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DEPARTMENT OF
WATER RESOURCES

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Attorneys for Rangen, Inc.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE PETITION
DELIVERY CALL OF RANGEN, INC.'S
WATER RIGHT NOS. 36-02551 & 36-
7694

Docket No. CM-DC-2011-004

**SUPPLEMENTAL DATA RE:
DIRECTOR'S RULING ON TALUS
SLOPE SPRINGS**

COMES NOW, Rangen, Inc. ("Rangen" or "Petitioner"), by and through its counsel of record, and submits the attached Supplemental Data re: Director's Ruling on Talus Slope Springs.

DATED this 25th day of April, 2013.

BRODY LAW OFFICE, PLLC

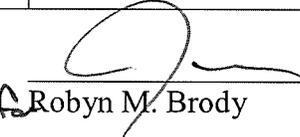
By 
Robyn M. Brody

CERTIFICATE OF SERVICE

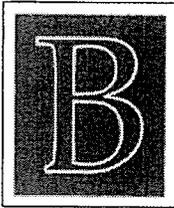
The undersigned, a resident attorney of the State of Idaho, hereby certifies that on the 25th day of April, 2013 she/he caused a true and correct copy of the foregoing document to be served by email and first class U.S. Mail, postage prepaid upon the following:

<p>Original: Director Gary Spackman Idaho Department of Water Resources P.O. Box 83720 Boise, ID 83720-0098 deborah.gibson@idwr.idaho.gov</p>	<p>Hand Delivery <input checked="" type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>Garrick Baxter Chris Bromley Idaho Department of Water Resources P.O. Box 83720 Boise, Idaho 83720-0098 garrick.baxter@idwr.idaho.gov chris.bromley@idwr.idaho.gov kimi.white@idwr.idaho.gov</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>Randall C. Budge Candice M. McHugh RACINE, OLSON, NYE, BUDGE & BAILEY, CHARTERED P.O. Box 1391 101 South Capitol Blvd, Ste 300 Boise, ID 83704-1391 Fax: 208-433-0167 rcb@racinelaw.net cmm@racinelaw.net bjh@racinelaw.net</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>Sarah Klahn Mitra Pemberton WHITE & JANKOWSKI Kittredge Building, 511 16th Street, Suite 500 Denver, CO 80202 sarahk@white-jankowski.com mitrap@white-jankowski.com</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
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<p>P.O. Box 4169 Pocatello, ID 83201 dtranmer@pocatello.us</p>	<p>Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>John K. Simpson Travis L. Thompson Paul L. Arrington Barker Rosholt & Simpson, L.L.P. 195 River Vista Place, Suite 204 Twin Falls, ID 83301-3029 Facsimile: (208) 735-2444 tlt@idahowaters.com jks@idahowaters.com</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>C. Thomas Arkoosh Arkoosh Law Offices 802 West Bannock, Suite 900 Boise, ID 83701 Tom.arkoosh@arkoosh.com</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
<p>W. Kent Fletcher Fletcher Law Office P.O. Box 248 Burley, ID 83318 wkf@pmt.org</p>	<p>Hand Delivery <input type="checkbox"/> U.S. Mail <input type="checkbox"/> Facsimile <input type="checkbox"/> Federal Express <input type="checkbox"/> E-Mail <input checked="" type="checkbox"/></p>
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 Robyn M. Brody



BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics

Hydrology

Water Resources

April 24, 2013

Robyn Brody
Brody Law Office
P.O. Box 554
Rupert, ID 83350

Re: Flow Measurements April 22, 2013, Rangen Hatchery

Dear Robyn:

On April 22, 2013, staff from Brockway Engineering LLC (C.E. Brockway and G. Sullivan) performed water measurements on springs and inflows to Billingsley Creek to determine the distribution of sources for water flows which comprise the total water flow to the Rangen facility. We were accompanied by Joy Kinyon of Rangen Inc.

A total of 50 points were identified and coordinates determined using a Garmin GPSmap62 hand held global positioning unit. These points included identified springs emanating from areas within the SWSWNW (west 10 acres) and the SESWNW (east 10 acres) of Section 32 and downstream to the Large raceways and the Log Dam measuring points. Inflow to Billingsley Creek includes numerous pipe and/or channels conveying water from either ground drainage, springs, or drains from the hatchery or raceways. The primary objective of this water measurement exercise was to determine the percentage of water in Billingsley Creek which has as a source springs within the SWSWNW (west 10 acres) Sec 32 or the SESWNW (east 10 acres) of Sec 32. The Martin/Curren tunnel is located within the SESWNW (east 10 acres) of Sec 32.

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

2016 NORTH
WASHINGTON
STREET • SUITE 4

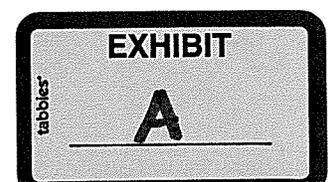
TWIN FALLS,
IDAHO 83301

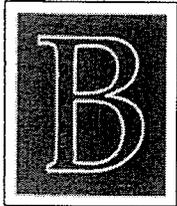
208•736•8543

FAX: 736•8506

The source of most of the springs emanating from the area adjacent to the talus slope in the SESWNW were identifiable but not measureable. Pipes conveying water into Billingsley Creek were identifiable and flow could be measured and was measured using a calibrated bucket and stopwatch. Most of these flows were small (.03 to 0.16 cfs) except for the drain from the hatch house (gps point 165) which was estimated at 0.3 cfs. This drain has a source at Martin/Curren tunnel.

Total flow was measured by Rangen personnel (Dan Maxwell) at the historical locations at the CTR raceways and the Lodge Dam weir. The measured flow from pipes and channels into Billingsley Creek from below the





BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics

Hydrology

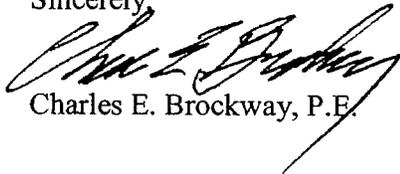
Water Resources

talus slope (the east side of the SWSWNW Sec 32) and which was not being diverted from the Martin/Curren tunnel, was compiled. The attached spreadsheet included the GPS numbers for all of the pipes and channels entering Billingsley Creek, the flow observed or measured on April 22, 2013, and a description of the pipe or inflow. Digital photos were taken of most of the points identified.

The flow in the CMP (gps point 162) contains spring water which emanates from both the SWSWNW and the SESWNW of Section 32. Based on the observations of the springs above this point and the surface channels conveying spring water to the CMP, it estimated that about 20% of the measured flow emanates from springs in the SESWNW Sec 32(east 10 acres).

The attached spreadsheet shows the calculation of the percentage contribution from the SWSWNW (west 10 acres) Sec 32 or the SESWNW (east 10 acres) of Sec 32 to the total flow measured in the Rangen system. The field data for the total flow measurement is shown on the attached hand written field sheet. This computation shows that 97% of the total flow in the system has a spring or tunnel source in the SESWNW (east 10 acres) of Sec 32 and 3% from the SWSWNW (west 10 acres).

Sincerely,



Charles E. Brockway, P.E.

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

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Rangen Inc.				
GPS SURVEY POINTS 4/22/2013				
BROCKWAY ENGINEERING, PLLC.				
ALR - 4/24/13				
NAME	time	POINT_X	POINT_Y	Description
140	2013-04-22T19:30:38Z	-114.847807	42.776127	Spring above white pip, 1st Spring going up hille
141	2013-04-22T19:32:08Z	-114.847814	42.776150	Spring above white pipe
142	2013-04-22T19:33:43Z	-114.847762	42.776163	Spring above white pipe
143	2013-04-22T19:34:12Z	-114.847732	42.776199	Spring above white pipe
144	2013-04-22T19:35:19Z	-114.847759	42.776192	Spring above white pipe
145	2013-04-22T19:35:59Z	-114.847728	42.776201	Spring above white pipe
146	2013-04-22T19:37:58Z	-114.847644	42.776280	Spring above white pipe
147	2013-04-22T19:38:25Z	-114.847620	42.776329	Spring above white pipe
148	2013-04-22T19:41:14Z	-114.847627	42.776342	Spring above white pipe
149	2013-04-22T19:41:38Z	-114.847627	42.776344	Spring under white pipe
150	2013-04-22T19:42:51Z	-114.847627	42.776347	Spring Below White Pipe
151	2013-04-22T19:43:49Z	-114.847529	42.776487	Concrete Box
152	2013-04-22T19:44:54Z	-114.847542	42.776492	Spring Flowing around box into talus
153	2013-04-22T19:45:55Z	-114.847543	42.776492	Spring Flowing around box into talus
154	2013-04-22T20:01:11Z	-114.847570	42.776594	Spring 1st spring above box
155	2013-04-22T20:03:25Z	-114.847542	42.776577	Spring
156	2013-04-22T20:07:22Z	-114.847394	42.776650	Box at tunnel outlet, Photo showing tunnel box, and Billingsley Creek
157	2013-04-22T20:12:29Z	-114.847458	42.776774	Spring north of tunnel likely flows to talus slope
158	2013-04-22T20:14:54Z	-114.847732	42.777069	Spring above old road (.25 cfs est.)
159	2013-04-22T20:16:36Z	-114.847797	42.777143	Spring above road, Spring and outcrop (023)
160	2013-04-22T20:18:51Z	-114.847889	42.777169	Spring above old road
161	2013-04-22T20:25:08Z	-114.848432	42.776595	Inlet to CMP (collects spring flow from above road - points 156-160)
162	2013-04-22T20:28:33Z	-114.848447	42.776285	CMP outlet to Billingsley Creek from CMP inlet (photos 026-027)
163	2013-04-22T20:30:03Z	-114.848618	42.776342	Aluminum pipe surface drain below house - no flow
164	2013-04-22T20:31:12Z	-114.848641	42.776293	Inlet to 36" pipe Billingsley Creek
165	2013-04-22T20:33:25Z	-114.848367	42.776244	8" CMP (used H2O from hatch house) into Billingsley Creek
166	2013-04-22T20:34:13Z	-114.848309	42.776228	2" steel pipe from hatch house drain - No Flow into Billingsley Creek
167	2013-04-22T20:35:58Z	-114.848174	42.776227	24" CMP from Spring south of hatch house into Billingsley Creek
168	2013-04-22T20:36:27Z	-114.848161	42.776224	White 6" PVC pipe - drain from hatchery house roof - no flow & seep from ground below hatchery
169	2013-04-22T20:40:50Z	-114.848783	42.776234	8" CMP into Billingsley Creek below the 36" CMP inlet (below the road)
170	2013-04-22T20:43:05Z	-114.848730	42.776314	3" PVC (painted aluminum color)- abandoned runoff from house irrigation)
171	2013-04-22T20:44:42Z	-114.848994	42.776233	Drain for truckfill standpipe from 6" white pipe to hatchery
172	2013-04-22T20:45:52Z	-114.848904	42.776214	24" CMP into Billingsley Creek ground drainage from hatchery area
173	2013-04-22T20:51:42Z	-114.849594	42.776467	18" concrete pipe into Billingsley Creek drain pipe for small raceways - no flow
174	2013-04-22T20:56:21Z	-114.849955	42.776601	18" concrete pipe (dissipation pond) used water from the lab - no flow
175	2013-04-22T21:00:29Z	-114.850565	42.776784	6" steel pipe into s. side of Billingsley Crk - grnd drainage - no flow Irr. Water from above rim
176	2013-04-22T21:05:42Z	-114.850528	42.777029	3" PVC pipe likely ground drainage
177	2013-04-22T21:05:51Z	-114.850572	42.777037	12" CMP Irrigation water runoff from above the rim (see photo 44)
178	2013-04-22T21:11:09Z	-114.852129	42.777262	48" Concrete drain from headrace of large race ways - no flow
179	2013-04-22T21:13:03Z	-114.852487	42.777286	36" Concrete drainage - large raceway - no flow
180	2013-04-22T21:14:15Z	-114.852835	42.777346	36" Concrete drainage - large raceway - no flow 2 pipe
181	2013-04-22T21:16:18Z	-114.853202	42.777372	36" Concrete pipe - drain for large raceway
182	2013-04-22T21:16:29Z	-114.853218	42.777389	36" Concrete pipe - drain for large raceway tail race
183	2013-04-22T21:17:38Z	-114.853271	42.777386	4" PVC (white drain) for pipe to CTR raceways - no flow
184	2013-04-22T21:18:51Z	-114.853640	42.777370	Measuring site Log Pond, Weir measurement
185	2013-04-22T21:23:37Z	-114.853864	42.777500	2" PVC Freeze drainline from CTR pipe
186	2013-04-22T21:31:27Z	-114.855690	42.778708	36" Concrete pipe outlet of CTR raceways
187	2013-04-22T21:31:41Z	-114.855652	42.778778	36" Concrete pipe outlet of CTR raceways
188	2013-04-22T21:33:25Z	-114.856190	42.778782	Irrigation return flow along county road from pasture to north
189	2013-04-22T21:34:37Z	-114.855849	42.778793	Pipe line - Irrigation return flow from pasture to north into Billingsley Creek
190	2013-04-22T21:36:14Z	-114.855904	42.778665	Confluence of Billingsley Creek & Rangen outflow
191	2013-04-22T21:41:59Z	-114.854278	42.778148	CTR Measure: 5.0", 4 3/4", 5 1/4"
192	2013-04-22T21:49:44Z	-114.849179	42.776479	Pipe into north side of Billingsley Creek - Probably ground drainage

Water Balance Calcs

Total Flow in Rangen System		22-Apr-13	
CTR Raceway Flow	GPS 191	11.93 cfs	by Rangen personnel
Dam	GPS184	0.51 cfs	by Rangen personnel
	Total	12.44 cfs	

Measured Inflow not emanating from Martin/Curren Tunnel or springs within the 10 acre tract SESWNW Sec 32 T07S R 14E and upstream of the diversion for the 36 inch concrete pipe

GPS point	Water Source	4/22/2013 cfs	
162	springs	0.13	**CMP outlet to Billingsley Creek from CMP inlet, measured flow 0.16 cfs Estimate 80% has source in SESWNW Sec 32(West Parcel)
163		No flow	Alluminum pipe surface drain below house
164			inlet to 36" pipe from Billingsley Creek to Large Raceways
165	tunnel	0.3	8" CMP (used H2O from hatch house) into Billingsley Creek Estimated fow 0.3 cfs.
166		No flow	2" steel pipe from hatch house drain - No Flow into Billingsley Creek
167		0.08	24" CMP from Spring south of hatch house into Billingsley Creek, source in NENWSW Sec32
168		No flow	White 6" PVC pipe - drain from hatchery house roof - no flow & seep from ground below hatchery
169		0.03	8" CMP into Billingsley Creek below the 36" CMP inlet (below the road)
170		No flow	3" PVC (painted aluminum color)- abandoned runoff from house irrigation)
171	tunnel	0	Drain for truckfill standpipe from 6" white pipe to hatchery
172		No flow	24" CMP into Billingsley Creek ground drainage from hatchery area
192		0.05	Underground hole into north side of Billingsley Creek - ground drainage
173		No flow	18" concrete pipe into Billingsley Creek drain pipe for small raceways - no flow
174		No flow	18" concrete pipe (dissipation pond) used water from the lab - no flow
175		No flow	6" steel pipe into south side of Billingsley Creek - ground drainage - no flow
176		0.09	3" PVC pipe ground drainage
177	Rim irrig.	0.05	12" CMP Irrigation water runoff from above the rim (see photo 44)
178		No flow	48" Concrete drain from headrace of large race ways - no flow
179		No flow	36" Concrete drainage - large raceway - no flow
180		No flow	36" Concrete drainage - large raceway - no flow
181		No flow	36" Concrete pipe - drain for large raceway
182		No flow	36" Concrete pipe - drain for large raceway tail race
183		No flow	4" PVC (white drain) for pipe to CTR raceways - no flow
184			Measuring site Log Pond

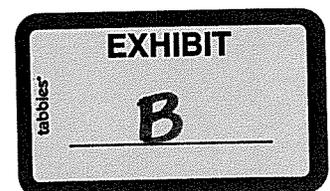
0.38 cfs Emanating from source in SWSWNW(west parcel) gps points 162,167,169,176,192
 0.73 cfs All Inflow to Billingsley Crk. from toe of talus slope downstream

to Total flow measurement not sourced from Martin/ Curren tunnel

Percent

Total Flow in System	12.44 cfs	100% Measured by Rangen personnel
Flow into Billingsley Creek from SWSWNW	0.38 cfs	3% Sum of points 162,167,169,176,192
Flow into Billingsley Creek from SESWNW	12.06 cfs	97%

**This CMP collects spring flow emanating partially from the area to the north of Billingsley Creek on the SESWNW Sec 32 which is the same 1/4 1/41/4 as Martin/Curren Tunnel It is estimated that 20% of the flow in this pipe has a source in the SESWNW of Sec 32



4/23/13

Joy,

on 4/22/13

The measurements for the hatchery are as follows:

Top 5	3 1/2 - 3 3/4	3.65	} 11.50
	1.75 - 1.93		
Top 6	3 7/8 - 3 5/8	3.96	
	2.12 - 1.84		
Top 7	3 3/4 - 3 3/4	3.86	
	1.93 - 1.93		

Top B	5 1/4 - 4 7/8 - 4 3/4	11.93
	4.31 - 3.58 - 3.74	

Dam 1 1/2

(.51) gpm 24.00

↓

12.44

Weekly flow recorded for 4/22: 11.50 Log Race.

 11.93 ETR

 0.51 Dam

Doug.

Rangen Inc.

Project: Point of Diversion Analysis

Location: Billingsly Creek - Springs

Date: 4-22-20132

Weather: Clear - Windy

Logged by: CEB - GWS

Brockway Engineering PLLC : AP

CMP: Corrigated Metal Pipe

DS: Down Stream

CTR: _____

Time	GPS Point	Notes
1:20 PM	140	Spring above white pipe
		1st Spring going up hill
	141	Spring above white pipe
	142	Spring above white pipe
	143	Spring above white pipe
	144	Spring above white pipe
	145	Spring above white pipe
	146	Spring above white pipe
	147	Spring above white pipe
	148	Spring above white pipe
	149	Spring under white pipe
	150	Spring Below White Pipe
	151	Concrete Box
	152	Spring Flowing around box into talus
	153	Spring Flowing around box into talus
	154	Spring 1st spring above box
	155	Spring
	156	Box at tunnel outlet
		Photo showing tunnel box, and Billingsley Creek
	157	Spring north of tunnel likely flows to talus slope
	158	Spring above old road (.25 cfs est.)
	159	Spring above road
		Spring and outcrop (023)
	160	Spring above old road
	161	Inlet to CMP (collects spring flow from above road - points 156-160)
	162	CMP outlet to Billingsley Creek from CMP inlet (photos 026-027)
	163	Aluminum pipe surface drain below house - no flow
	164	Inlet to 36" pipe Billingsley Creek
		Inlet to 36" pipe looking DS
	165	8" CMP (used H2O from hatch house) into Billingsley Creek
	166	2" steel pipe from hatch house drain - No Flow into Billingsley Creek
	167	24" CMP from Spring south of hatch house into Billingsley Creek
	168	White 6" PVC pipe - drain from hatchery house roof - no flow & seep from ground below hatchery
	169	8" CMP into Billingsley Creek below the 36" CMP inlet (below the road)
	170	3" PVC (painted aluminum color)- abandoned runoff from house irrigation)
	171	Drain for truckfill standpipe from 6" white pipe to hatchery
	172	24" CMP into Billingsley Creek ground drainage from hatchery area
	192	Pipe into north side of Billingsley Creek - Probably ground drainage
	173	18" concrete pipe into Billingsley Creek drain pipe for small raceways - no flow
	174	18" concrete pipe (dissipation pond) used water from the lab - no flow

all Springs flow into Talus slope

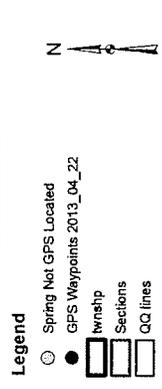
Time	GPS Point	Notes
3:00 PM	175	6" steel pipe into south side of Billingsley Creek - ground drainage - no flow Irrigation water from above rim
	176	3" PVC pipe likely ground drainage
	177	12" CMP Irrigation water runoff from above the rim (see photo 44)
	178	48" Concrete drain from headrace of large race ways - no flow
	179	36" Concrete drainage - large raceway - no flow
	180	36" Concrete drainage - large raceway - no flow 2 pipes
	181	36" Concrete pipe - drain for large raceway
	182	36" Concrete pipe - drain for large raceway tail race
	183	4" PVC (white drain) for pipe to CTR raceways - no flow
	184	Measuring site Log Pond Weir Measurement
	185	2" PVC Freeze drainline from CTR pipe
	186	36" Concrete pipe outlet of CTR raceways
	187	36" Concrete pipe outlet of CTR raceways
	188	Irrigation return flow along county road from pasture to north
	189	Pipe line - Irrigation return flow from pasture to north into Billingsley Creek
	190	Confluence of Billingsley Creek & Rangen outflow
	191	CTR Measure: 5.0", 4 3/4", 5 1/4"

4:20 PM

Water Meas - CMP Pipe from Springs on north hill

Point	Seconds	Gallons	GPM	Average GPM	Average CFS	
	3.9	4.5	69.23			
162	4.0	4.8	72	70.3	0.16	
	4.3	5.0	69.77			
169	23.8	5.1	12.86	13.43	0.03	
	21.0	4.9	14			
165	<i>est. 0.3 cfs</i>				0.3	
167	4.4	2.4	32.73	33.8	0.08	
	4.4	2.5	34.09			
	4.0	2.3	34.5			
177	12" CMP	12.1	4.2	20.83	20.7	0.05
		14.0	4.9	21		
		14.6	4.9	20.14		
176	3"	8.1	5.2	38.52	40.0	0.09
		8.0	5.5	41.25		
		8.5	5.7	40.24		
192		6.7	2.4	21.49	21.0	0.05
		7.5	2.6	20.8		
		7.8	2.7	20.77		
171	1 min.	24	2.2	2.2	2.2	0.00

General Observation:



**RANGEN INC.
WATER SOURCE ANALYSIS
BING AERIAL PHOTOGRAPH**

EXHIBIT

tabbles