curve
BB-2	flume w/ gage & rating curve

EXHIBIT B

COMPUTATION SHEET

BY <i>BH</i>	DATE <i>9/4/09 survey</i>	PROJECT <i>EAST Fork FLOWS</i>	SHEET <u>1</u> OF <u>3</u>
CHKD BY	DATE	FEATURE <i>HAMILTON / CHAN</i>	
DETAILS			



* EF-6 Not Measured, Estimated 2.0 fts

** Idaho River Gage reading 70 north of River

COMPUTATION SHEET

BY <i>BM</i>	DATE <i>7/23/07</i>	PROJECT <i>E. FL FLOWS</i>	SHEET <i>2</i> OF <i>3</i>
CHKD BY	DATE	FEATURE	
DETAILS			

Entire Reach - Mouth of E. FL u/s to above EF-18 Diversion

u/s Flow 99.1 cfs
Diversion 154.2 cfs
Creek Inflow 53.8 cfs

D/s Flow 183 cfs

99.1 u/s
- 154.2 diverted
+ 53.8 inflow
-1.3 cfs

∴ ~184 cfs
inflow not
measured
(groundwater)

Upstream End - u/s EF-18 to u/s EF-13

u/s Flow 99.1 cfs
Diversion 46.6 cfs
Creek Inflow 13.8 cfs

D/s Flow 112.2 cfs

99.1 u/s
- 46.6 diverted
+ 13.8 inflow

66.3

∴ ~46 cfs
inflow not
measured
(groundwater)

COMPUTATION SHEET

BY <i>B/H</i>	DATE <i>9/23/09</i>	PROJECT <i>EFK Station Flows</i>	SHEET <i>2</i> OF <i>3</i>
CHKD BY	DATE	FEATURE	
DETAILS			

Downstream End - *u/s EF-13 to Mouth*

u/s Flow 112.2 cfs
diversions 107.6 cfs
creek inflow 40.0 cfs

D/s Flow *183 cfs*

112.2
- 107.6
+ 40.0

u/s
diverted
inflow

44.6

∴ ~138 cfs
inflow not
measured
(groundwater)

Methods of Measurement
East Fork of the Salmon River & Tributaries
September 9, 2009

<u>East Fork Instream</u>	<u>Method</u>
East Fork Upstream	current meter
East Fork Midway	current meter
East Fork Downstream	IPCo Gaging Station

East Fork Back Channel	current meter
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East Fork Diversions

EF-1	observed no diversion (pivots not operating)
EF-2	observed no diversion (pivots not operating)
EF-3	flume w/ gage & rating curve
EF-4	flume w/ gage & rating curve
EF-5	current meter
EF-6	visual estimate based on irrigated land
EF-7/8	flume w/ gage & rating curve
EF-9	flume w/ gage & rating curve
EF-10/11	flume w/ gage & rating curve
EF-12	submerged orifice
EF-13	current meter
EF-14	current meter
EF-15	current meter
EF-16	current meter
EF-17	submerged orifice
EF-18	flume w/ gage & rating curve

Tributaries

Road Creek	current meter
Herd Creek	current meter
McDonald Creek	observed no flow
Fox Creek	current meter
Pine Creek	current meter
Baker Creek	current meter
Big Lake Creek	current meter
Big Boulder Creek	current meter

Tributary Diversions

BB-1	flume w/ gage & rating curve
BB-2	flume w/ gage & rating curve
