

ORIGINAL

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RECEIVED

APR 24 2013

DEPARTMENT OF  
WATER RESOURCES

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

**IGWA'S AMENDED  
WITNESS AND EXHIBIT  
LIST**

The Idaho Ground Water Appropriators, Inc., ("IGWA"), acting for and on behalf of its members, by the undersigned counsel, hereby provide this Amended Witness and Exhibit List.

**IGWA LAY WITNESSES:**

1. Lynn Carlquist
2. Dean Stevenson
3. Tim Deeg
4. Brian Higgs

**PUBLIC WITNESSES – EMPLOYEES OF IDWR:**

5. Neal Farmer
6. Rick Raymondi
7. Sean Vincent

**IGWA EXPERT WITNESSES:**

- 8. Charles Brendecke, Ph.D.
- 9. Raghavendra "Raghu" Suribhatla, Ph.D.
- 10. Bern S. Hinckley
- 11. Thomas Rogers
- 12. John S. Church

**IGWA OTHER WITNESS:**

- 13. Any other witness listed by any other party in this case.

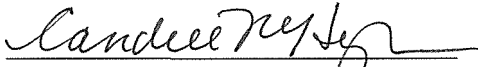
Additional witnesses may be disclosed for rebuttal or foundational purposes. IGWA reserves the right to use rebuttal and cross examination exhibits in addition to those listed on the attached list of exhibits if it is deemed necessary at the hearing. Additionally, any illustrative exhibits to aid or explain witness testimony may be introduced at the hearing.

**IGWA EXHIBITS:**

Attached hereto is an updated list of exhibits IGWA may use at the hearing.


DATED this 24<sup>th</sup> day of April, 2013.

RACINE, OLSON, NYE, BUDGE &  
BAILEY, CHARTERED

By:   
**RANDALL C. BUDGE**  
**CANDICE M. MCHUGH**  
**THOMAS J. BUDGE**  
*Attorneys for IGWA*

**CERTIFICATE OF SERVICE**

I hereby certify that on this 24<sup>th</sup> day of April, 2013, I caused to be served a true and correct copy of the foregoing **GROUND WATER DISTRICTS' WITNESS AND EXHIBIT DISCLOSURE**, upon the following by the method indicated:

  
Signature of person serving form

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UPDATED IGWA EXHIBIT LIST

4/24/2013

Exhibit Number	Name
2001	2006 Project Expense Re-Cap for Fisheries Development Co
2002	20040529 L Cope letter and Grant App docs to Engstrom re Clear Springs Foods
2003	20040531 G Kaslo letter to Engstrom re Fisheries Development Co
2004	20040531 Rangen Grant App Hoagland Tunnel
2005	20040531 Rangen Grant App re horizontal well
2006	20040531 Rangen GrantApp re groundwater well
2007	20040601 App. for Financial Assit. for WR 36-134A & 36-135B
2008	20040601 App. for Financial Assit. to Eval Horizontal Well in Curren Tunnel
2009	
2010	20040601 App. for Financial Assit. to Eval. GW Pumping at Rangen
2011	
2012	
2013	20040608 Engstrom ltr to Courtney
2014	20040608 J Engstrom letter to Cope re Clear Springs App and Grant Contract
2015	20040608 Letter to G Kaslo from J. Engstrom re Grant App
2016	20040722 Engstrom ltr to Courtney
2017	
2018	20040908 Mitigation Grant Contract re Clear Springs Foods
2019	
2020	20050617 K Quigley letter to Engstrom re Clear Springs Foods
2021	
2022	20050617 Request for Cost Reimbursement - Clear Springs Foods
2023	20050630 Kaslo letter to Madarieta re Fisheries Development re Reimbursement
2025	20050714 Madarieta to G Kaslo - Contract Amendment No. 1
2026	20070711 Rangen, Inc. ESPAM Grant 03 Contract Amendment
2027	
2028	Aerial photograph
2029	Certificate of Survey, dated 05/24/1962
2030	Correspondence relating to Grant Applications and documents
2031	Curran Tunnel Schematic
2032	Draft Memorandum from C. Petrich to Rangen Inc., dated 05/20/2004
2033	Idaho Power Agreements
2034	IDEQ 2006.PDFoundation
2035	Memorandum from C. Yenter to K. Dreher dated 12/15/2003
2036	Memorandum from T. Luke to D. Jones, dated 12/01/1995
2037	Rangen Aquaculture Research & Hatchery map
2038	Rangen's Research Hatchery map,
2039	Well Agreement, dated 06/16/1982
2040	20040520 SPFoundation Memo re Rangen Grant Application
2041	Letter from C. Cora to C. Peterschmidt dated 5/14/2002
2042	20060413 Fish Rearing License and App - Rangen Research Hatchery - Excerpt
2043	20060413 Fish Rearing License and App - Rangen Research Hatchery
2044	20080204 Fish Rearing License and App - Rangen Research Hatchery - Excerpts
2045	20080204 Fish Rearing License and App - Rangen Research Hatchery
2046	20081205 Application - Rangen Research Hatchery - Excerpt

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2047	20081205 Application - Rangen Research Hatchery
2048	19960306 Fish Rearing License and app - Decker / Wood Ponds
2049	19960306 Fish Rearing License and app - Rangen Research Hatchery
2050	19960306 Fish Rearing License and app - Decker / Wood Ponds 2
2051	19970707 Fish Rearing App - Rangen Research Hatchery
2052	19980217 Fish Rearing App - Rangen Research Hatchery
2053	20000121 Fish Rearing License and App - Rangen Research Hatchery
2054	20010829 Fish Rearing App - Rangen Research Hatchery
2055	20020225 Fish Rearing License and App - Rangen Research Hatchery
2056	20040409 Fish Rearing License and App - Rangen Research Hatchery
2057	1991 Feed Lab Bldg Expansion 2
2058	
2059	
2060	Confid. Best Management Practices Plan & Data
2061	Confid. Quality Assurance Plan Reports/Data
2062	Brannon presentation to ESHMC: "Analysis of Historical Rangen Spring Flows"
2063	"Additional Data for Consideration" from Tim Luke to Sukow, with Table
2064	Hatchery Production Summary, Idaho Power Company Triploid Rainbow Trout
2065	Rangen Research Hatchery Monthly Report, December 2006
2066	20130320 Email re Document Req at Smith depo
2067	
2068	Aquaculture Research Center Diagram
2069	Confidential - Diagram of Property near Hagerman, Idaho
2070	Confidential - Hatchery Production Summary
2071	Confidential - Nov. 2011 Table
2072	
2073	Confidential - Rangen Aquaculture Research Center Diagram
2074	
2075	Confidential - Rangen Research Hatchery
2076	
2077	Confidential - RARCross (IARC) Work Unit Summary
2078	Confidential - RARCross (IARC) Work Unity Summary- Updated May 2002
2079	Deposition Exhibits
2080	Diagram of Property near Hagerman, Idaho
2081	Directors Report 63-7879
2082	Final Order Concerning the Over-the-Rim Mitigation Plan
2083	Greenhouse Tanks Sizes
2084	Handwritten Note Peterschmidt
2085	Hatchery Production Summary
2086	
2087	
2088	Historical fish production records_Redacted
2089	
2090	October 2012 Table
2091	Photograph - Hatch House 1
2092	Photograph - Hatch House 2
2093	Photograph of value structure by greenhouse

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2094	Raceway Volumes and Identifiers Rangen Fish Hatchery- Draft
2095	
2096	
2097	Rangen Research Hatchery flow and production record, 1972-1990
2098	Rangen Research Hatchery
2099	Rangen Trout Research Hatchery Outline of Operations
2100	RangenFlowCompilationAMEC
2101	RARCross (IARC) Work Unit Summary
2102	RARCross (IARC) Work Unit Summary
2103	RARCross (IARC) Work Unity Summary- Updated May 2002
2104	Replacement Exhibit 047 - Table of Range Fish Production
2105	Rogers Fig. 3.1 - Drawing of Rangen Aquaculture Research Service Unit
2106	Rogers Fig. 3.2 - Hatchery Building Including Hatch House and Greenhouse
2107	Rogers Fig. 4 - IDWR Well Nos. 989 and 991 Location Map
2108	Rogers Table 2.0 - Comparing Volumes-Capacities of Rangen Structures
2109	Rogers Table 2.4 - IFG operated facilities that use pumped
2110	Rogers Table 4.3 - Total Flow through Rangen Site 360410089, 1966-2011
2111	Rogers Table 4.1- 1972-1979 Fish Fed by Hand and Blower
2112	Total Flow Measurements
2113	Trout and Salmon Culture
2114	Trout Production
2115	Weekly Total Flow Measurements
2116	Wet Lab #2 Bucket and Tank Numbers
2117	001 Rangen Trout Hatchery Outline of Operations
2118	002 Rangen Trout Hatchery Outline of Operations
2119	19940224 Fish Rearing License and application
2120	19940408 Bureau of Fisheries letter to D Ramsey re transport permit
2121	19960227 Letter re License Applications
2122	Fish Hatchery Management.pdf
2124	Hatchhouse, wide angle
2125	2011 Annual Fish & Game Report - Resident Fish Hatcheries
2126	Rangen Hatchery aerial view
2127	Research Facility
2128	Rogers Opening Report dated 12-21-2012 corrected 1-24-2013
2129	Rogers Rebuttal Report dated 2-8-2013
2130	IDWR Ltr of 2/6/96 to Rangen re: 1996 Water Measurement Report
2131	IDWR Min. Acceptable Standards for Open Channel & Closed Conduit Measuring
2132	May ltr of 7/28/94 to Young re: Installation of Flow Meter on Pipeline
2133	Annual Report file
2134	Hagerman Swimming Inventory and other related documents
2135	Hatchery Production Summary
2136	Hatchery Water Measurements
2137	Miscellaneous file
2138	QAPP file
2139	Rangen Hatchery production records
2140	Rangen Research Hatchery and Fall Creek Hatchery Monthly Report, 1994
2141	Rangen Research Hatchery production record

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2142	Rangen Research Hatchery production records
2143	Sales Records
2144	Spreadsheet of fish production
2145	Spreadsheet of fish production
2146	Spreadsheet of fish production, 1998
2147	Rangen hist water flows ltr to IDWR dated 11.21.2003
2148	Rangen Inc pages IGWA 000783 - 000788
2149	rangen MW data download
2150	Rangen MW water levels
2151	Rangen Research Hatchery
2152	Rangen Water History for IDWR
2153	rangen_data_presentation
2154	Church - Table 1 - U.S. and Idaho Foodsize Trout Sales Statistics- 1992-2011
2155	Church - Table 2 - U.S. Trout Imports and Exports- 1999-2011
2156	Farm to School, The Pick of the Crop from Idaho
2157	Idaho Aquaculture Trout Production Statistics
2158	MBA_SeafoodWatch_FarmedTroutReport 2004
2159	Misc. Docs re: Canyon Springs Grant Process
2160	Misc. Docs re: Canyon Springs Grant Process
2161	Misc. Docs re: Canyon Springs Grant Process
2162	Misc. Docs re: Clear Springs Foods Grant Process
2163	Misc. Docs re: Clear Springs Foods Grant Process
2164	Misc. Docs re: Clear Springs Foods Grant Process
2165	Misc. Docs re: Fisheries Development Co Grant Process
2166	Misc. Docs re: Fisheries Development Co Grant Process
2167	Misc. Docs re: Fisheries Development Co Grant Process
2168	Misc. Docs re: Fisheries Development Co Grant Process
2169	Misc. Docs re: Fisheries Development Co Grant Process
2170	Pages from Annual Statistical Bulletin - 2011
2171	Rangen Inc. Company Web site
2172	Church Opening Report dated 12-21-2013
2173	ESPAM2.1 Nov. 2007 Aquifer Head Dist. w/notations
2174	Rangen Groundwater Discharge Cross-Section with Notations by Farmer
2175	Rangen Area Groundwater Level Schematic with Notations by Farmer
2176	Rangen Area Irrig. Wells w/Not. By Farmer
2177	Schematic Contouring of Base Primary Aquifer, with Notations by Farmer
2178	Fluorescent Dye Tracer Tests & Hydrogeology near Malad Gorge State Park
2179	Hydrogeologic Conditions at Rangen Spring
2180	Ltr from Koreny, Brockway, Bowling & Schreuder to Raymondi 10/24/06 re: ESPAM
2181	Pages from farmer
2182	Pictures GFF
2183	Review of Hydrogeologic Conditions at & adjacent to Rangen 3/4/09
2184	20080925 Farmer Memo re Rangen Monitor Well
2185	Elevation Map 2
2186	ESPAM 2.1 Transmissivity
2187	ESPAM 2007 Aquifer Head
2188	ESPAM Calibration Charts



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2190	Massive Cliff
2191	Nearby Wells
2192	Geological Sections
2193	Elevation Map
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2195	GW Contors
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2197	Hinckley Fig. 1 ESPAM 2.1 Elevation Discharge-Relationship
2198	Hinckley Fig. 10 - Rangen Groundwater Discharge Profile
2199	Hinckley Fig. 11 - Rangen Groundwater Discharge
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2201	Hinckley Fig. 14 - Rangen Discharge 1993-2009
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2204	Hinckley Fig. 17 - Rangen Discharge and Aquifer Water Level Elevation 1985-2009
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2206	Hinckley Fig. 19 - Rangen Area Irrigation Wells
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2210	Hinckley Fig. 22 - ESPAM 2.1 Row 44 Schematic Profile and Model Overlay
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2227	Hinckley Fig. 9 - Malad Gorge Schematic Geologic Cross-Section
2228	Hinckley Additional Fig. 10A
2229	Hinckley Fig. 13 - Rangen Groundwater Discharge Cross-Section
2230	Article in Press - Journal of Hydrology
2231	Qanat in Old World
2232	Qanat Systems in Iran
2233	Qanats in Old World
2234	Qanats, Karez and Foggaras - George B. Cressey
2235	Map of PODs surrounding Rangen

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2238	USGS Pro Paper
2239	200912 DEQ Southern Gooding County
2240	Curran_Tunnel_extractio
2241	2004 IWRRRI curtailment scenario
2243	Gary Johnson - "Errors from Assuming Unconfined Aquifers are Constant Thickness"
2244	Pages from Dist 36A Rangen Pipeline Source Curren Tunnel, Hageramn
2245	Ramp Area Wells
2246	2003 Curren Tunnel Area GPS Survey (Sandy Pipeline)
2247	Hinckley Opening Report dated 12-21-2012 corrected 1-18-2013
2248	Hinckley Rebuttal Report dated 2-8-2013
2249	Hinckley Response to Staff Memo dated 4-5-2013
2250	19930608 Higgison Lemmon letter
2251	
2252	Ground Water Districts Map
2253	Ground Water Districts Hydrographs
2254	NS WaterLevels.pdf
2255	2005 Conceptual layout of Replacement Water options
2256	2009 1-13, 14 Brendecke Comments Re Uncertainty
2257	2009 7-8, 9 Brendecke Comments re Uncertainty
2258	2012 2-27 Brendecke Supp Comments re Uncertainty
2259	20120227 CMB Uncertainty Comments 2-27-12
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2302	Brendecke Fig. 4.8 - Rangen Monitoring Well Water Levels
2303	Brendecke Fig. 4.9 - Changes in Tranmissivity in Rangen Area between ESPAM 2 and 2.1
2304	Brendecke Fig. 4-1 - Modified ESPAM Doc Figure 36 with Est. GW after 1961 curtailment
2305	Brendecke Fig. 5.1 - Reproduced Graph from Exhibit 11 of Rangen Petition
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2307	Brendecke Fig. 6.2 - HFB Added to Alternative Model
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2309	Brendecke Fig. 6.4a and 6.4b - Rangen Spring Flow Calibration Using Alt. Model #1 and #2
2310	Brendecke Fig. 6.5a and 6.5b - Head Match in Wells 989 and 992 for Alt. Model 1 and 2
2311	Brendecke Fig. 6-1 - Groundwater Gradients with Rangen Report Regression Wells
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2320	Brendecke Table 4.3 - Mean Abolute Error (MAE) over Last 10 Years for Individual Springs
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2323	Brendecke - Table 5.1 - Results of IDWR Curtailment Analysis using ESPAM 2
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2328	Curren Tunnel Diagram
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2334	ESPAM 2.1 Figure 20
2335	ESPAM 2.1 Figure 21
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2338	ESPAM 2.1 Figure 28
2339	ESPAM 2.1 Figure 31
2340	ESPAM 2.1 Figure 35
2341	ESPAM 2.1 Figure 36
2342	ESPAM 2.1 Figure 56
2343	ESPAM 2.1 Figure 71
2344	ESPAM 2.1 Figure 8
2345	ESPAM 2.1 Figures 83-100
2346	Part of Exhibit 2345
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2358	ESPAM 2.1 Figure 97
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2361	Excerpt from Ans-X-Claim of High & Fritchman
2362	Facility Volume Notes from 36-7694 back file
2363	Figure 4-Rangen Area Location Map
2364	IDWR Trim Line Alternatives
2365	LRE Curtailment Memo_12_09_2011_wAppA
2366	Memo from Yenter to Dreher 12/15/13 re: Water Right Review & Measuring Devices
2367	Miller Memo to Brendecke - Fish Hatchery Surface Water Diversion
2368	Mitigation Options from IDWR files
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2370	RANGEN013294_Water Options
2371	Table 3 Comparing 1902 springs
2372	Trimline Chart
2373	Brendecke Table A.1 Curtailment Results Using ESPAM 2.1 (Revised Table 5.2)
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2375	Brendecke Attachment B - Recalibrated Alternatie Modeling Results
2376	Brendecke Table B.1 - Comparison of Predicted Gains to Rangen (modified IDWR Table 3)
2377	Figure B.1 - Trimline Comparisons ESPAM2.1 and AMEC Alternative Model
2378	Aerial Photo of Rangen
2379	19620524 Certificate of Survey Rangen
2380	1962? Handrawn diagram of water source at Rangen
2381	ESPAM 2.1 Figure 96
2382	19311228 High & Fritchman Answer & Cross-Bill of Intervenor
2383	19320323 High & Fritchman Decree
2384	19621230 Newspaper article re Man Made Springs
2385	19930715 IDWR Response to Requests for Admission
2386	19950611 Brockway ltr to May
2387	19310219 Complaint
2388	19310923 Answer-Counter-Claims
2389	35-9068 Water Right backfile
2390	excerpts from New Int Mortgage v IPC
2391	ESPAM Table 9
2392A	ESPAM Tables A-1 through A-4 of Attachment A
2392B	ESPAM Tables A-2 through A-4 of Attachment A
2392C	ESPAM Tables A-3 through A-4 of Attachment A
2392D	ESPAM Tables A-4 through A-4 of Attachment A
2393	IDEQ Oversight Monitor March 2006
2394	pp. 158-159 of Water Supply Paper 1317
2395	Magnitude of Spring Gains as Simulated by ESPAM 2.1, 7/13/1962
2396	Potential Influences to Rangen Flow: PDSI, Canal Lining, and Annual GW Permitted Volume
2397	Scales of Model Input Water Budget Terms
2398	Minimizing Residuals in Model Calibration
2399	Curvilinear Relationship between Rangen Flow and Water Level in Well 08S14E16CBB1 compared to ESPAM2.1 Calibrated Drain Conductance
2400	North Side Canal Company Service Area, Canals in ESPAM 2.1 with Simulated Seepage, and Transmissivity of ESPAM 2.1
2401	Brendecke Opening Expert Report dated 12-21-2012 corrected 1-17-2013
2402	Brendecke Rebuttal Report dated 2-8-2013
2403	Brendecke Response to Staff Memo dated 4-5-2013
2404	19951107 Draft Brockway Feasibility Eval
2405	Permit, Beneficial Use Field Report, Decree #63-7879
2406	Barrowsetal 2007
2407	BATES IGWA 000019 A - S
2408	3D Cross-Section of Rangen cells
2409	Brendecke Resume
2410	Hinckley Resume
2411	Church Resume
2412	Rogers Resume