BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DESIGNATING THE EASTERN SNAKE PLAIN AQUIFER GROUND WATER MANAGEMENT AREA DOCKET NO. AA-GWMA-2016-001

FINAL ORDER ON FACT ISSUE

BACKGROUND AND PROCEDURAL HISTORY

On November 4, 2016, the Director of the Idaho Department of Water Resources ("Director") ("Department" or "IDWR") issued an Order Designating the Eastern Snake Plain Aquifer Ground Water Management Area ("ESPA GWMA") ("Designation Order").

The Designation Order spawned several legal proceedings.¹ On September 25, 2019, the Director scheduled an administrative hearing for the contested case by issuing the *Deadline for IDWR*'s Submittal of Materials; Order on Motion Practice; Notice of Hearing and Scheduling Order; Order Authorizing Discovery ("Scheduling Order").

The Scheduling Order confined the scope of the hearing to one factual issue² and set deadlines for disclosure of experts, expert reports, responses, a specific deadline for IDWR to respond to expert reports, responses thereto, disclosure of lay witnesses, and disclosure of exhibits. The hearing was scheduled for February 18-21, 2020.

On December 9, 2019, in response to the remaining factual issue delineated in the Scheduling Order, Fremont Madison Irrigation District, Madison Ground Water District, and Idaho Irrigation District ("Upper Valley Irrigators" or "UV") timely filed its *Disclosure of Experts and Expert Reports*, naming Bryce Contor ("Contor") as an expert along with a report titled *Technical Report Regarding Final Order Designating the ESPA GWMA* ("UV Technical Report") dated December 5, 2019.³

¹ For a complete background and procedural history of Docket No. AA-GWMA-2016-001, see pages 1-4 of the interlocutory *Final Order on Legal Issues*, issued in this matter on January 9, 2020.

² The one factual issue at hearing is the subject of this Order and is stated herein. The sole factual issue was identified as a result of the Director ordering, and various parties submitting, issue statements. See Order Adopting Deadlines; Notice of Additional Prehearing Conference. After consideration of the issues presented in the various party issue statements, the Director identified all but one issue to be legal issues and ordered motion practice to address the legal issues raised by the parties. The Director ordered a hearing for the one factual issue raised by the parties. See Scheduling Order; and Order on Legal Issues. The Scheduling Order delineated the scope of the one factual issue, and, therefore, the scope of the hearing and this Order.

³ UV also disclosed Roger Warner as an expert, but Mr. Warner did not submit an expert report and did not testify at hearing.

On December 31, 2019, Department engineer/hydrogeologist Jennifer Sukow ("Sukow") filed a memorandum responding to the UV Technical Report ("IDWR Technical Response").⁴

On January 13, 2020, the Basin 33 Water Users ("Basin 33"), the Surface Water Coalition ("SWC"), and UV all timely disclosed lay witnesses. See Basin 33 Water Users' Lay Witness Disclosure; SWC Lay Witness Disclosure; and Fremont Madison Irrigation District, Madison Ground Water District and Idaho Irrigation District's Disclosure of Lay Witnesses.

On January 13, 2020, SWC, through its disclosed expert David Colvin ("Colvin"), also filed its *Rebuttal to Expert Report Eastern Snake Plain Aquifer Ground Water Management Area Docket No. AA-GWMA-2016-001* ("SWC Technical Response"), which responded to both UV's Technical Report and IDWR's Technical Response.

On January 20, 2020, UV, through Bryce Contor, filed its *Response to IDWR's Response* to *Expert Reports* ("UV Response").

On February 10, 2020, UV, SWC, and IDWR timely submitted hearing exhibit lists and exhibits. See Fremont Madison Irrigation District, Madison Ground Water District and Idaho Irrigation District's Exhibit List; IDWR Exhibit List; and Notice of Service of Surface Water Coalition's Hearing Exhibit List.

On February 10, 2020, Basin 33 filed a Notice of Basin 33 Water Users' Nonparticipation at Hearing. On February 11, 2020, IGWA filed a Notice of IGWA's Nonparticipation at Hearing. On February 17, 2020, the City of Pocatello filed the City of Pocatello's Notice of Nonparticipation at Hearing. No other parties disclosed witnesses or exhibits or otherwise indicated whether they would or would not participate at hearing.

On February 18, 2020, the Director conducted the administrative hearing in Boise, Idaho. Attorneys Travis Thompson and Kent Fletcher represented SWC. Attorney Jerry Rigby represented UV. Attorneys Chris Bromley and Candice McHugh represented the Coalition of Cities and McCain Foods. Attorney John Simpson represented Idaho Power Co. and Clear Springs Food LLC. Attorney Sean Costello represented IDWR. UV's expert Bryce Contor, SWC's expert David Colvin, and IDWR's expert Jennifer Sukow appeared at the hearing.

SWC Exhibits 100, 101, 102, 103, and 104 were offered and admitted into the record without objection. UV Exhibits 200, 201, 202, 203, 204, 205, 206, 207 and 208 were offered and admitted into the record without objection. IDWR Exhibit 500 was offered and admitted into the record without objection.

⁴ On January 17, 2020, Basin 33 filed its *Motion to Designate IDWR Witnesses* ("Basin 33 Witness Motion"), which requested IDWR designate witnesses, or, in the alternative, disclose Department employees who worked on the ESPA GWMA Designation Order. On January 24, 2020, SWC filed its *Response to Basin 33 Users' Motion to Designate IDWR Witnesses*. On February 6, 2020, the Director issued an *Order Partially Denying Basin 33 Water Users' Motion to Designate IDWR Witnesses; Order Identifying Witness* ("IDWR Witness Order"). The IDWR Witness Order denied part of Basin 33's Witness Motion but granted part of the motion by designating Jennifer Sukow, who filed IDWR's Technical Response, as IDWR's sole witness for hearing.

The Director reviewed the record and now issues this Final Order. In summary, the Rexburg Bench (the "Bench") is tributary to the ESPA, is not remote from the ESPA, and is sufficiently hydrogeologically connected to the ESPA to warrant inclusion of the Bench in the ESPA GWMA.

SCOPE OF REMAINING FACTUAL ISSUE

The Scheduling Order delineated the scope of the factual hearing in this matter:

Whether areas outside of the ESPA area of common ground water supply, as defined by [Rules for the Conjunctive Management of Surface and Ground Water Resources ("CM Rules")] Rule 50 (IDAPA 37.03.11.050), but included within the ESPA GWMA, are located in tributary basins and are otherwise sufficiently remote or hydrogeologically disconnected from the ESPA to warrant exclusion from the ESPA GWMA.

See Scheduling Order at 3.

UV filed the only initial expert technical report. UV's technical report challenges the inclusion of the area known as the Bench in the ESPA GWMA.⁵ Therefore, the Bench is the only area outside of the CM Rule 50 boundary, but included in the ESPA GWMA, at issue in this order.

The scope of the factual hearing statement above poses a threshold question: Is the Bench a tributary basin to the ESPA? If there is a determination that the Bench is a tributary basin, a second question must be answered: Is the ground water underlying the Bench sufficiently remote or hydrogeologically disconnected from the ESPA to warrant exclusion from the ESPA GWMA?

At the hearing, the parties agreed ground water underlying the Bench is tributary to the ESPA. See UV Technical Report at 9; Testimony of Bryce Contor; IDWR Technical Response at 16; Testimony of Jennifer Sukow; SWC Technical Response at 9; and Testimony of David Colvin. The Director agrees. Ground water underlying the Bench is tributary to the ESPA and this portion of the fact issue will not be further addressed in this order.

The parties also agreed the ground water underlying the Bench is not remote from the ESPA. See UV Response at 21; Testimony of Bryce Contor; *IDWR Technical Response* at 16; Testimony of Jennifer Sukow; *SWC Technical Response* at 9; and Testimony of David Colvin. The Director agrees. The ground water underlying the Bench is not remote from the ESPA and evidence and testimony related to this portion of the fact issue will not be further addressed in this order.

The parties also agreed ground water underlying the Bench is hydrogeologically connected to the ESPA. Testimony of Bryce Contor; Testimony of Jennifer Sukow; and

⁵ IDWR's expert Jennifer Sukow defined the Rexburg Bench on pages 1-2, Figure 1, of the IDWR Technical Response. All parties have agreed to that definition. See UV's Response to IDWR's Response to Expert Reports ("UV Technical Response") at 1; and Testimony of David Colvin.

Testimony of David Colvin. The key issue at hearing was the sufficiency of the hydrogeological connection between the Bench and the ESPA.

At hearing, expert witnesses testified extensively about the distinctions between hydrogeologic and hydraulic connectivity. A paragraph in Idaho Code § 42-233b references hydraulic connectivity when a ground water management plan is approved:

[T]he director may approve a ground water management plan for the [GWMA]. The ground water management plan shall provide for managing the effects of ground water withdrawals on the aquifer from which withdrawals are made and on any other hydraulically connected sources of water.

While the ESPA GWMA has been designated, no ground water management plan has been developed or approved. Hydraulic connectivity has no statutory relevance to GWMA designation. Under his authority and discretion in the Ground Water Act, the Director determined the operative issue for GWMA designation is whether sources of water are "hydrogeologically connected." For purposes of this order, the test for hydrogeological connection is: Whether ground water underlying the Bench and ground water underlying the Eastern Snake Plain ("ESP") are both part of an aquifer system that has reasonably well-defined boundaries and more or less definite areas of recharge and discharge. *See Order Designating the Eastern Snake Plain Aquifer Ground Water Management Area* at 21.

ANALYSIS

Whether the Area Underlying the Rexburg Bench is Sufficiently Hydrogeologically Disconnected from the ESPA to Warrant Exclusion from the ESPA GWMA.

UV's Technical Report advances numerous arguments suggesting the Rexburg Bench is sufficiently hydrogeologically disconnected from the ESPA to warrant exclusion. UV argues: (a) the statutory interpretation and meaning of "groundwater basin" in Idaho Code § 42-233b prevents inclusion of multiple ground water basins in a single GWMA; (b) the topography of the Bench is distinct from the topography of the ESP; (c) the geology and hydrogeology of the Bench is sufficiently different from the geology and hydrogeology of the ESP and ESPA to conclude they are not sufficiently hydrogeologically connected; (d) static ground water levels underlying the Bench are dissimilar to static ground water levels underlying the ESP, establishing hydrogeologic disconnection between the ESPA and the ground water underlying the Bench; (e) inclusion of the Bench in ESPA ground water flow models was for administrative reasons and does not justify inclusion of the Bench in the ESPA GWMA; and (f) ground water underlying areas not included in the ESPA GWMA are more hydrogeologically connected to the ESPA than the Bench, resulting in a conclusion that the inclusion of the Bench in the ESPA GWMA is arbitrary. The Director will address each of these arguments.

a. Whether the statutory interpretation and meaning of "ground water basin" in Idaho Code § 42-233b prevents inclusion of the Rexburg Bench in the GWMA.

Contor first reframes the operative issue through his statutory interpretation of "ground water basin":

It is clear that the legislature intended the distinction between singular and plural, as the phrase "*basin or basins*" (emphasis added) is used later for a different provision in the same statute.

UV Technical Report at 3. This is a misstatement. The text of Idaho Code § 42-233b does not contain the sequential words "basin or basins." Idaho Code § 42-233a, governing designation of critical ground water areas, contains the language "basin or basins," but the words are located in a subsection discussing when an area comprised of a "basin or basins" **not designated as a critical ground water area and where IDWR has issued permits to appropriate water**. This reference to "basin or basins" is not applicable in defining the words "any ground water basin" as stated in Idaho Code § 42-233b. Contor's conclusion that there is a clear legislative distinction between the singular "basin" and a plural "basins" in Idaho Code § 42-233b, or even in the larger Ground Water Act, is not supported by the statutory language.

Contor concluded the Bench is a unique, separate ground water basin and, therefore, is sufficiently disconnected from the ESPA to warrant exclusion from the ESPA GWMA. Whether the boundaries of the ESPA GWMA circumscribe a ground water basin must be determined by analyzing hydrogeology, not by comparing statutory word strings.

Sukow and Colvin also disagreed with Contor's reframing of the issue. Sukow concluded:

References to the Rexburg Bench and other areas as "tributary drainage basins" or "tributary basins" in model development reports do not exclude them from being part of a larger groundwater basin. It simply means they are tributary to the active model domain, which does not represent an entire groundwater basin. Further, the Rexburg Bench is located within the active model domain in recent models of the Eastern Snake Plain aquifer system and is not represented as a "tributary basin" in models developed within the last 20 years.

IDWR Technical Report at 16.

Colvin concluded:

[Contor] relies on semantics and plurality of the word "basin" to move away from the intent of the Director's framing of the technical issue. Whether or not humans call two areas a single basin or multiple basins has no bearing on whether they are hydrogeologically connected. Furthermore, two identified basins can be hydrogeologically connected when one basin is tributary to the other.

SWC Technical Response at 2.

The Director's Conclusion Regarding Alleged Statutory Distinctions Between "Basin" and "Basins."

The Director defined ground water basin, for purposes of ground water management area designation in the Designation Order:

[A ground water basin] is a term referring to an area in which ground water flows or moves within an aquifer or aquifers to common discharge areas, and has boundaries and areas of "recharge" that are reasonably well-defined. Like a surface water "basin," a "ground water basin" may be either relatively large or relatively small, and encompass tributary water sources (i.e. other ground water basins).

Designation Order at 21.

More specifically, the Director, in the Designation Order, concluded the ESPA and tributary basins

comprise an aquifer system within which ground water flows or moves to specific discharge areas and has reasonably well-defined boundaries. The aquifer system has reasonably well-defined areas of recharge: the "tributary basins" are the primary source of natural recharge, and the irrigated land on the Eastern Snake River Plain is the primary source of "incidental" recharge from irrigation. The aquifer system also has reasonably well-defined areas of discharge: the springs in the American Falls and Thousand Springs reaches of the Snake River. Within the aquifer system, ground water discharges from the tributary basins directly to the ESPA as groundwater underflow or discharges to streams that recharge the ESPA via riverbed seepage. The aquifer system constitutes a "ground water basin" within the meaning of Idaho Code § 42-233b.

Id. at 21-22. The Director also concluded the statute authorizes the limited designation of a GWMA to part of a ground water basin. *Id.* at 22. Therefore, the ESPAM2.1 model boundary was designated as part of the ESPA ground water basin for purposes of Idaho Code § 42-233b.

It is unreasonable to conclude that one ground water basin cannot be part of a larger ground water basin, similar to nested surface water basins. Historically, both IDWR and the Eastern Snake Hydrologic Modeling Committee (ESHMC) have accepted the premise that the ESPA regional aquifer system (the ground water basin) does, and should, include tributary ground water sub-basins.

For these reasons Contor's arguments related to the distinction between the words "basin" and "basins" are rejected.

b. Whether the topography of the Rexburg Bench compared to the topography of the Eastern Snake Plain ("ESP") is distinct.

Contor admitted topography is not a defining characteristic of a ground water basin boundary. *UV Technical Report* at 4. The Director agrees. Hydrogeologic connectivity should be determined by characterizing the underlying geology and how ground water underlying the Rexburg Bench interacts with the ESPA.

c. Whether the geology and hydrogeology of the Rexburg Bench is sufficiently different from the geology and hydrogeology of the ESP and ESPA to conclude they are not sufficiently hydrogeologically connected.

In summary, Contor concluded: (1) ground water basins can be adjacent and open to one another without being the same basin; (2) the Bench is geologically distinct from the ESP and structurally separated along its shared margin by faulting; and (3) the Bench is complex and contains multiple perched aquifers and its ground water gradient is at right angles to the gradient on the adjacent plain. *UV Technical Report* at 8-9.

Contor further concluded the Bench and the ESPA are distinct because the ESPA is recharged by irrigation, where, in contrast, ground water underlying the Bench is recharged through precipitation, underflow, and seepage. *UV Response* at 2. Similarly, the ESPA discharges to the Snake River, springs, and irrigation pumping where, in contrast, the Bench ground water discharge is underflow to the ESPA and irrigation pumping. *Id.* at 2-3. Contor noted different host materials underlie the productive portions of the aquifers; specifically, the rhyolites under the Bench differ from those of the plain. *Id.* at 3-4. More specifically:

Both groundwater basins are likely underlain at depth by similar geologic structures, but the productive aquifer in the ESPA groundwater basin near the Bench is hosted in alluvium overlaying fractured basalt, with unproductive rhyolite at greater depth. The productive aquifer in the Bench tributary groundwater basin is hosted fractured rhyolites and overlying fractured basalts.

Id. Contor acknowledged a hydrogeologic and hydraulic connection between ground water underlying the Bench and the ESPA at its margin, noting that the two morph together at the margin, or toe. Testimony of Bryce Contor. Nonetheless, Contor maintained the Bench and the ESP are structurally separate and distinct. *UV Technical Report* at 8-9; Testimony of Bryce Contor. Contor also concluded some wells located in the Bench are constructed in deeper rhyolite and some wells on ESP are constructed in deeper basalt, but "[t]hese facts do not inform whether the rhyolite wells are indeed in the regional aquifer system." *Id.* at 6.

Sukow disagreed with Contor's conclusions about geologic and hydrogeologic connectivity. Sukow concluded, as between the ESP, ESPA and the Bench: (1) faulting or the presence of different geologic units do not cause hydrogeological distinctness unless the bulk permeability is significantly different and ground water flow is significantly impeded; (2) waterbearing rocks underlying the Bench are well connected to each other and to the highly permeable deposits underlying the ESP; (3) the locations of high-yield ground water wells extend across the Bench, including to its margins immediately adjacent to the ESP, indicating ground water under the Bench is not remote from the ESP aquifer system; and (4) the presence of multiple aquifers, including perched aquifers, is not unique to the Bench and the perched Bench aquifers "are limited in areal extent and drain to the regional aquifer system." *IDWR Technical Response* at 16. In other words, while there are geological and hydrogeological differences within the geologically complex Bench, these distinctions do not significantly impede ground water flow between the Bench and the ESP. As a result, the ESPA and the area underlying the Bench are hydrogeologically connected, justifying inclusion of the Bench in the ESPA GWMA. *Id.*

Colvin agreed with Sukow, arguing: (1) mapped faults have not been shown to bar ground water flow between the ESPA and the area underlying the Bench; (2) high capacity ground water wells on the Bench produce water from a variety of geologic materials and depths; and (3) The Bench's perched aquifers are limited in extent but also connected to the regional aquifer systems at their edges. *SWC Technical Response* at 7-8. Colvin argued that G.I. Haskett's analysis⁶ showed the Bench water table does not decline when pumping exceeds recharge. "This indicates that the Rexburg Bench is not an isolated system and suggests that it is hydrogeologically connected to the ESPA and surface water recharge sources." *Id.* at 5.

The Director's Conclusion Regarding Bench Geology and Hydrogeology.

The ESPA and the area underlying the Bench are sufficiently hydrogeologically connected to include the Bench in the ESPA GWMA. There is evidence in the record to conclude the geology and hydrogeology of the ESPA and the Bench are connected. The area underlying the Bench is not isolated from the ESPA, again justifying inclusion.

The Director concludes the perched aquifers on the Bench are limited in areal extent compared to the underlying highly productive regional aquifer. In other words, the underlying high producing basalt and rhyolite aquifers support most of the irrigation on the Bench, not the perched aquifers. Even if some irrigation water is being pumped from the Bench's perched aquifers, they are limited in areal extent, and any recharge not consumed by pumping will eventually drain to the underlying regional aquifer.

There is evidence in the record to conclude that productive wells have been developed in both the basalt and rhyolite underlying the Bench. The basalt and rhyolite deposits are also well connected to each other and to the highly permeable sediment and basalt deposits on the plain. There is no evidence in the record to suggest that ground water flow between the Bench and the ESPA is being somehow significantly impeded. The fact that Haskett observed ground water development on the Bench exceeded locally available recharge without excessive ground water level declines in the area underlying the Bench is also evidence of a strong hydrogeological connection.

Further, the differences in groundwater flow direction noted by Contor are not an indication of hydrogeologic disconnection. Within large groundwater basins like the ESPA, the direction of ground water gradient varies locally because of basin geometry, geology, and the locations of aquifer recharge and discharge. On the Bench, local groundwater gradients vary in steepness and direction because of the locations of recharge sources and the geometry of the Big Hole Mountain front relative to the Henrys Fork and Snake River valleys. *See IDWR Technical Response at 7.* Regardless of the local flow direction, ground water underlying the Bench that is not consumed by irrigation ultimately becomes a component of the ESPA.

⁶ See Haskett, G. I., 1972. Ground-Water Geology of Rexburg Bench, Second Phase, Lower Teton Division, Teton Basin Project, Idaho; Bureau of Reclamation, Boise, Idaho.

Contor also argues the ESPA and Bench are distinct because the ESPA is recharged by irrigation, whereas the Bench is recharged through precipitation, underflow, and seepage. Contor further argues the ESPA discharges to the Snake River, springs, and irrigation pumping while the Bench ground water discharge is underflow to the ESP and irrigation pumping. These factors are unrelated to hydrogeologic connectivity. Ground water flows from the Bench into the ESPA without significant geologic or hydrogeologic impediment and discharges to the Snake River and springs.

d. Whether Contor's static water level analysis between the Rexburg Bench and the ESP establishes disconnection.

Contor analyzed well driller's logs to show "depth to water relative to a projected surface that represents the topography of the plain extended beneath the Bench." *UV Technical Report* at 6. Contor stated that if the ESP ground water basin continued uninterrupted beneath the Bench by drawing imaginary topography, one would expect "trends of depths to water relative to this surface across the geographic boundary between the Bench and plain." *Id.* Instead, Contor concluded, "[t]he change in character of depths relative to the projected surface is abrupt across the topographic divide between the Bench and the plain." *Id.*

Sukow concluded Contor's static water level analysis to be inconsistent with prior water level analyses, specifically work done by Haskett:

Haskett shows the regional water table extending from beneath the Rexburg Bench to adjoining areas underlying the Teton River and Eastern Snake Plain. Haskett's contour map shows groundwater flowing from underneath the Eastern Snake Plain to underneath the Rexburg Bench along the northern and southern margins of the bench, and from underneath the Rexburg Bench to underneath the Eastern Snake Plain along the western margin of the bench.

Id. Sukow concluded 2013 Bench water level data are more consistent with Haskett's 1970 analysis than with Contor's static water level analysis. *Id.* Based on analysis of the 2013 data, Sukow concluded "[t]here is not a sharp transition or steep gradient between water level elevations near the edge of the [Bench] and water level elevations in the adjacent Henry's Fork and Snake River valleys, which indicates there is not a geologic feature significantly impeding ground water flow between the Rexburg Bench and the Snake River Plain." *Id.*

In his response to the Sukow analysis, Contor argued that if the ESP continued uninterrupted through the Bench by superimposing imaginary topography, the behavior of wells would be consistent between the two areas. Contor, based on his static water level analysis, maintains they are not, as ESP wells are much lower than his "projected surface." *Id.* at 8

Colvin disagreed with Contor's comparison of static water levels to a projection of the ESPA imaginary topographic ground surface under the Bench. *SWC Technical Response* at 5. Specifically, Colvin concluded Contor's comparison to a hypothetical topographic extension of the plain elevation "is not relevant to an evaluation of the hydrogeologic connection between the ESPA and the Rexburg Bench." *Id.* Colvin agreed with Sukow's analysis, concluding Bench

water levels near the Teton and Snake Rivers indicate interaction between ground water and the rivers, which further indicates a hydrogeologic connection between the Bench, the Snake River and its tributaries, and the ESPA. *Id.* at 6.

The Director's Conclusion Regarding Static Water Level Analysis.

The Director again acknowledges the geological complexity of the Bench. There is obvious variability in ground water levels from the mountain front boundary to the ESP. Anomalies are a result of geologic complexity.

First, the projected surface of the ESP into the Bench Contor employs to compare variable ground water levels on the Bench to water levels in the ESPA is a hypothetical, imaginary extension of topography. Contor already admitted, and the Director held in this order, that topography is not a basis for determining hydrogeologic connectivity. If topography is not a basis for determining hydrogeologic connectivity, imagined topography is not, *a fortiori*. The Director also rejects Contor's hypothetical topographical extension because elevated Bench water levels may be a result of discontinuous perched aquifers above the lower elevation, continuous ground water.

Contor admitted there is a hydrogeological tributary connection between the ground water underlying the Bench and ESPA. He also admitted there is a hydraulic connection, at the least, in the "morphing" of ground water at the margins between the Bench and the ESPA. Further, Contor was part of the team that determined the 10,000 AF tributary underflow from the Bench to the ESPA. Haskett, with whom Sukow and Colvin agreed, showed the regional water table extending from beneath the Bench to adjoining underlying areas of the Teton River basin and the ESP. Haskett also showed ground water flowing from underneath the ESP to underneath the Bench along the northern and southern margins of the Bench, and from underneath the Bench to underneath the ESP along the western margin of the Bench. Sukow showed there is no sharp transition or steep gradient from the edges of the Bench to the adjacent Henrys Fork and Snake River valleys.

The Director concludes these connections are significant enough to include the Bench in the ESPA GWMA. Ground water extracted from underneath the Bench affects water levels in the ESPA. Further, there is no evidence that ground water flow between the Bench and the ESPA is significantly impeded.

e. Whether inclusion of the Bench in ESPA ground water flow models was for administrative reasons and does not justify inclusion of the Bench in the ESPA GWMA.

Contor concluded inclusion of the Bench in the ESPA ground water flow models does not justify inclusion of the Bench in the ESPA GWMA. Contor argued the Bench was only included in the ESPA ground water flow models for administrative purposes, not because it is part of the same ground water basin as the ESPA. *UV Technical Report* at 7; Testimony of Bryce Contor.

Sukow argued: (1) ground water flow models often do not represent an entire ground water basin; (2) while the Bench may not have always been explicitly included in prior modeling (though it has been for the past 20 years), its contribution through tributary underflow, has; and (3) significant Bench agricultural development, leading to significant ground water development, necessitated its inclusion in the modeling because changes in consumptive use change underflow and flux. *Id.* at 9-11, 16.

Colvin argued the Bench is properly within the ESPAM2.1 model domain because it is: (1) administratively useful; (2) part of expanding modeling to a basin-wide model; (3) hydraulically connected; (4) contains significant ground water irrigated acreage; and (5) is scientifically sound and follows the recommendation of previous modelers. *SWC Technical Response* at 9.

The Director's Conclusion Regarding the Bench and Ground Water Flow Models.

The boundaries of ESPAM1.1 and ESPAM.2.1 both included the Bench. The Bench was included because of the rationale stated by IDWR in 2009: "[The current model] results in an expansion of the model domain into areas not included in previous models. Ground water underlying the Bench . . . [has] irrigated acreage not previously included in the IDWR/UI model, and these areas appear to be hydraulically connected." Wylie, A., 2009. *Model Boundary Revisions 2, Eastern Snake Plain Aquifer Model Enhancement Model Design and Calibration Document Number DDM-002-R2*. Idaho Department of Water Resources, University of Idaho, May 8. Contor appears to argue that because the Bench was originally included to ease administration of the ESPA, that the Bench cannot be hydrogeologically connected. However, the fact that the Bench and the ESPA are being modeled together supports a conclusion of hydrogeologic connectivity.

The ESPA model is a tool that simulates the extent and level of interacting resources, and the Bench is necessarily included due to significant development of ground water underlying the Bench and the fact that it is hydrogeologically connected to the ESPA.

f. Comparison of the Rexburg Bench to basins not included in the ESPA GWMA.

Contor argued twenty-one ground water basins tributary to the ESPA are not included in the ESPA GWMA, sixteen of which are "less or similarly distinct from the ESPA than is the Rexburg Bench." *UV Technical Report* at 9. Contor concluded there is no meaningful difference between ground water pumping from the area underlying the Bench versus pumping ground water from other excluded tributary ground water basins stating: The hydrogeologic fact remains that there are 16 excluded groundwater basins either less or equally distinct from the ESPA than is the Rexburg Bench. Because there is no technical reason to use the model boundary as a criterion for inclusion, it is my professional opinion that it is arbitrary to include the Rexburg Bench while excluding basins that are not more distinct from the ESPA.

UV Technical Response at 16.

Sukow, citing the Designation Order, noted that the areas Contor referenced were not included because they were not included in the ESPAM2.1 model boundary. *IDWR Technical Response* at 13. Sukow analyzed water right records to quantify ground water development within the ESPAM2.1 model domain and in the tributary areas identified by Contor. Sukow found, the Bench represented approximately 4% of the total ground water development within the model domain. *Id.* at 14. Sukow concluded: "The only area outside the model boundary with more ground water development than the Rexburg Bench is the Raft River drainage area, and the majority of this area is already designated as a Critical Ground Water Area (CGWA)." *Id.* Finally, Sukow cited back to the Designation Order, where, the issue of tributary basin inclusion was already acknowledged and discussed. *Id.*

Colvin concluded Contor's comparison of the Bench to other tributary basins is not relevant to the Bench's hydrogeologic connection to the ESPA, and, therefore, not relevant to its inclusion in the ESPA GWMA. *SWC Technical Response* at 7. Rather, "the large amount of ground water development on the Rexburg Bench, its thorough hydrogeologic characterization, and its connectivity to the ESPA are technical rationale for its inclusion in the GWMA." *Id.*

The Director's Conclusion Regarding a Comparison between the Bench and other Basins not included in the ESPA GWMA.

Idaho Code § 42-233b authorizes the Director to designate a ground water management area for "any ground water basin or designated part thereof" The area designated for the ESPA GWMA does not include all possible areas of inclusion. The boundaries of the ESPA GWMA may need to be adjusted in the future. Inclusion of the Bench should be justified by a set of factors that, when applied, establish a reasonable basis why the Bench was included. These factors are:

- 1. Significant amount of ground water development;
- 2. Thorough hydrogeologic characterization of the area;
- 3. Significant hydrogeological connection;
- Is included in the ESPA Ground Water Model (ESPAM2.1) area;
- Is not already designated as a critical ground water area or ground water management area; and
- 6. Is not presently considered for separate ground water management designation.

All of the above factors justify inclusion of the Bench in the ESPA GWMA: (1) there is significant ground water development on the Bench; (2) the hydrogeology of the Bench is

thoroughly characterized; (3) the Bench and the ESPA are hydrogeologically connected; (4) the Bench is included in the ESPA Ground Water Model (ESPAM2.1) area; (5) the Bench is not already designated as a critical ground water area or ground water management area; and (6) the Bench is not presently considered for separate ground water management designation.

Other areas identified by Contor either do not satisfy all of these criteria or the magnitude of the relationship is smaller or less defined.

The areas outside of the ESPAM2.1 model boundary are not included in the ESPA GWMA at this time. The ESPAM2.1 is the best available modeling tool currently available. To reiterate the Designation Order:

The ESPAM2.1 boundary is a reasonable administrative area because the Department currently lacks similar modeling tools and hydrologic data to administer outside the ESPAM2.1 model boundary, except for the Big Wood River Basin. Moreover, most of the ground water irrigated land within the upper Snake River basin is located within the model boundary or, in the case of the Big Wood River and Raft River basins, in established management areas outside the model boundary.

Designation Order at 22.

Inclusion of the Bench in the ESPA GWMA is not arbitrary.

APPEAL OF THE ORDER ON LEGAL ISSUES AND THIS ORDER

The Director's *Order on Legal Issues* was interlocutory in nature because it did not decide all previously undecided issues presented in this proceeding. IDAPA 37.01.01.710. This order resolves all previously undecided issues and therefore, the Director's *Order on Legal Issues* and this order are now final and subject to reconsideration or appeal.

ORDER

Based upon and consistent with the foregoing, IT IS HEREBY ORDERED as follows:

The Rexburg Bench will be included within the boundary of the ESPA GWMA as set forth in Attachment A to the Designation Order.

Dated this Z/ day of April, 2020.

packman

Gary Spackmar Director

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that, on this 215° day of April 2020, the above and foregoing was served on the following by the method(s) indicated below:

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Kris Margheim

EXPLANATORY INFORMATION TO ACCOMPANY A FINAL ORDER

(Required by Rule of Procedure 740.02)

The accompanying order, along with the interlocutory Order on Legal Issues (issued January 9, 2020), represent a "Final Order" issued by the department pursuant to section 67-5246 or 67-5247, Idaho Code.

Section 67-5246 provides as follows:

(1) If the presiding officer is the agency head, the presiding officer shall issue a final order.

(2) If the presiding officer issued a recommended order, the agency head shall issue a final order following review of that recommended order.

(3) If the presiding officer issued a preliminary order, that order becomes a final order unless it is reviewed as required in section 67-5245, Idaho Code. If the preliminary order is reviewed, the agency head shall issue a final order.

(4) Unless otherwise provided by statute or rule, any party may file a petition for reconsideration of any order issued by the agency head within fourteen (14) days of the service date of that order. The agency head shall issue a written order disposing of the petition. The petition is deemed denied if the agency head does not dispose of it within twenty-one (21) days after the filing of the petition.

(5) Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

(6) A party may not be required to comply with a final order unless the party has been served with or has actual knowledge of the order. If the order is mailed to the last known address of a party, the service is deemed to be sufficient.

(7) A non-party shall not be required to comply with a final order unless the agency has made the order available for public inspection or the nonparty has actual knowledge of the order.

Page 1 Revised July 1, 2010 (8) The provisions of this section do not preclude an agency from taking immediate action to protect the public interest in accordance with the provisions of section 67-5247, Idaho Code.

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a final order within fourteen (14) days of the service date of this order as shown on the certificate of service. Note: the petition must be <u>received</u> by the Department within this fourteen (14) day period. The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5246(4) Idaho Code.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, any party aggrieved by a final order or orders previously issued in a matter before the department may appeal the final order and all previously issued orders in the matter to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days: a) of the service date of the final order, b) the service date of an order denying petition for reconsideration, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration, whichever is later. See section 67-5273, Idaho Code. The filing of an appeal to district court does not in itself stay the effectiveness or enforcement of the order under appeal.

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