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DEPARTMENT OF
WATER RESOURCES

BEFORE THE IDAHO DEPARTMENT OF WATER RESOURCES

IN THE MATTER OF INTEGRATED MUNICIPAL APPLICATION PACKAGE ("IMAP") OF SUEZ WATER IDAHO INC., BEING A COLLECTION OF INDIVIDUAL APPLICATIONS FOR TRANSFERS OF WATER RIGHTS AND APPLICATIONS FOR AMENDMENT OF PERMITS.	**SUEZ'S RESPONSE TO IDWR'S STAFF MEMO**

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INTRODUCTION

SUEZ Water Idaho Inc. ("SUEZ") hereby submits this response ("*Response Memo*") to the January 14, 2019 memorandum entitled "Staff Review of Suez Water Idaho, Inc.'s Integrated Municipal Application Package" ("*Staff Memo*"), which was prepared by the Idaho Department of Water Resources ("IDWR" or "Department") staff and provided to the Hearing Officer in this proceeding.[1] A copy of the *Staff Memo*, with its attachments, is set out in Exhibit A at page 45.

The *Response Memo* references and relies on independent research undertaken by John Church, the results of which are set out in his *Expansion Quantification Report* (a copy of which is set out as Exhibit E at page 91).

This *Response Memo* also references and relies on a separate memorandum from Michael P. Lawrence ("*Side Memo*") dated November 30, 2020. The *Side Memo* contains a detailed technical analysis of the IDWR's evaluation of SUEZ's water rights portfolio in the *Staff Memo*'s "Attachment 1: Suez Water Rights Portfolio" ("*Staff Attachment 1*") and IDWR's analysis of the proposed changes to SUEZ's water rights that would result from approval of the IMAP in "Attachment 2: IMAP Rights" ("*Staff Attachment 2*"). Due to its length the *Side Memo* is not included as an exhibit here, but is submitted separately instead.

The *Staff Memo* makes a number of observations about the IMAP and the Department's evaluation of the IMAP's applications for transfer and permit amendments. It also recommends certain water right elements and conditions if the IMAP is approved, and includes the Department's review of SUEZ's Gap Analysis. In addition, as summarized on pages 27-28 of

[1] This *Response Memo* required substantial effort and resources, including expert advice on technical issues. SUEZ has communicated on several occasions with IDWR explaining the reasons for its delay in providing this *Response*. SUEZ appreciates the courtesy and patience of IDWR and the parties in this regard.

the *Staff Memo*, it requests that SUEZ provide additional information so the Department can continue processing the IMAP.

Section I of this *Response Memo* addresses the *Staff Memo*'s additional information requests and other aspects of the *Staff Memo* directly related to those requests.

Section II summarizes the *Side Memo's* analysis of *Staff Attachment 1* and *Staff Attachment 2*.

Section III presents updates to SUEZ's Gap Analysis resulting from the issues addressed in Sections I and II.

To aid the reader, Table 1 below lists the SUEZ water rights addressed in this *Response Memo* (including Exhibits), together with a brief description of the issue involved with each right and a reference to the location where it is addressed in this *Response Memo*:

Table 1: Water rights discussed in this *Response Memo*

WR#	Description of issue	Location in *Response Memo*
63-147D	Update to SUEZ portfolio	Section II (begins at page 28); Section III (begins at page 31)
63-169F	Diversion rate after adjustments	Section II (begins at page 28); Section III (begins at page 31)
63-243E	Diversion rate after adjustments	Section II (begins at page 28); Section III (begins at page 31)
63-243H	Diversion rate after adjustments	Section II (begins at page 28); Section III (begins at page 31)
63-3222	Update to SUEZ portfolio	Section II (begins at page 28); Section III (begins at page 31)
63-8248	Correction of rounding or error in *Staff Attachment 2*	Section II (begins at page 28)
63-8385	Abandonment following IMAP approval	Section I.F (begins at page 23)
63-10150	Abandonment following IMAP approval	Section I.F (begins at page 23)
63-10890	Update to SUEZ portfolio	Section II (begins at page 28); Section III at page 31
63-10945	Changes resulting from IMAP	Section II (begins at page 28); Section III (begins at page 31)
63-11558	Combined limit with 63-12363, which is not in IMAP	Section I.G (begins at page 24)
63-11990	Changes resulting from IMAP	Section II (begins at page 28); Section III (begins at page 31)

Table 1: Water rights discussed in this *Response Memo*		
63-12140	Use of quantity reflected in draft license	Section II (begins at page 28)
63-12310	Low Temperature Geothermal condition; Use of quantity reflected in draft license	Section I.E(1) (begins at page 18); Section II (begins at page 28)
63-12362	Association with Foxtail well; Fire protection use not counted toward municipal portfolio	Section I.H (begins at page 25); Section II (begins at page 28); Section III (begins at page 31)
63-12363	Right not in IMAP, but has combined limit with 63-11558	Section I.G (begins at page 24)
63-12452	Water Bearing Zone	Section I.H (begins at page 25)
63-12464	Water Bearing Zone	Section I.H (begins at page 25)
63-12516	Water Bearing Zone	Section I.H (begins at page 25)
63-31406	Use of quantity reflected in proof of beneficial use	Section II (begins at page 28); Section III (begins at page 31)

DISCUSSION

I. ADDITIONAL INFORMATION REQUESTED BY THE *STAFF MEMO*

A. SUEZ's qualification as a municipal provider.

The *Staff Memo* requests information from SUEZ "to substantiate its qualification as a municipal provider." *Staff Memo* at 27 (Exhibit A at page 71).

SUEZ falls under the category of municipal providers described in Idaho Code § 42-202B(5)(c): "A corporation or association which supplies water for municipal purposes through a water system regulated by the state of Idaho as a 'public water supply' as described in section 39-103(12), Idaho Code." A "public water supply" is defined as follows:

> "Public water supply" or "public drinking water system" means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen (15) service connections, regardless of the number of water sources or configuration of the distribution system, or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes any collection, treatment, storage and distribution facilities that are under the control of the operator of such system and used primarily in connection with such system, and any

> collection or pretreatment storage facilities not under such control that are used primarily in connection with such system. Such term does not include any special irrigation district.

Idaho Code § 39-103(12).

Consistent with these definitions, SUEZ is (1) an Idaho corporation that (2) supplies water for municipal purposes (3) through a water system regulated by the state of Idaho as a "public water supply."

First, as shown by the documents reproduced in Exhibit B at page 79, SUEZ is an Idaho corporation originally formed in 1928 as Boise Water Corporation, which changed its name in 1995 to United Water Idaho Inc., and again in 2015 to SUEZ Water Idaho Inc.

Second, SUEZ supplies water for municipal purposes. This is demonstrated by the 1928 Articles of Incorporation of Boise Water Corporation. The second article states, in pertinent part:

> That the objects and purposes for which this corporation is formed are: To acquire, own, hold and develop springs, wells and streams of both hot and cold water, and reservoirs therefor, and to conduct he waters thereof to Boise City and to the vicinity of Boise City in the County of Ada, State of Idaho, for the use of said City and the inhabitants thereof and the inhabitants of Ada County in the vicinity of said City, and to furnish water for municipal, county and state uses, for fire, street sprinkling, sewer flushing and irrigating, and to supply both hot and cold water for baths, domestic use, heating, mechanical, sanitary, irrigating and other useful and beneficial purposes . . . .[2]

The fact the SUEZ holds more than 100 water rights for municipal purposes and is known by the Department to divert those water rights for their authorized municipal purposes further demonstrates that SUEZ supplies water for municipal purposes.

[2] The 1928 Articles of Incorporation have been amended multiple times over the years, but no amendment altered the language quoted in the main text.

Third, as shown by the document attached as Exhibit C at page 87, SUEZ supplies municipal water to its customers through a water system regulated by the state of Idaho as a "public water supply." Exhibit C contains a copy of a March 13, 2019 letter to SUEZ from the Idaho Department of Environmental Quality ("IDEQ") stating: "The Suez Water System is in compliance with the *Idaho Rules for Public Drinking Water Systems*." The *Idaho Rules for Public Drinking Water Systems*, IDAPA 58.1.08, apply only to public drinking water systems. IDAPA 58.01.08.001.02 ("The purpose of these rules is to control and regulate the design, construction, operation, maintenance, and quality control of public drinking water systems . . . ."). IDEQ's letter identifies SUEZ's public water system number ("PWS #4010016") in the subject line.

Accordingly, SUEZ qualifies as a municipal provider.

B. SUEZ's service area and Planning Area.

(1) Overview

The *Staff Memo* contains three separate but overlapping requests for information about SUEZ's service area and Planning Area.[3] It asks SUEZ:

- to "explain its process for obtaining authorization or obligation to serve an area." *Staff Memo* at 27 (Exhibit A at page 71).
- for "information explaining how and why it is reasonable to anticipate that its service area will expand to include all of the Planning Area." *Staff Memo* at 27 (Exhibit A at page 71).

[3] The term "Planning Area" is not defined by statute. SUEZ uses the term "Planning Area" to describe its anticipated future service area at the end of the Planning Horizon (2065). A map of SUEZ's Planning Area, known as the Pink Line Map, is set out in Exhibit D at page 89. The term "service area" is defined in Idaho Code § 42-202B(9). Depending on context, the term "service area" may refer to the flexible, expanding area that a municipal provider is authorized to serve, or it may refer to the particular boundaries of the area served at a specific point in time.

- to explain "how it obtains approval for expanding its service area and why its service area will expand into certain areas in the future." *Staff Memo* at 28 (Exhibit A at page 72).

Because these questions substantially overlap, SUEZ will answer them together.

Pursuant to Idaho Code § 61-526 and IDAPA 31.01.01.112, SUEZ may apply to the Idaho Public Utilities Commission ("IPUC") to amend SUEZ's *Certificate of Convenience and Necessity No. 143* ("*Certificate*"), which describes the area within which SUEZ is authorized to extend its water system to supply water (its "Certificated Area").[4] The IPUC may amend the *Certificate* if it finds, among other things, that (i) SUEZ has the financial ability and, in good faith, intends to extend its system and supply water to the new area, (ii) that no other public utility is serving the area, and (iii) there is a "necessity of additional service in the community." Idaho Code §§ 61-526, 61-528.

The "Pink Line Map" (reproduced here as Exhibit D at page 89) displays both SUEZ's current Certificated Area and its Planning Area. The former is marked by a blue line; the latter is marked by a pink line.[5]

The Planning Area reflects SUEZ's best effort to predict the location of its Certificated Area at the end of the Planning Horizon in 2065. It is not a commitment that SUEZ will serve all of those areas. Nor does it preclude SUEZ from serving areas outside the Planning Area. As explained in SUEZ's *Master Water Plan for the Years 2015 to 2065* ("*Master Water Plan*") (dated 9/23/2016 including errata dated 4/28/2017): "SUEZ delineated its Planning Area

[4] SUEZ's Certificated Area is the area that a public utility is authorized to serve by the Idaho Public Utilities Commission. SUEZ's Certificated Area is its current "service area" as defined in Idaho Code § 42-202B(9).

[5] An explanation of the evolution of the Pink Line Map is set out at the beginning of Exhibit D at page 89.

because some future service area must be assumed for purposes of projecting future water demands." *Master Water Plan* at 6.

With a single potential exception,[6] the Planning Area includes all areas within SUEZ's current Certificated Area. In other words, SUEZ reasonably assumes that it will serve those areas it is currently authorized to serve.

In many areas, the boundary of the Planning Area follows the boundary of the current Certificated Area. These are typically areas where the current Certificated Area is adjacent to areas served by other cities. In other words, these are areas where there is no room for SUEZ's service area to grow.

In other areas, SUEZ's Planning Area boundary includes areas outside of the current Certificated Area. In these cases, SUEZ used its best professional judgment to predict where the Certificated Area is likely to expand based on information known in 2012 (when the current Pink Line Map's Planning Area boundary was developed). This was explained in the *Master Water Plan* at 7-8, and much of that explanation generally remains valid today.

However, in light of the *Staff Memo*'s question about why SUEZ believes the Certificated Area will expand into certain areas in the future, and the fact that eight years have passed since the Planning Area boundary was developed, SUEZ has again reviewed the Planning Area boundary to see if adjustments are warranted. The subsections below address the portions of the Planning Area boundary in the same order as they are described in the *Master Water Plan.* In

[6] As discussed in Section I.B(6) at 15, SUEZ has proposed entering into a service area boundary agreement with the City of Kuna. That agreement may result in SUEZ relinquishing to Kuna a small portion of its current Certificated Area, and/or SUEZ's Certificated Area growing beyond the Planning Area boundary, or a combination thereof.

short, SUEZ has determined that its Planning Area boundary remains reasonable and that no adjustments are warranted at this time.

Before moving to the detailed explanation below, it bears mentioning that in nearly 20 years of on-and-off administrative litigation involving virtually all of SUEZ's municipal provider neighbors, none of them has challenged the location of the Planning Area. SUEZ believes this lack of controversy reflects the caution and reasonableness of its judgment in conservatively predicting its future service area.

Perhaps more importantly, it also reflects the effects of Idaho's Local Land Use Planning Act ("LLUPA"). Unlike other western states (which lack effective mechanisms for resolving boundary disputes among municipal entities), Idaho's mechanism for establishing areas of city impact ("ACI") has nearly eliminated conflict over service areas.[7] As noted, SUEZ has been respectful of these ACIs in delimiting its Planning Area.

Finally, it reflects SUEZ's aggressive efforts to coordinate its planning with its neighboring municipal providers. In several instances, SUEZ has entered into formal agreements with other providers delineating our respective service areas and establishing protocols for communication and cooperation with respect to changes in boundaries.

[7] An "area of city impact" describes the area where a city anticipates growing and, more specifically, extending city services. Since its adoption in 1975, LLUPA has mandated that cities designate such areas beyond its corporate boundaries. Idaho Code § 67-6526. See also Idaho Code § 50-1306 which deals with platting and which cross-references the area of city impact requirements. This statute provides that if a proposed subdivision lies within an officially designated area of city impact, the subdivision application must be reviewed in accordance with whichever zoning and subdivision ordinances are made applicable pursuant to the area of impact ordinances of both jurisdictions.

(2) Meridian and Eagle areas

The Planning Area's western boundary coincides with SUEZ's current Certificated Area near the City of Meridian and for much of the City of Eagle. No changes are warranted in these portions of the Planning Area.

The Planning Area boundary deviates slightly from the current Certificated Area in Sections 15 and 22 of T4N, R1E, and as it heads north from Section 14, T4N, R1E, to the north boundary of Section 35, T5N, R1E. In these areas, the Planning Area boundary follows the City of Eagle's ACI (which is the same now as it was in 2012). It is reasonable to assume that in 2065 SUEZ will serve areas adjacent to its Certificated Area that are not within the City of Eagle's ACI since the City does not intend to serve areas outside its ACI.[8]

(3) North Ada and Avimor areas

SUEZ's Planning Area boundary in North Ada County falls into two segments: (a) its extension north of the City of Eagle to the Ada County line; and (2) its extension southeast to the City of Boise's ACI. Each is addressed in turn below.

(a) North of Eagle to the Ada County line

The northeast corner of the City of Eagle's ACI intersects with the north boundary of Section 35, T5N, R1E (where the "Meridian and Eagle areas" explanation left off above). From here, SUEZ's Planning Area boundary follows State Highway 55 for just under a mile before it extends due north along the western boundaries of Sections 24, 13, 12, and 1 in T5N, R1E, until it hits the Ada County line. For most of this stretch, the Planning Area boundary is about 1 mile west of SUEZ's current Certificated Area, although there is a small area where the difference is

[8] The City of Eagle's Comprehensive Plan states: "It is the desire of the City of Eagle to have all urban development that occurs in the Area of City Impact (ACI) be under the jurisdictional authority of the City and connected to municipal services." *The City of Eagle Comprehensive Plan,* Section 1.6, p. 4 (eff. Nov. 15, 2017).

less than a mile and a longer section where the Planning Area boundary is about 2.5 miles from SUEZ's Certificated Area.

This area between SUEZ's current Certificated Area and the Planning Area boundary is outside of the City of Eagle's ACI, indicating that the City of Eagle does not intend to provide services to the area. This area contains some lands that are likely to be developed, including the lands already being developed as the Avimor planned community, a portion of which SUEZ already serves. Of Avimor's nearly 23,000 acres in Ada, Gem, and Boise Counties, only a small fraction has been developed so far, and it is not currently known how much more of Avimor's future development will be served by SUEZ. The area between SUEZ's current Certificated Area and the Planning Area boundary encompasses less than 3,000 acres of Avimor's undeveloped land—in other words, the Planning Area boundary in this area reflects a rather conservative prediction that SUEZ will serve some but not all of Avimor's additional development.

SUEZ previously predicted that it would serve the Dry Creek Ranch planned community, which is included in the Planning Area. *See Master Water Plan* at 7. After a long period of inactivity during and after the Great Recession, development of this planned community is now underway. IDWR's records indicate that a municipal water right held by Dry Creek Ranch Water Company LLC ("Dry Creek") has been granted an extension of time to 2025 in which to file proof of beneficial use. It is not unreasonable to predict that, as has occurred with other private water systems in the past, Dry Creek will convey its water rights and water system to SUEZ in order for SUEZ to operate the system and add those users to SUEZ's customer base. In any event, as discussed in the *Expansion Quantification Report* (a report by John Church analyzing projected water demand outside of SUEZ's current Certificated Area) (Exhibit E at

page 91), the amount of water attributable to Dry Creek Ranch is less than 1.5% of SUEZ's future demand projection—essentially a rounding error. Accordingly, SUEZ believes it is reasonable to count municipal use within Dry Creek Ranch toward SUEZ's RAFN.

(b) Eastern boundary along foothills

After traveling north from the City of Eagle to the Ada County line, SUEZ's Planning Area boundary travels east and then southeast along the Ada County line to SUEZ's current Certificated Area along the east boundary of Section 1 of T5N, R1E. It then follows the Ada County line southeast about 5 ¼ miles to the southern border of Section 22, T5N, R2E. This stretch coincides with SUEZ's current Certificated Area except for a mile or so in Sections 16 and 17, T5N, R2E; however, SUEZ believes it is reasonable to assume that it also will provide water service to this small area given its isolated and remote location. In any case, as discussed in Exhibit E (where the area is identified as part of "Area 4") there is very little projected demand in this area.

After reaching the southern border of Section 22, T5N, R2E, the Planning Area Boundary continues generally to the south along SUEZ's current Certificated Area boundary until it reaches the northern boundary of the City of Boise's ACI. From here, the northeastern boundary of SUEZ's Planning Area coincides with the northeastern boundary of the City of Boise's ACI all the way to southeast Boise, to Columbia Road south of the Boise River. This captures the City of Boise's potential future growth within its ACI, which likely will be served by SUEZ as the City's primary municipal water supplier.

(4) Garden City area

As stated in the *Master Water Plan* at 7, SUEZ's Planning Area boundary follows SUEZ's current Certificated Area boundary and the Garden City ACI boundary in the Garden

City area. This means SUEZ's Planning Area boundary excludes all of the areas not already in its Certificated Area and within Garden City's ACI. SUEZ believes it is reasonable to assume it will serve these areas in 2065.

(5) Area south of Boise

At Columbia Road in southeast Boise, the Planning Area boundary turns due east for one mile away from the City of Boise's ACI boundary, then heads due south for four miles, turns east again for one mile, then south for two miles until it turns west for 12 miles to form the Planning Area's southern boundary. For most of this stretch, the Planning Area boundary is about 3 miles from the City of Boise's ACI, although some portions are roughly four miles and some are only one mile. There is projected to be very little growth in this area, and hence very little water demand. As discussed in Exhibit E, the projected demand in this area is less than 0.05% of SUEZ's total projected water production in 2065. Given the insignificant projected demand, and the likelihood that SUEZ will remain the only municipal water provider capable of extending service into this area, SUEZ believes that municipal use within this area should remain counted toward SUEZ's RAFN.

(6) City of Kuna and western boundary area

Where the southern Planning Area boundary approaches the City of Kuna, it turns north one-half mile east of Kuna's current annexations. After traveling three miles north, it intersects SUEZ's current Certificated Area.

In 2012, SUEZ believed it was reasonable to end its Planning Area one-half mile east of Kuna's annexations in order to provide some buffer between Kuna and SUEZ. At the time, Kuna's ACI did not extend as far as the annexations. However, in 2015, Kuna proposed extending its ACI three and one-half miles past its easternmost annexation, which overlaps

substantially with SUEZ's Planning Area. SUEZ and the City are negotiating an agreement to delineate their respective service areas.

Those discussions with Kuna could result in marginal expansion of SUEZ's service area beyond the Pink Line in some areas coupled with a retraction of the Pink Line in other areas. On balance, it is SUEZ's judgment that that its current Pink Line in the vicinity of Kuna is a reasonable and conservative prediction of the overall extent of the municipal service SUEZ will provide to the area by 2065. In any event, as discussed briefly in the next section and more extensively in Prof. Church's *Expansion Quantification Report* (Exhibit E at page 91), such adjustments will be inconsequential in their impact on SUEZ's projected water demand, given the low increase in demand that had been projected for those areas.

C. The portion of SUEZ's RAFN attributable to growth outside its current Certificated Area

The *Staff Memo* asks SUEZ "to explain what portion of its anticipated future needs over the 50-year planning horizon is attributable to Suez's current service area and what portion is attributable to the anticipated growth of its service area." *Staff Memo* at 28 (Exhibit A at page 72). To answer this question, SUEZ retained Professor John S. Church, the same economist employed by SUEZ to prepare SUEZ's RAFN demand projections. Professor Church carefully examined the data underlying his RAFN forecast, undertook further analysis, and presented his conclusions in his *Expansion Quantification Report*, a copy of which is set out as Exhibit E at page 91.

As explained in the *Expansion Quantification Report*, SUEZ's projected water demand in this so-called "Expansion Area" is a tiny fraction—1.69% of SUEZ's total RAFN projection. SUEZ does not believe that it is appropriate to exclude water demand in the Expansion Area

from its RAFN forecast because, as explained in the preceding section, it is reasonable to assume that SUEZ will serve this area.

If, however, the Department believes that this area must not be included in SUEZ's RAFN forecast, it would only marginally impact SUEZ's Gap Analysis. Removing all future demand in the Expansion Area would reduce SUEZ's overall future demand by 6.27 cfs. Specifically, future demand would drop from 370.87 cfs to 364.60 cfs (1.69% x 370.87 cfs = 6.27 cfs; 370.87 cfs – 6.27 cfs = 364.60 cfs). This, and the potential adjustments to SUEZ's Gap Analysis that might result, are discussed below in Section III at page 31.

D. IMAP's 81 total APODs

The *Staff Memo* asks SUEZ to confirm that "80 instead of 81 APODs are proposed" in the IMAP (based on the abandonment of the Sherman Oaks well). *Staff Memo* at 23 and 28 (Exhibit A at pages 67 and 72).

In 2017, SUEZ reported that the Sherman Oaks well has been abandoned. See page 6 of *SUEZ's 2017 Supplement to the Update Report, Addressing APODs* dated June 26, 2017 ("*2017 APOD Supplement*"). At the time the statement was made, the well had been abandoned. SUEZ has since determined that it may be reconstructed next year.

Accordingly, SUEZ hereby confirms that it seeks 81 APODs in the IMAP.[9] SUEZ's list of 81 APODs is attached as Exhibit F at page 105.[10]

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[9] SUEZ occasionally abandons wells without definite plans to replace them. However, those well locations remain authorized points of diversion on SUEZ's water rights. Even though a well may be physically abandoned, its authorized point of diversion should remain an APOD available to SUEZ. Thus, the APOD list in Exhibit F at page 105 includes well locations authorized under SUEZ's existing water rights regardless of whether a well currently exists in that location.

[10] As noted in the Attachment B to *United Water's Further Submission in Compliance with the Director's January 11, 2013 Order* (Feb. 13, 2013), well names are provided in the APOD list for convenience and reference. SUEZ does not intend to limit the use of water rights to existing wells within the designated 40-acre or 10-acre tracts, but rather intends to retain the flexibility to replace existing wells within such tracts.

The APODs listed in Exhibit F are the same as listed in a number of SUEZ's prior submissions, including Attachment B to *United Water's Further Submission in Compliance with the Director's January 11, 2013 Order* (Feb. 13, 2013), Exhibit D to *United Water's Statement Updating and Explaining the IMAP Relaunch* (Aug. 14, 2012), and Michael Lawrence's September 28, 2018 email to Hearing Officer Cefalo.

E. Low temperature geothermal water

The *Staff Memo* asks SUEZ "which of its wells, if any, results in diversion of the LTG [low temperature geothermal] resource and which wells, if any, divert water from deeper than 300 ft in the Boise Front GWMA [Ground Water Management Area]." *Staff Memo* at 28 (Exhibit A at page 72).

IDWR considers a well with a bottom hole temperature greater than 85 degrees Fahrenheit and less than 212 degrees Fahrenheit to be a LTG well. Idaho Code § 42-230(1) ("All ground water having a temperature of greater than eighty-five (85) degrees Fahrenheit and less than two hundred twelve (212) degrees Fahrenheit in the bottom of a well shall be classified and administered as a low temperature geothermal resource pursuant to section 42-233, Idaho Code.").

The *Staff Memo* proposes (1) that a condition (no. 073) should be included on all water rights approved with APODs in the IMAP, and (2) that diversions of cold water below 300 feet below ground surface in the Boise Front GWMA should be limited through the IMAP. *Staff Memo* at 24 (Exhibit A at page 68). Each of these issues is addressed in turn below.

(1) SUEZ does not object to a modified version of standard condition 073.

The *Staff Memo* recommends that standard condition 073 (regarding LTG water) be added to all IMAP water rights:

> 53 of the 80 proposed APODs are within the Boise Front GWMA/Boise Front Moratorium Area. The moratorium limits the development of new water rights for the use of the LTG resource in this area. Several Suez ground water rights currently authorize at least one of these 53 wells as their original point of diversion. Permit 63-12310 is the only right in the IMAP proceeding with standard condition 073, which prohibits the use of water greater than 85° F.[11] To avoid injury to LTG water users within the restricted area, IDWR should include standard condition 073 on all the IMAP rights and permits, unless the right or permit historically diverted LTG water.

Staff Memo at 24 (Exhibit A at page 68).

By SUEZ's count, 54 (not 53) of its requested APODs are in the Boise Front GWMA. A list of these well locations is set out in Exhibit G at page 107.

None of SUEZ's wells—inside or outside the Boise Front GWMA—produces water that is greater than 85 degrees Fahrenheit. Thus, SUEZ has no LTG wells. However, it is possible that a replacement well could be constructed that would encounter LTG water.

Accordingly, SUEZ does not object to the *Staff Memo*'s recommendation that all rights approved through the IMAP include standard condition 073 so long as the language is modified to fit the circumstances. SUEZ suggests the following (changes shown in redline format):

> ~~A point~~ Some of the points of diversion identified in this right ~~is~~ are located within the boundaries of the Boise Front Low Temperature Geothermal Resource Groundwater Management Area. The well driller shall monitor water temperatures while drilling ~~the well~~ any new or replacement well under this right within the Boise Front Low Temperature Geothermal Resource Groundwater Management Area. If water with a temperature greater than 85 degrees

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[11] Permit no. 63-12310 contains one condition concerning LTG water (which SUEZ assumes to be what the *Staff Memo* refers to as "standard condition 073"):

> The point of diversion identified in this right is located within the boundaries of the Boise Front Low Temperature Geothermal Resource Groundwater Management Area. The well driller shall monitor water temperatures while drilling the well. If water with a temperature greater than 85 degrees Fahrenheit is encountered by the driller, drilling must immediately cease, and the Department must be notified. Drilling shall not resume until the Department has reviewed the drilling conditions, and established standards for construction with the driller.

A copy of the amended permit no. 63-12310 is included in Exhibit H at page 109. Also included in Exhibit H is a copy of the Well Driller's Report for permit no. 63-12310, which does not suggest any LTG water was encountered.

Fahrenheit is encountered by the driller when drilling such a well, drilling must immediately cease, and the Department must be notified. Drilling such a well shall not resume until the Department has reviewed the drilling conditions, and established standards for construction with the driller.

(2) A condition limiting use of cold water below 300 feet is not warranted.

SUEZ disagrees with the *Staff Memo*'s suggestion that "IDWR should consider limiting the use of cold water (< 85 degrees Fahrenheit) below 300 ft [within the Boise Front GWMA], the additional use of which may impact the LTG resource." *Staff Memo* at 24 (Exhibit A at page 68).

The *Staff Memo*'s suggested limitation is not warranted. The *Staff Memo* cites no evidence that SUEZ's pumping of non-LTG water from below 300 feet (or above it, for that matter) has caused or will cause any negative impacts to the LTG resource, and SUEZ knows of none. In any event, SUEZ believes the APOD condition that SUEZ has agreed to adequately addresses the *Staff Memo*'s concern. Each of these issues is discussed in turn below.

(a) A cold water condition is not mandated by the Department's guidance.

In the Boise Front GWMA, the 300 foot concept first appears in the Department's June 15, 1987 *Order Establishing a Ground Water Management Area* ("*1987 Order*"), a copy of which is included in Exhibit I at page 113. The *1987 Order* describes the "resource of concern" as "the ground water greater than 85° F and/or the ground water at a depth of 300 feet or more below land surface." *1987 Order* at 3. The *1987 Order*'s only other mention of the 300 foot concept is in a conclusion of law that states:

> In order to establish whether withdrawals from the low temperature geothermal resource system are exceeding the capacity of the system to provide an ongoing supply of water and to protect early appropriators, all existing wells and future wells that obtain water either from a depth greater than 300 feet and/or

> a temperature of 85° F within the area designated, must be monitored and controlled.

1987 Order at 2.

None of these statements resulted in a single management goal or objective specifically related to groundwater below 300 feet in the Department's June 3, 1988 *Management Policy for the Boise Front Ground Water Management Area* ("*1988 Policy*") (copy included within Exhibit I at page 117). And there is only one "Administrative Action Required to Implement Objectives" addressing water below 300 feet in the *1988 Policy*:

> Require a drilling prospectus to be submitted for review and approval with each drilling permit proposing to construct a well into the low temperature geothermal aquifer or which exceeds a 300 ft depth.

1988 Policy at 12. Thus, the *1988 Policy* does not suggest limiting the use of cold water below 300 feet as suggested by the *Staff Memo*. Rather, it simply requires a drilling prospectus for new wells in the Boise Front GWMA that would divert from the low temperature geothermal aquifer or which exceed a 300 foot depth.

There also is no support for limiting the use of cold water below 300 feet in more recent Department documents. For example, the Department's February 14, 2019 *Review of Boise Front Low Temperature Geothermal Monitoring Data for Water Year 2018* (copy included within Exhibit I at page 129) makes no mention of cold water diverted from below 300 feet, let alone that such diversions negatively impact the LTG resource. Consistent with this, the Director's May 3, 2019 *Order Extending Moratorium* ("*2019 Order*") (copy included within Exhibit I at page 139) did not impose any new limitations on cold water diverted below 300 feet. Indeed, the only mention of the 300 foot concept in the *2019 Order* is in a final footnote that quotes the same language from the *1988 Policy* set forth above. The purpose of this quotation is to remind the reader that, in addition to rejecting pending and future applications to appropriate

LTG water, the Department "may also" require a "drilling prospectus" for drilling permits proposing to drill into the LTG aquifer or below 300 feet " *2019 Order* at 7 n. 3. In short, like the earlier Boise Front GWMA documents, there is nothing in the Department's most recent order to support limiting the use of cold water below 300 feet.

In sum, to the extent that non-LTG diversions from below 300 feet were a concern when the Boise Front GWMA was created in 1988, those concerns are addressed solely in the *1988 Policy's* drilling prospectus requirement. The Department's most recent analysis of LTG monitoring data raised no concerns about cold water diversions below 300 feet, providing no support for the *Staff Memo*'s contention that the "additional use of which may impact the LTG resource." *Staff Memo* at 24 (Exhibit A at page 68). Accordingly, there is no justification for limiting non-LTG diversions below 300 feet.

(b) The APOD condition will provide adequate protection in any event.

Any concerns about the impact of SUEZ's "additional use" of cold water from below 300 feet are adequately addressed by the inclusion of the APOD condition proposed by SUEZ. How the APOD condition works was explained in the *Memorandum from Christopher H. Meyer to [IMAP] Hearing Officer, Parties, and IDWR Staff* dated July 9, 2018 on the subject of "APOD Condition language for IMAP approval" ("*APOD Memo*"). The *APOD Memo* describes how the APOD condition should be administered in three different scenarios: (1) large-scale curtailment covering the entire geographic area in which the municipal provider's wells are located; (2) a geographically limited curtailment covering only a fraction of the municipal provider's wells (e.g., a curtailment limited to a ground water management area or a conjunctive management call whose trim line or boundary bisects the municipal provider's service area); and (3) localized well interference where a municipal provider's well is causing injury to another user's water right

(e.g., the cone of depression from the municipal well is causing injury to a neighbor's senior water right). *APOD Memo* at 2.

The situation presented here (APODs within the Boise Front GWMA) fits into the second APOD category (geographically limited curtailment). With respect to this situation, the *APOD Memo* explains:

> The second example involves a geographically limited curtailment covering only a fraction of the municipal provider's wells (e.g., a curtailment limited to a ground water management area or a conjunctive management call whose trim line crosses the municipal provider's service area). In this case, all junior water rights historically associated with wells within the curtailment area would be curtailed from diverting from those wells. However, those junior water rights could still be diverted under their APOD authority from wells outside of the curtailment area. Meanwhile, water rights historically associated with wells outside of the curtailment area could not be diverted from within the curtailment area even if they are senior to the curtailment cut-off date. In sum, the APOD condition prohibits bringing junior or senior water rights to the well causing the injury; it does not prohibit use of the APOD authority to divert water from wells outside of a curtailment area. This does not undercut the goal of the curtailment. The goal is to encourage water users to find ways of meeting their water needs from locations outside of the sensitive area.

APOD Memo at 2.

The bottom line is that, in the event of curtailment in the Boise Front GWMA, the APOD condition would restrict the use of SUEZ's wells within the GWMA to the water rights originally associated with them. In other words, the APOD condition would "unwind" the APOD approval for purposes of administration. This fully protects senior water right users in the Boise Front GWMA, whether they divert cold or LTG water.

F. SUEZ confirms the abandonment of right nos. 63-8385 and 63-10150

The *Staff Memo* asks if SUEZ "intends to abandon Rights 63-8385 and 63-10150." *Staff Memo* at 28 (Exhibit A at page 72). This question is premised on these rights having diversion

rates of zero after removal of combined limits and assignment of diversion rates and/or volumes to the most senior of the combined rights. *Staff Memo* at 24 (Exhibit A at page 68).

The answer to this question is: Yes. If the IMAP is approved and the combined limits are eliminated in this fashion, SUEZ will abandon right nos. 63-8385 and 63-10150.

G. SUEZ's intent regarding right no. 63-12363 (which is not in the IMAP) and its combined limit with 63-11558

One of the objectives of the IMAP is to simplify SUEZ's portfolio of water rights by eliminating combined use limits. One example is water right nos. 63-11558 (2.67 cfs) and 63-12363 (4.5 cfs). The rights are subject to a combined use limit of 5.5 cfs and therefore not entitled to divert an aggregate of 7.17 cfs authorized on the face of the rights. Accordingly, SUEZ asked that the junior right (63-12363) be reduced to 2.83 cfs, yielding an aggregate authorized rate of 5.5 cfs between the rights, thereby eliminating the need for the combined use limit.

IDWR, it appears, agrees with the merits of this simple change.[12] The problem is a procedural one. The concern raised in the *Staff Report* is that 63-12363 is not presently included in the IMAP. The *Staff Memo* asks SUEZ to explain its "intent regarding Right 63-12363 in relation to removal of the combined limit with 63-11558." *Staff Memo* at 28 (Exhibit A at page 72). The *Staff Memo* raises this question because "Right 63-12363 is not included in the IMAP, possibly because it is limited to Fire Protection uses." *Staff Memo* at 25 (Exhibit A at page 69).

First, a couple of clarifications: Contrary to the *Staff Memo*'s statement, right no. 63-12363 is for municipal purposes, not fire protection. Also, right no. 63-12363 was included

[12] Notes 5 and 13 in the *Staff Memo*'s Attachment 2 (Exhibit A at page 78) suggests this is an acceptable outcome: "if add 63-12363 as associated right can leave 63-11558 as 2.67 cfs then reduce face of 63-12363 to 2.83 cfs as applicant proposes."

in the original IMAP, but it was withdrawn from the IMAP on March 17, 2010 to allow a point of diversion to be added to it through a separate transfer proceeding.[13]

The *Staff Memo* states that "[i]n order to modify Right 63-12363 as requested, Suez needs to include this right in the IMAP proceeding as an associated water right or submit a separate transfer application to IDWR." *Staff Memo* at 25 (Exhibit A at page 69). Bringing a water right back into the IMAP at this point would be procedurally complicated, given the array of settlements that are now in place. If the quantity element of 63-12363 cannot be reduced without bringing it back into the IMAP, then SUEZ drops its request to eliminate the combined use limit on these two rights.[14] At some point down the road, SUEZ may file a transfer application for 63-12363 to accomplish this result, but SUEZ does not want to hold up final action on the IMAP in the interim.

H. Water bearing zones for permit nos. 63-12452, 63-12464, and 63-12516

The last item of additional information sought by IDWR deals with water bearing zones ("WBZ"), which are occasionally identified on permits and licenses. The *Staff Memo* identifies three such rights: permit nos. 63-12452, 63-12464, and 63-12516. It is unclear why these

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[13] SUEZ withdrew right no. 63-12363 from the IMAP at IDWR's instruction because, according to IDWR, the right could not be changed as proposed in Transfer no. 72036 if it was still in the IMAP. Transfer no. 72036, approved on September 17, 2010, added SUEZ's Fisk Well in SWSESE of Section 6, T3N, R2E, as a point of diversion to water right no. 63-12363. A copy of the transfer approval is attached hereto as Exhibit J at page 147. In approving that transfer, IDWR also modified associated water right no. 63-11558 (which was in the pending IMAP at the time) by adding the following condition: "Rights 63-11558 and 63-12363 when combined shall not exceed a total diversion rate of 5.50 cfs from the Fisk well located in the SWSESE, S6, T3N, R2E."

[14] This is an unfortunate complication that is arguably at odds with IDWR's handling of the transfer of 63-12363, which resulted in a combined use limit being added to it and another right (63-11558, in fact) that was not part of the transfer. If adding a combined use limit to a right not part of a transfer could be done in that case, it is not clear to SUEZ why IDWR cannot make an appropriate adjustment to 63-12363 to remove the combined use limit now. That said, SUEZ understands the subtle distinction being drawn here between a combined use limit and a change in the stated quantity. If that is the Department's policy, SUEZ prefers to leave the combined use limit in place for both rights for the time being.

permits display WBZ information. It appears that this data was provided by SUEZ at the time of permit application, for informational purposes, and was then incorporated into each permit as a remark. This appears to be over-inclusive information. Indeed, nos. 63-12516 and 63-12542 identify specific wells by name, which is highly unusual and inconsistent with standard Department practice of identifying points of diversion by 40-acre tract.

The *Staff Memo* suggests that SUEZ should provide information "[i]f the water bearing zones actually developed [under permit nos. 63-12452, 63-12464, and 63-12516] have not yet been recorded by IDWR in a beneficial use field report." *Staff Memo* at 28 (Exhibit A at page 72). The *Staff Memo* further explains:

> Permits 63-12452, 63-12464, and 63-12516 currently have a condition limiting the water bearing zone ("WBZ") from which water can be diverted under the water rights. The points of diversion for all three of these permits are within the area where IDWR would normally keep the WBZ condition when licensing permits. To avoid injury to senior Boise River water rights, IDWR should restrict the points of diversion for these permits to the established water bearing zones. The restriction should be placed on all the IMAP rights if the points of diversion developed for these permits will be included among the APODs on all the IMAP rights and permits. If the water bearing zones actually developed have not yet been recorded by IDWR in a beneficial use field report, IDWR may need to seek this information from Suez.

Staff Memo at 27 (Exhibit A at page 71).

The WBZ permit conditions and the actual WBZs (i.e., the screened intervals) for the three wells are summarized as follows:

Table 2: Water bearing zones (WBZ)			
WR#	**Well names**	**Actual WBZ (feet below ground surface)**	**WBZ in permit (feet below ground surface)**
63-12452	Floating Feather: Redwood Creek:	183 to 225 298 to 401	183 to 401
63-12464	Durham: Licorice:	81 to 101 87 to 102	80 to 150
63-12516	Spurwing: Foxtail (aka Foxtail #2):	235 to 355 395 to 450	233 to 355

As shown in Table 2 above, the actual WBZs are within the ranges described in the permit conditions for five of the six wells, but not for the Foxtail well. But this is not an issue with respect to IMAP approval.

The actual WBZ in the current Foxtail well is not relevant to IMAP approval because the IMAP was filed when the Foxtail well's WBZ fell within permit no. 63-12516's WBZ limitation. The Foxtail well originally was drilled in 1997, and constructed with a screened interval from 243 feet to 283 feet below ground surface. A replacement well—the current well—was drilled in 2011 with a screened interval from 395 feet to 450 feet below ground surface.[15] However, proof of beneficial use for right no. 63-12516 was filed in 2009, when it was diverting water from the original Foxtail well at the screened interval from 243 feet to 283 feet below ground surface.[16]

It is not clear how to interpret the *Staff Memo's* suggestion that the WBZ restrictions in right nos. 63-12452, 63-12464, and 63-12516 "should be placed on all the IMAP rights" that include the associated wells as APODs. It may be appropriate to include the WBZ restrictions on these particular rights post-IMAP, such that each right could be diverted only from wells

[15] Copies of the Well Driller's Reports for the original and replacement Foxtail wells are included in Exhibit K at page 153.

producing water from the stated WBZs. And it may also be appropriate to limit other rights such that (post-IMAP) they can divert only from the WBZs associated with the original rights for the Floating Feather, Redwood Creek, Durham, Licorice, and Spurwing wells listed in the table above.[17] However, it would not be appropriate to limit all water rights such that (post-IMAP) all 81 APODs in the IMAP are limited to the WBZs listed above.

In any case, to the extent that interference with other water rights or wells occurs from pumping additional rights from the wells listed above (i.e., rights other than those originally associated with the wells), the proposed APOD condition would protect those other rights. As described above in Section I.E(2)(b), the APOD condition would "unwind" the APOD approval for purposes of administration. This fully protects senior water right users.

II. IDWR'S ANALYSES OF SUEZ'S WATER RIGHTS PORTFOLIO AND IMAP CHANGES

The *Staff Memo* included a spreadsheet labeled "Attachment 1: Suez Water Right Portfolio" ("*Staff Attachment 1*") which is "a table outlining the water right authorizations included in IDWR's analysis." *Staff Memo* at 15 (a copy of the attachment is found in Exhibit A at page 73). Similar to the approach used by SUEZ in the *Master Water Plan*, this review of SUEZ's portfolio did not merely sum the water rights' diversion rates. Rather, in order to arrive at a meaningful figure, the Department (like SUEZ) calculated the quantity of water available to

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[16] As noted in the 2011 Well Driller's Report included in Exhibit K at page 153, water right nos. 63-12334 and 63-12362 also are associated with the Foxtail well. These rights are not limited to a particular water bearing zone like right no. 63-12516.

[17] Please note that the Foxtail well is not included in the statement in the main text. The Foxtail well already is an authorized point of diversion for other water rights (nos. 63-12334 and 63-12362) which contain no WBZ restrictions and the Foxtail well, as noted, already produces from a WBZ different than the limitation in right no. 63-12516. SUEZ intends for right no. 63-12516 to be authorized to divert from any of its APODs (even if limited to the WBZ indicated in the permit), and also for all other rights in the IMAP to be able to divert from the Foxtail well as an authorized APOD.

be diverted under SUEZ's existing portfolio by accounting for volume limitations, combined limitations with other rights, and the timing of each right's availability to be diverted. SUEZ's and IDWR's respective analyses were very similar, but not identical in all respects. As noted in the *Staff Memo*, "IDWR's review resulted in slightly different values than Suez reported in . . . the Master Water Plan." *Staff Memo* at 15 (Exhibit A at page 59).

The *Staff Memo* also included a spreadsheet labeled "Attachment 2: IMAP Rights" ("*Staff Attachment 2*"), which displays IDWR's analysis of the proposed changes to SUEZ's water rights that would result from approval of the IMAP. A copy of this attachment is found in Exhibit A at page 76, SUEZ agrees with most of the information in the spreadsheet, but not all of it.

Submitted with this *Response Memo* is a November 30, 2020 memorandum ("*Side Memo*") from Michael P. Lawrence to the Hearing Officer in the IMAP proceeding regarding the "Analysis of *Staff Memo* Attachments 1 and 2." Due to its size, the *Side Memo* is being filed separately rather than as an exhibit to this *Response Memo*, but it is incorporated by this reference.

In a nutshell, and as explained in more detail in *Side Memo*, *SUEZ* believes that the portfolio analysis reflected in *Staff Attachment 1* should be changed to reflect the issues identified in Table 3 below:

Table 3: Proposed changes to *Staff Attachment 1*		
WR#	**Description of issue**	**Proposed Change to *Staff Attachment 1***
63-147D	Update to SUEZ portfolio	Add right to SUEZ portfolio
63-169F	Revise diversion rate after adjustments	Diversion rate should be 0.39 cfs
63-243E	Revise diversion rate after adjustments	Diversion rate should be 1.33 cfs
63-243H	Revise diversion rate after adjustments	Diversion rate should be 0.33 cfs
63-3222	Update to SUEZ portfolio	Add right to SUEZ portfolio
63-10890	Update to SUEZ portfolio	Add right to SUEZ portfolio
63-10945	Revise diversion rate "after IMAP"	Diversion rate should be 0.45 cfs
63-11990	Revise diversion rate "after IMAP"	Diversion rate should be 0.63 cfs
63-12362	Fire protection use only	Right should not count toward SUEZ municipal portfolio
63-31406	Use of quantity reflected in proof of beneficial use	Diversion rate should be 1.11 cfs

As shown in Table 3, SUEZ proposes that *Staff Attachment 1's* portfolio analysis include the post-IMAP quantities for right nos. 63-10945 and 63-11990 as described in the *Side Memo*. Including these post-IMAP quantities more accurately reflects SUEZ's portfolio for purposes of conducting the Gap Analysis (see Section III below). The *Staff Memo* contends that right no. 63-12362's fire protection use cannot be changed to municipal through the IMAP. *Staff Memo* at 19. SUEZ therefore believes that the right should not be counted in *Staff Attachment 1* toward SUEZ's municipal portfolio for purposes of the Gap Analysis. The other rights listed in Table 3 are not in the IMAP,. but nevertheless are in SUEZ's portfolio of water rights.

In addition, and as also explained in the *Side Memo*, SUEZ believes the following revisions are needed to *Staff Attachment 2*'s analysis of the proposed changes to SUEZ's water rights that would result from approval of the IMAP:

Table 4: Proposed changes to *Staff Attachment 2*		
WR#	**Description of issue**	**Proposed Change to *Staff Attachment 2***
63-8248	Correction of rounding or error	Diversion rate should be 1.16 cfs
63-10945	Revise diversion rate "after IMAP"	Diversion rate should be 0.45 cfs
63-11990	Revise diversion rate "after IMAP"	Diversion rate should be 0.63 cfs

As noted in the *Side Memo*, to avoid a dispute over whether right no. 63-12362's fire protection use (which is its only authorized use) can be transferred to municipal, SUEZ will agree to a modification of the IMAP to remove that proposed change. However, the right should remain in the IMAP so its place of use can be changed to SUEZ's service area and so it can be diverted from all 81 APODs sought in the IMAP. SUEZ does not propose to update *Staff Attachment 2* to reflect this because it already appears to do so.

As explained in the *Side Memo*, SUEZ's *Master Water Plan* analyzed right nos. 63-12140 and 63-12310[18] differently than IDWR did in *Staff Attachment 1* and *Staff Attachment 2*. However, SUEZ agrees that the quantities for these rights in *Staff Attachment 1* and *Staff Attachment 2* are correct.

III. GAP ANALYSIS REVISIONS

The *Staff Memo* includes a "Gap Analysis"[19] to determine the difference between SUEZ's current water rights portfolio and its reasonably anticipated future needs ("RAFN"). *Staff Memo* at 14-16 (Exhibit A at pages 58-60). The purpose of the Gap Analysis is to confirm that an

[18] IDWR used the quantities set forth in draft licenses for right nos. 63-12140 and 63-12310 instead of the permitted quantities. As noted in the *Side Memo*, SUEZ has agreed with these draft license quantities and, therefore, agrees that those quantities are correctly reflected in *Staff Attachment 1* and *Staff Attachment 2*.

[19] A "Gap Analysis" is an "analysis of the difference (gap) between what will be needed [to supply municipal RAFN] and what is currently provided for by the [municipal provider's] existing water right portfolio." Mat Weaver, *Memorandum – Application Processing No. 74, Permit Processing No. 20, License Processing No. 13, Transfer Processing No. 29*, at 17 n.11 (Mar. 16, 2015) (replacing Nov. 15, 2014 and Nov. 13, 2013 versions) ("*RAFN Municipal Water Right Handbook*").

applicant does not obtain RAFN rights in excess of what is needed to meet long term needs. In other words, the gap (future demand minus portfolio) must be zero or a positive number. SUEZ previously identified a gap of 40.29 cfs based on anticipated demand in 2065. *Master Water Plan*, page 41.

As discussed below, the Gap Analysis (a) should be revised to reflect a small net reduction in SUEZ's water rights portfolio (also discussed in Section II at page 28), and (b) could be revised to reflect the small decrease in future demand in the Expansion Area (discussed in section I.C at page 16).

Page 15 of the *Staff Memo* includes a table summarizing IDWR's Gap Analysis. The table is reproduced below, as Table 5, with columns added to the right showing SUEZ's calculations from its *Master Water Plan* and the difference between the *Staff Memo*'s and SUEZ's calculations:

Table 5: Difference between *Staff Memo* Gap Analysis and *Master Water Plan* Gap Analysis

Portfolio (ground water and surface water rights or permits)	***Staff Memo* cfs**	**SUEZ cfs**	**Difference (*Staff Memo* cfs minus SUEZ cfs)**
1. Total "face value" or "paper" diversion rate (sum of each right)	412.86	415.01	-2.15
2. Total diversion rate after combined limit adjustments	366.90	370.34	-3.44
3. Total diversion rate after combined limit and volume limit adjustments	351.14	350.58	0.56
4. Total diversion rate after temporal considerations	331.14	330.58	0.56
5. Forecast for Water Demand in 2065	370.87	370.87	0
Gap = Difference between portfolio (#4) and RAFN (#5)	39.73	40.29	-0.56

As shown in Table 5 above, there is very little difference between the Department's and SUEZ's portfolio calculations and adjustments, and therefore very little difference in the respective "gap" calculations. The reasons for these differences are explained in the *Side Memo*. In summary, while IDWR's Gap Analysis differs slightly from SUEZ's own Gap Analysis set

forth in the *Master Water Plan*, both IDWR and SUEZ agree that SUEZ's portfolio is insufficient to meet its RAFN in 2065.[20]

In a number of cases, SUEZ agrees with the corrections recommended by the *Staff Memo*. In other cases, SUEZ believes its original portfolio calculations are correct. In yet other cases, SUEZ agrees that a correction is called for, but different from the correction called for in the *Staff Memo*. In addition, SUEZ has identified three water rights that were omitted from the *Master Water Plan* which should be included in the Gap Analysis. Each is discussed in detail in the *Side Memo*.

For purposes of conducting the Gap Analysis, SUEZ proposes the adjustments to its portfolio summarized in Table 3 above,[21] as specifically set forth in Table 6 below:

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[20] Concerning these differences, the *Staff Memo* concludes:

> While the water right portfolio combined diversion rate IDWR calculated (331.14 cfs) is slightly greater than Suez's tally, the rate is within 0.17% of the rate stated by Suez (330.58 cfs). Either way, the Suez 2065 water demand forecast (370.87 cfs) exceeds the currently authorized overall water right diversion rate.

Staff Memo at 16 (Exhibit A at page 60).

[21] As noted in the text following Table 3 above, the post-IMAP quantities for right nos. 63-10945 and 63-11990 should be used to accurately reflect SUEZ's portfolio for purposes of conducting the Gap Analysis.

Table 6: SUEZ's proposed updates to Post-IMAP portfolio for Gap Analysis		
WR#	**Proposed Change to SUEZ Portfolio in *Staff Attachment 1***	**Increase/decrease to SUEZ Portfolio in *Staff Attachment 1***
63-147D	Add right to SUEZ portfolio	+0.37 cfs
63-169F	Diversion rate should be 0.39 cfs	-0.42 cfs (0.39 – 0.81)
63-243E	Diversion rate should be 1.33 cfs	-1.97 cfs (1.33 – 3.3)
63-243H	Diversion rate should be 0.33 cfs	-0.6 cfs (0.33 – 0.93)
63-3222	Add right to SUEZ portfolio	+0.07 cfs
63-10890	Add right to SUEZ portfolio	+0.02 cfs
63-10945	Diversion rate should be 0.45 cfs	+0.19 cfs (0.45 – 0.26)
63-11990	Diversion rate should be 0.63 cfs	-0.23 (0.86 – 0.63)
63-12362	Fire protection use only; 2.22 cfs should not count toward portfolio for Gap Analysis	-2.22
63-31406	Diversion rate should be 1.11 cfs	-0.89 cfs (1.11 – 2.0)
	Net change	*-5.68 cfs*

As shown, these changes result in a net decrease of 5.68 cfs to SUEZ's portfolio as set forth in the *Staff Memo's* Attachment 1. In other words, the changes increase the "gap" between SUEZ's portfolio and its RAFN in 2065. Section II at page 28.

Concerning the future demand aspect of the Gap Analysis, as explained in Section I.C above, the projected 2065 demand inside SUEZ's Planning Area but outside of SUEZ's current Certificated Area (called the "Expansion Area" in the *Expansion Quantification Report*, Exhibit E at page 91) is projected to be 1.69% of SUEZ's total projected annual demand. Accordingly, the projected 2065 demand inside the Expansion Area must be 1.69% of SUEZ's total projected 2065 Maximum Day Demand ("MDD") of 370.87 cfs in August 2065. The result is that, if demand in the Expansion Area is excluded from SUEZ's demand projection, MDD in 2065 reduces by 6.27 cfs, from 370.87 cfs to 364.60 cfs. *See* Section I.C at page 16.

If the Gap Analysis is revised to account for (a) a 5.68 cfs decrease to SUEZ's portfolio described above, and (b) a 6.27 cfs reduction to SUEZ's projected future demand, the gap between SUEZ's portfolio and projected water demand would be 39.14 cfs:

Table 7: Net change adjustments to Gap Analysis reflecting decrease in portfolio and future demand (within Expansion Area)			
	Original Quantities (cfs)	**Potential Adjustments (cfs)**	**Resulting Quantities (cfs)**
SUEZ Portfolio (*Staff Memo Attachment 1*)	331.14	-5.68	325.46
Projected demand (*Master Water Plan*)	370.87	-6.27	364.60
Gap (projected demand minus portfolio)	39.73	-0.59	39.14

The bottom line is that the gap might move, but not by much. SUEZ initially calculated that gap at 40.29 cfs. The *Staff Memo* placed it at 39.73 cfs. If SUEZ's proposed changes to its portfolio are reflected in *Staff Attachment 1* (which SUEZ recommends; see Section II at page 28), and the Expansion Area is excluded from SUEZ's projected demand (which SUEZ does not recommend; see Section I.C at page 16), the number would be 39.14 cfs. All that matters is that the number is positive.

CONCLUSION

SUEZ respectfully requests that the Hearing Officer approve the IMAP consistent with this *Response Memo*, the *Side Memo,* and SUEZ's prior filings.

Respectfully submitted this 30th day of November, 2020.

GIVENS PURSLEY LLP

By _____
Christopher H. Meyer

By _____
Michael P. Lawrence

Attorneys for Applicant SUEZ Water Idaho Inc.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 30th day of November, 2020, the foregoing was filed, served, and copied as shown below. Service by email is authorized by the Hearing Officer's Order of September 11, 2017

DOCUMENT FILED:

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[Blank page inserted to facilitate double-sided printing and tabbing of exhibits.]

Exhibit A *STAFF MEMO* OF 1/14/2019 (WITH ATTACHMENTS)

MEMORANDUM

DATE: January 14, 2019

TO: James Cefalo

FROM: M. Rauhut, A. Grimm, P. Skaggs, E. Boe, and S. Keen

RE: Staff Review of Suez Water Idaho, Inc.'s Integrated Municipal Application Package

BACKGROUND

On May 4, 2001, United Water Idaho Inc., now Suez Water Idaho, Inc. ("Suez"), filed with the Idaho Department of Water Resources ("IDWR") a package of applications identified by the name Integrated Municipal Application Package ("IMAP"). Among other things, Suez seeks to add alternative points of diversion ("APODs") to certain water rights and permits, eliminate annual diversion volume limits from certain water rights, and identify the water rights and permits as held to meet reasonably anticipated future needs ("RAFN").

IDWR received several protests against approval of the IMAP. IDWR appointed James Cefalo ("Cefalo") to be the hearing officer in the IMAP matter. Cefalo held a handful of status conferences to confer with the parties about the IMAP. Cefalo did not hold a hearing because all the protests were eventually withdrawn, many of them conditionally.

The purpose of this review memorandum is to assist Cefalo in evaluating the IMAP record. This memorandum analyzes Suez's IMAP transfer and permit amendment applications as described by documents Suez submitted in support of the IMAP, including:

- Suez's *Master Water Plan for the Years 2015 to 2065* ("Master Water Plan")
- *Suez's 2017 Update Report on IMAP and 2065 Master Water Plan* ("2017 Update Report")
- *Suez's 2017 Supplement to the Update Report, Addressing APODs* ("2017 APODs Update Report")

The analysis is organized into three sections. The first section addresses the information Suez submitted to support the RAFN component of the IMAP proposal. The second section addresses the IMAP relative to the statutory requirements for water right transfers (Idaho Code § 42-222) and applications to amend permits (Idaho Code § 42-211). The third section describes considerations particular to elements and conditions of specific water rights and permits included in the IMAP.

RAFN REVIEW

Idaho Code § 42-222(1) states, in part:

> When the nature of use of the water right is to be changed to municipal purposes and some or all of the right will be held by a municipal provider to serve reasonably anticipated future needs, the municipal provider shall provide to the department sufficient information and documentation to establish that the applicant qualifies as a municipal provider and that the reasonably anticipated future needs, the service area and the planning horizon are consistent with the definitions and requirements specified in this chapter.

Idaho Code § 42-202B(8) states:

> "Reasonably anticipated future needs" refers to future uses of water by a municipal provider for municipal purposes within a service area which, on the basis of population and other planning data, are reasonably expected to be required within the planning horizon of each municipality within the service area not inconsistent with comprehensive land use plans approved by each municipality. Reasonably anticipated future needs shall not include uses of water within areas overlapped by conflicting comprehensive land use plans.

Accordingly, IDWR's analysis of Suez's RAFN request must address:

1) whether Suez qualifies as a municipal provider,
2) Suez's service area,
3) Suez's proposed planning horizon,
4) Suez's population projection within the planning horizon, and
5) Suez's forecasted water demand necessary to serve the changing population within a service area throughout the planning horizon.

IDWR must also analyze Suez's existing water rights portfolio and conduct a gap analysis. A gap analysis is the determination of what portion of Suez's future municipal needs can be met by its existing water rights. *See Memorandum Re: Recommendations for the Processing of Reasonably Anticipated Future Needs (RAFN) Municipal Water Rights at the Time of Application, Licensing, and Transfer* (Mar. 16, 2015) ("IDWR Recommendations for RAFN Processing") at 17.

<u>Municipal Provider Status</u>

Suez's submittals do not state why it qualifies as a "municipal provider" pursuant to Idaho Code § 42-202B(5).

Suez may qualify as a "municipal provider" because it is a "corporation or association holding a franchise to supply water for municipal purposes." Idaho Code § 42-202B(5)(b). Some of Suez's submittals refer to Idaho Public Utilities Commission ("IPUC") authorization, implying the existence of a franchise. For example, the April 3, 2018, Affidavit of Roger D. Dittus ("Dittus Affidavit")[1], hydrogeologist for Suez, states: "The Pink Line Map also displays SUEZ's certificated area. This is [the] geographic area that SUEZ is now authorized to serve by the [IPUC]." *Dittus Affidavit* at 2.

Alternatively, Suez may qualify as a "municipal provider" because Suez is identified by the Idaho Department of Environmental Quality as "[a] corporation which supplies water for municipal purposes through a water system regulated by the state of Idaho as a 'public water supply' as described in section 39-103(12), Idaho Code."[2] Idaho Code § 42-202B(5)(c).

IDWR should seek information from Suez to substantiate its qualification as a municipal provider for the record.

Service Area

The IMAP service area review is based on the following documents:

- Master Water Plan
- 2017 Update Report
- *United Water Integrated Municipal Application Planning Area Map* ("Planning Area Map"), Exhibit 1 to Master Water Plan

Idaho Code § 42-202B(9) defines "service area" as follows:

> 'Service area' means that area within which a municipal provider is or becomes entitled or obligated to provide water for municipal purposes. For a municipality, the service area shall correspond to its corporate limits, or other recognized boundaries, including changes therein after the permit or license is issued. The service area for a municipality may also include areas outside its corporate limits, or other recognized boundaries, that are within the municipality's established planning area if the constructed delivery system for the area shares a common water distribution system with lands located within the corporate limits. For a municipal provider that is not a municipality, the service area shall correspond to the area that it is authorized or obligated to serve, including changes therein after the permit or license is issued.

[1] Available at https://idwr.idaho.gov/files/legal/suez-water-idaho-imap/IMAP-20180403-Affidavit-of-Roger-Dittus.pdf.

[2] *See* Public Water Systems Classification List at http://www.deq.idaho.gov/water-quality/drinking-water/pws-classification-licensure/system-classifications/.

The IDWR Recommendations for RAFN Processing gives additional guidance regarding service areas, including areas overlapped by conflicting comprehensive land use plans:

> Idaho Code §42-202B (8) states, *"Reasonably anticipated future needs shall not include uses of water within areas overlapped by conflicting comprehensive land use plans."* When evaluating a proposed RAFN service area where two or more municipal providers abut one another, the applicant should research adjacent community planning areas to confirm that overlaps in competing planning areas *specific to water service* do not exist. If overlaps in comprehensive land use planning areas specific to water service do exist between two different municipal providers, the area of overlap cannot be included in the proposed RAFN service area under consideration . . . .
>
> However, the proposed RAFN service area cannot include areas where water is not provided at the time of application if the proposed RAFN service area is overlapped by adjacent land use planning boundaries, or is already included within the existing service area of a municipal water provider other than the municipal provider under consideration.

IDWR Recommendations for RAFN Processing at 6-7.

Although Idaho Code uses the term "service area," Suez uses the term "Planning Area" throughout its Master Water Plan and 2017 Update Report. The difference in terminology is discussed in the Master Water Plan as follows:

> Planning Area refers to Suez's anticipated future service area that qualifies for RAFN quantification at the end of the Planning Horizon. References to Suez's Planning Area are capitalized. The [IDWR Recommendations for RAFN Processing] does not employ the term 'planning area' but refers instead to the 'RAFN service area,' which is the same thing.

Master Water Plan at 2. Suez's "Planning Area" is based on a 50-year planning horizon for its water supply. The "Planning Area" is Suez's anticipated service area at the end of the 50-year planning horizon. The "Planning Area" extends beyond Suez's current service area into the impact areas of several incorporated communities and into unincorporated portions of Ada County. The Dittus Affidavit describes the "Planning Area's" overlap with other municipalities as follows:

> SUEZ's certificated area and planning area fall within the City of Boise's area of city impact. In addition, SUEZ's certificated area and planning area include portions of the following: (1) the City of Eagle and its area of city impact, (2) the City of Kuna and its area of city impact, (3) the City of Meridian and its area of city impact, (4) Garden City and its area of city impact, and (5) unincorporated areas of Ada County that fall within no area of city impact.

Dittus Affidavit at 3.

Suez's method for delineating its "Planning Area" raises at least four questions:

1. Is the 50-year planning horizon appropriate?

2. Does Idaho law allow municipal providers to justify RAFN on the basis of an anticipated, as opposed to current, service area?

3. Did Suez use good information to anticipate where its service area is likely to expand over the planning horizon?

4. Is the "Planning Area" consistent with the Idaho Code §42-202B(8) directive that, "[RAFN] shall not include uses of water within areas overlapped by conflicting comprehensive land use plans."

Regarding the first question, as discussed below in the "Planning Horizon" section, justifying a 50-year planning horizon requires extensive analysis. Suez's 50-year "Planning Area" cannot be valid if its 50-year planning horizon is inappropriate. This review of Suez's "Planning Area" assumes the 50-year planning horizon is appropriate. If the planning horizon is not appropriate, the "Planning Area" may need to be scaled back to reflect a shorter term.

Regarding the second question, Idaho Code § 42-222(1) directs that, when the nature of use of a water right is to be changed to municipal purposes to serve RAFN, IDWR must ensure the "service area" is "consistent with the definitions and requirements specified in this chapter." Again, the definition of "service area" in Idaho Code § 42-202B(9) states: "For a municipal provider that is not a municipality, the service area shall correspond to the area that it is authorized or obligated to serve, including changes therein after the permit or license is issued." This definition clearly anticipates that, for a non-municipal entity like Suez, the service area may change after a permit or license is issued. The definition suggests that it may be appropriate for Suez to use an anticipated, as opposed to current, service area to justify its RAFN request. However, because many of the IMAP water rights are decreed rights rather than permits and licenses, it is not clear that the opportunity to plan for an expanded service area applies to all the water rights involved.

Regarding the third question, even assuming Suez can use an anticipated service area to justify its RAFN request, Suez's IMAP materials do not explain or detail how or why Suez will become "authorized or obligated to serve" an area outside its current service area. Suez does not explain how it obtains approval for expanding its service area nor detail why Suez's service area will expand into certain areas in the future. A municipality has its "corporate limits" and "established planning area." Idaho Code § 42-202B(9). For a municipal provider that is not a municipality, what is the process for obtaining authorization or obligation to serve an area? *See Id.* IDWR should ask Suez to explain its process for obtaining authorization or obligation to serve an area.

Suez also does not describe what portion of the anticipated future water need is expected to occur in the portions of the "Planning Area" that Suez does not now serve. Is the expanded service area marginal to the overall IMAP request, or does it account for a significant share of the projected growth in demand over the planning horizon? In addition, the Planning Area Map does not show areas that are currently served by domestic wells, subdivisions that may have their own community water supplies, areas that have non-potable irrigation water (NPI)[3], or any types of non-municipal water supplies. IDWR should ask Suez for information explaining how and why it is reasonable to anticipate that its service area will expand to include all of the "Planning Area." IDWR should also ask Suez to explain what portion of its anticipated future needs over the 50-year planning horizon is attributable to Suez's current service area and what portion is attributable to the anticipated growth of its service area.

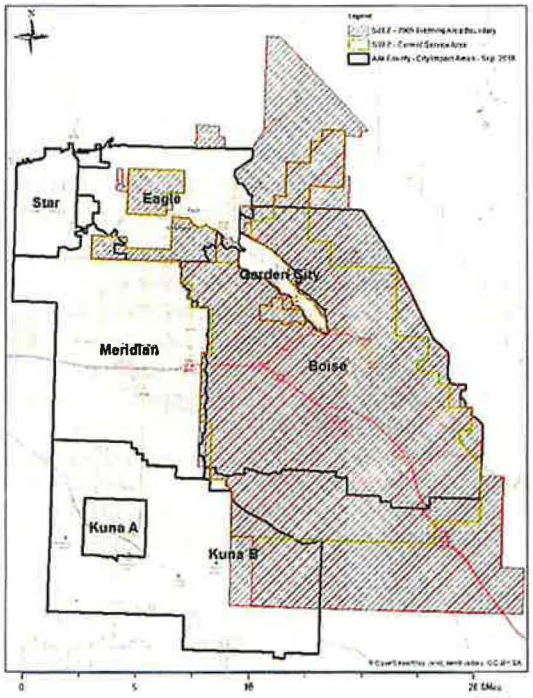

Figure 1. Suez Planning Area (red) superimposed on the Ada County City Impact Areas (black)

[3] NPI is untreated surface water delivered by irrigation districts and other entities (but not by the municipal provider) to irrigate lawns, parks, and the like within a municipal provider's service area. The Master Water Plan accounts for NPI in its water demand projection, but does not specifically discuss residences with domestic wells or other potential small community water supplies.

Regarding the fourth question, Figure 1 shows the areas of impact (black outline) of the various municipalities in Ada County[4] and Suez's "Planning Area" (red hatched area). Suez is often seen as the municipal water provider for the City of Boise, but, as Figure 1 shows, Suez's certificated service area (green outline), as approved by the IPUC, and its "Planning Area," overlap areas of impact of other Ada County municipalities. The Master Water Plan (at 7) highlights these overlaps, stating:

> In the Meridian and Eagle vicinity, the western boundary of the Planning Area in the 2012 Pink Line Map precisely matches Suez's existing certificated boundary. Compared to the 2002 Pink Line Map, the biggest change in this area is the Planning Area extension north of Chinden Boulevard, which was not included within the 2002 Pink Line Map's Planning Area boundary.

The Suez "Planning Area" overlaps with the City of Eagle area of impact in multiple locations, and the border of the "Planning Area" along the area of impact for Meridian also appears to overlap. The Master Water Plan (at 8) also states:

> Where the southern boundary of the 2012 Pink Line Map's Planning Area approaches the City of Kuna, it turns north one mile east of the City's current annexations. After traveling three miles north, the boundary intersects Suez's current certificated service area western boundary all the way through and around the Cities of Meridian, Eagle, and Garden City, as described above. In other words, aside from the area extending three miles south of its existing certificated service area east of Kuna, Suez's Planning Area boundary is identical to its current certificated service area along its western boundary.

In other words, the existing Suez service area overlaps with Kuna's area of impact. The "Planning Area" extends the overlap especially towards the south.

Suez concludes that its RAFN proposal is consistent with Idaho Code § 42-202B(8) because "no areas that Suez anticipates serving are within areas overlapped by conflicting comprehensive land use plans." *Master Water Plan* at 6. The key to Suez's conclusion is Idaho Code § 42-202B(8)'s use of the phrase "comprehensive land use plan." Suez states that "the municipal governments in the Treasure Valley have established their areas of city impact so as not to overlap." *Id.* In other words, because the municipal areas of impact do not overlap, their land use plans do not overlap. Therefore, Suez concludes that, although its "Planning Area" for water delivery overlaps several municipal areas of impact, such overlap is not in violation of Idaho Code § 42-202B(8)'s directive that RAFN "shall not include uses of water within areas overlapped by conflicting comprehensive land use plans."

While Suez's water delivery proposal may not clearly violate Idaho Code § 42-202B(8)'s directive, one view of the statute's restriction could be that its purpose is to allow the land use

[4] Municipal areas of impact in Ada County shapefile available at: http://opendata.cityofboise.org.

planning process, not the water appropriation process, to determine the future pattern of municipal growth. Again, Suez has not explained how it obtains approval for expanding its service area nor has Suez detailed why its service area will expand into certain areas in the future. IDWR should require Suez to provide such information.

Planning Horizon

Idaho Code §42-202B(7) defines the "planning horizon" for a municipal provider as follows:

> 'Planning horizon' refers to the length of time that the department determines is reasonable for a municipal provider to hold water rights to meet reasonably anticipated future needs. The length of the planning horizon may vary according to the needs of the particular municipal provider.

Idaho Code §42-202B(8) states the following regarding evaluation of planning horizons:

> '[RAFN]' refers to future uses of water by a municipal provider for municipal purposes within a service area which, on the basis of population and other planning data, are reasonably expected to be required within the planning horizon of each municipality within the service area not inconsistent with comprehensive land use plans approved by each municipality.

IDWR Recommendations for RAFN Processing establishes guidance for IDWR staff to consider when determining whether a proposed planning horizon is reasonable. IDWR generally considers planning horizons between 15-20 years to be acceptable with comparatively little scrutiny in most cases. Planning horizons greater than 20 years must be supported by long-term planning documents and professionally prepared demographic studies, all of which must be consistent with customary standards of practice for water infrastructure planning and other regional planning studies. IDWR Recommendations for RAFN Processing summarizes reasonable durations of water resource related planning horizons in published reference materials (Table 1) and actual projects in the State of Idaho (Table 2). This data suggests "that planning horizons between 10 and 55 years are the standard amongst the planning profession and in the actual adoption of planning documents within the State of Idaho." *IDWR Recommendations for RAFN Processing* at 8.

The Master Water Plan and 2017 Update Report include a number of sections in support of the 50-year planning horizon as follows:

- John S. Church RAFN Forecast ("Church Forecast")

  Prepared by Suez consultant John S. Church, the Church Forecast was an updated 50-year demand forecast for Suez over the 2015 to 2065 period. Note

that this forecast was an update to the one submitted by Suez in 2003.[5] The Church Forecast appears to be based on professionally acceptable methods for long range planning.

- Dr. Don Reading Review of Church Forecast ("Reading Review")
  Prepared by Suez consultant Dr. Don Reading, the Reading Review is a peer review and critique of the Church Forecast. Comments from this review led to revisions by Mr. Church. Ultimately, the Reading Review supported the methodology and results of the Church Forecast.

- Dr. Christian Petrich Review of Church Forecast ("Petrich Review")

  Prepared by Suez consultant Dr. Christian Petrich, the Petrich Review compared results of the Church Forecast with a similar regional 2016 planning study commissioned by the Idaho Water Resource Board titled *Treasure Valley DCMI Water-Demand Projections (2015-2065)* ("DCMI Report"). Dr. Petrich found the results of the Church Forecast to be consistent with forecasts in the DCMI Report.

Overall, the above-described information in support of the proposed 50-year planning horizon sufficiently addresses the evaluation criteria outlined in the IDWR Recommendations for RAFN Processing. The proposed 50-year planning horizon is within the acceptable range of 10 to 55 years and is consistent with Suez's long-term planning documents (Master Water Plan and 2017 Update Report). Additionally, supporting information (Reading Review and Petrich Review) corroborates the conclusion that Suez's planning material submitted in support of IMAP is consistent with customary standards of practice for water infrastructure planning and other regional planning studies.

Population Projection

Idaho Code §42-202B(8) states that RAFN should be based on "population and other planning data." IDWR Recommendations for RAFN Processing outlines the following "components and considerations" regarding population projection that the applicant should address in detail:

1. Conduct a critical survey of existing contemporary population studies applicable to the local area to establish likely upper and lower boundaries for population growth.

[5] The IMAP proceeding was stayed in 2003 pending the processing of Suez's claims in the Snake River Basin Adjudication. The RAFN forecast that formed the basis of the original IMAP was based on a 50-year planning horizon between 2003 and 2053, and was 11 years old by the time IMAP was relaunched. IDWR required Suez to update its 50-year forecast. Suez's updated forecast pushed out the planning horizon to 2065.

2. Project future population using standard technical methods, such as regression, extrapolation, or cohort survival models. Extrapolation forecasts should account for geography, resource constraints, economic conditions, and other limiting factors or anticipated events, such as relocation of a commercial or industrial use.

3. Compare the results of the population projections from step 2 to the results of the critical survey from step 1 and apply professional judgement to evaluate whether the population projections are likely to occur within the planning horizon and are, therefore, reasonable.

In addition, "applicants should provide extra justification for requested growth rates in excess of 2.50% annually." *IDWR Recommendations for RAFN Processing* at 9.

The Church Forecast, Reading Review, and Petrich Review include population projection discussions as follows:

- Church Forecast – Population Projection

  The Church Forecast relied on an econometric model ("Church Econometric Model") that Mr. Church originally developed for Idaho Power Company. For IMAP, the Church Econometric Model utilized population and planning data from three governmental agencies: (1) U.S. Census Bureau, (2) U.S. Department of Labor, and (3) the Community Planning Association of Southwest Idaho (COMPASS). Input data for the Church Econometric Model (built into the Church Forecast) included population and number of households data obtained from both the U.S Census Bureau and U.S. Department of Labor data. Results from the COMPASS population and number of households forecast (2040 Communities in Motion) was used to calibrate (tune) the Church Econometric Model which projected out to 2065 (The COMPASS forecast extended to 2040). Results of the Church Econometric Model projected an annual growth rate of 1.20% over the 50-year period between 2015 and 2065.

- Reading Review – Population Projection

  The Reading Review included a lengthy discussion on the population projection component of the Church Forecast, where Dr. Reading evaluated the methods and results based on the above-described IDWR Recommendations for RAFN Processing criteria. Note that Dr. Reading also utilized IDWR's Microsoft Excel population forecasting tool for assessment purposes.[6] Ultimately, Dr. Reading found that Suez utilized appropriate standard technical methods for the

[6] *See IDWR Recommendations for RAFN Processing* at 10. The population forecasting tool is called "PopForecastTool.xlsx."

population projection and that "Suez's forecast through 2065 appears to compare reasonably well with the other contemporary forecasts."

- Petrich Review – Population Projection

  The Petrich Review also included a brief discussion on the population projection component of the Church Forecast. Dr. Petrich noted that population forecasts for Suez and SPF's DCMI Report (See Petrich Review) were both prepared by Mr. Church and, as a result, population and household projections were very similar.

Overall, information developed and submitted by Suez supports a forecasted annual population growth rate of 1.20%. The Reading Review adequately addressed the "components and considerations" for evaluating population projection set forth in the IDWR Recommendations for RAFN Processing. Further, the fact that the Church Econometric Model was also utilized in SPF's DCMI Report forecast supports its applicability to the Treasure Valley.

Water Demand

The IMAP water demand review is based on the following documents:

- Master Water Plan
- 2017 Update Report

Idaho Code § 42-202B(8) states the following with respect to water demand:

> '[RAFN]' refers to future uses of water by a municipal provider for municipal purposes within a service area which, on the basis of population and other planning data, are reasonably expected to be required within the planning horizon of each municipality within the service area not inconsistent with comprehensive land use plans approved by each municipality. [RAFN] shall not include uses of water within areas overlapped by conflicting comprehensive land use plans.

The IDWR Recommendations for RAFN Processing outlines additional guidance on pages 10-17 for IDWR staff to consider when reviewing water demand data and analyses.

The Church Forecast includes a 50-year demand forecast for the years 2015 to 2065. The 2015-2065 forecast projects lower water demand than the 2000-2050 forecast did. For example, compared to the 2003 IMAP, the new peak demand projection for the year 2050 drops from 415.7 cfs to 284 cfs. The new peak demand projection (370.87 cfs) for the year 2065 is lower by 44.83 cfs than the original projection for year 2050 (415.7 cfs). According to Suez, the reduction in its estimates can be attributed to:

- The impact of the "Great Recession" following the national economic crisis beginning in 2007.
- Improved prediction methodologies (consistent with IDWR's new guidance on RAFN forecasting).
- New and more accurate data (including 2010 Census data, extensive new data collected by the Community Planning Association of Southwest Idaho ("COMPASS"), and another decade of Suez's own production data).

Mr. Reading and Mr. Petrich also addressed Suez's forecasted water demand.

- The Reading Review generally compares Suez's forecasts with methodologies, standards, and benchmarks in the IDWR Recommendations for RAFN Processing, stating:

> Suez's population and water demand forecasts are reasonable when compared to other contemporary forecasts. The contemporary forecasts used for comparison in this Report were developed for TV CAMP, COMPASS, and the [DCMI Report]. An additional check of Suez's population projections was made using the Department's population forecasting tool referenced in the [IDWR Recommendations for RAFN Processing]. With the exception of one model form- which, as explained in the Report, is not a good predictor of future population- all of Suez's projections are lower or equal to the other forecasts derived from the Department's forecasting tool.

Reading Review at Executive Summary. In other words, Mr. Reading concludes that Suez's projections are conservative when compared to other forecasts derived from the Department's forecasting tool.

- Despite differences in methodology between Suez and Mr. Petrich's forecasts, the Petrich Review and Suez's water-demand projections are consistent. *Petrich Review* at 3. The Suez 2065 water-demand projection for the Suez "Planning Area" (103,000 AF – see Table 3) is similar to SPF's Scenario 2 water-demand projection (106,000 AF). *Id.*

The Master Water Plan explains that one objective of the water demand forecast is to predict the peak day production ("Maximum Day Demand" or "MDD") that will be required to meet both customer demand (billed production: residential, commercial, public authority, and "other" sales) and non-billed production (system losses, company use, non-billed hydrant use) within the "Planning Area" at the end of the planning horizon. *Master Water Plan* at 8-9. Billed production accounts for 95% of the water produced, 99% of which is for residential and commercial sales. *Reading Review* at 16.

The Master Water Plan uses statistical modeling (regression analysis) to predict water demand. The statistical analysis relies on historic data – such as the annual number of residential and commercial customers, per capita water use, and water sales statistics – to predict water demand and customer growth for residential and commercial customer classes in the Suez "Planning Area." The data came from the Census Bureau, COMPASS, and Suez itself.

In addition, Suez predicts a decline in NPI use in its "Planning Area." This declining trend of NPI use would increase per capita demand from Suez, but was not factored in because the decline is difficult to predict. Therefore, Suez's prediction is more conservative in this regard. Suez's analysis uses a significantly lower peaking factor (1.09) than the IDWR Recommendations for RAFN Processing (1.3).

In its Master Water Plan, Suez did not address some items that could be germane to its future water demand. For example, the Master Water Plan does not consider climate change or the potential for future economic recessions in its water demand predictions.

- Climate Change

  Future climate change is not discussed as a potential variable that may affect water demand. However, temperature and precipitation variability are included in the statistical analysis. Temperature is included as a weighted average of monthly average temperatures that occurred during each bi-monthly billing period. Precipitation was also included as a variable, constructed as a weighted average of precipitation that affected each bi-monthly billing period. However, analysis of weather variability in the past may not be indicative of future climate conditions in the Treasure Valley. *DCMI Report* at 79-81.

- Future Recessions

  The Master Water Plan addresses the effects of the "Great Recession," which are significant. For example:

  - The water demand projection for the year 2065 (370.87 cfs) is lower by 44.83 cfs than the original projection for year 2050 (415.7 cfs).

  - Suez's commercial use per customer declined by nearly 19% during the Great Recession (2007-2011), which can be attributed to general commercial sector decline and the loss of some very high use customers.

  "Suez's forecast assumes a return to more normal economic conditions for the Planning Horizon." *Reading Review* at 18. Nevertheless, Suez "conservatively forecasts lower than historical growth rates-the forecasted 50-year annual

average compound growth rates for customers and water sales are below the 25 year historical averages for the Company." *Id.* at 4.

- Independent Water Systems

  There is no discussion of the potential for landowners currently outside the Suez service area but within the Suez "Planning Area" to develop independent water systems. For example, private landowners could drill their own wells, new subdivisions could establish their own drinking water supply systems, or large industries could elect to use untreated groundwater for their operations.

Overall, Suez's statistical analysis uses values that are unlikely to overstate its 2065 water demand. For example, Suez was especially conservative when it used a peaking factor of 1.09, as opposed to the peaking factor of 1.3 in the IDWR Recommendations for RAFN Processing. The items that were not considered in detail, especially potential future economic recessions, deserve more consideration in the discussion of predicted water demand, but are most likely compensated by the conservative assumptions throughout the statistical analysis.

Gap Analysis

Per Idaho Code § 42-202B(8), RAFN contemplates a gap between the amount of water that is currently available to a municipal provider and the amount of water a municipal provider reasonably anticipates it will need in the future. The IDWR Recommendations for RAFN Processing states that a gap analysis is required to determine the difference between what will be needed and what is currently available through the municipal provider's existing water right portfolio.

Suez estimates that it will need 370.87 cfs of water by the year 2065. The "Water Demand" section of this memo reviewed the adequacy of Suez's water demand forecast. Suez indicates its current water right portfolio authorizes the diversion and use of 330.58 cfs of water. Exhibit 2 along with section VI of the Master Water Plan outlines the process used to derive the total portfolio rate. Suez reports its water right portfolio includes 112 ground water rights or permits (104 decreed or licensed rights and 8 permits) and 13 surface water rights, permits, and other entitlements (9 surface water rights, 2 surface water permits, and 3 entitlements). Section VI of the Master Water Plan outlines the process used to account for combined rate limits, annual volume limits, and temporal considerations (such as season of use and priority date/delivery of rights) in calculating the rate.

For this technical review, IDWR performed a similar analysis of the Suez water right portfolio. Exhibit 2 of the Master Water Plan includes all the rights and permits currently owned by Suez.[7] Suez also included water right authorizations not in the name of Suez but available to it, namely the municipal use portion of Boise City Canal Co. right 63-20041, Anderson Ranch reservoir storage water, and Lucky Peak reservoir storage water. Attachment 1: Suez Water Right Portfolio to this memo is a table outlining the water right authorizations included in IDWR's analysis.

IDWR's review resulted in slightly different values than Suez reported in Forecast Table 7 of the Master Water Plan. The following table summarizes IDWR's conclusions:

Portfolio (ground water and surface water rights or permits)	cfs
1. Total "face value" or "paper" diversion rate (sum of each right)	412.86
2. Total diversion rate after combined limit adjustments	366.90
3. Total diversion rate after combined limit and volume limit adjustments	351.14
4. Total diversion rate after temporal considerations	331.14
5. Forecast for Water Demand in 2065	370.87
Gap = Difference between portfolio (#4) and RAFN (#5)	39.73

It is not clear how Suez's water rights portfolio analysis accounted for its storage water volumes in Anderson Ranch Reservoir and Lucky Peak Reservoir. IDWR did not account for the storage water in its analysis due to uncertainty as to its variability, delivery, use, season of use, and other elements. However, delivery of this volume of storage water at a year-round continuous rate yields approximately 2.00 cfs, which is less than 1% of Suez's total portfolio of water rights.

Suez did not account for other water right authorizations within its "Planning Area." For example, several water rights owned by the City of Boise authorize various uses, and several irrigation entities deliver water to the same population served by Suez. While Suez's gap analysis did not include the other water right authorizations providing water to people within the "Planning Area," Suez adjusted its water demand forecast to account for this fact. The demand forecast started with population, but was adjusted to predict Suez's residential and commercial customer water use based on historical records. For example, Reading's Review emphasizes the highest projected total water demand per Suez residential customer household of 286 gallons per day is far less than the estimation of 475 gallons per day for all households in Ada County.[8] *Master Water Plan* at 91. The predicted water demand for Suez customers (residential and commercial) is adjusted for the fact that water is delivered to this population

[7] Some of the water rights may appear in IDWR's records as being owned by United Water Idaho, a predecessor of Suez. United Water Idaho Inc. changed its name to Suez Water Idaho Inc. Water right ownership should be updated to reflect this name change.

[8] Cook, Zena, et. al. *Domestic, Commercial, Municipal, and Industrial Water Demand Assessment and Forecast in Ada and Canyon Counties, Idaho* (December 2001).

from other water right authorizations or sources, such as irrigation water from delivery entities, municipal water for public areas and parks, etc.

While the water right portfolio combined diversion rate IDWR calculated (331.14 cfs) is slightly greater than Suez's tally, the rate is within 0.17% of the rate stated by Suez (330.58 cfs). Either way, the Suez 2065 water demand forecast (370.87 cfs) exceeds the currently authorized overall water right diversion rate.

TRANSFER & PERMIT AMENDMENT REVIEW

With respect to water right transfers, Idaho Code § 42-222(1) states, in pertinent part:

> Any person, entitled to the use of water whether represented by license issued by the department of water resources, by claims to water rights by reason of diversion and application to a beneficial use as filed under the provisions of this chapter, or by decree of the court, who shall desire to change the point of diversion, place of use, period of use or nature of use of all or part of the water, under the right shall first make application to the department of water resources for approval of such change . . . The director of the department of water resources shall examine all the evidence and available information and shall approve the change in whole, or in part, or upon conditions, provided no other water rights are injured thereby, the change does not constitute an enlargement in use of the original right, the change is consistent with the conservation of water resources within the state of Idaho and is in the local public interest as defined in section 42-202B, Idaho Code, the change will not adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates, in the case where the place of use is outside of the watershed or local area where the source of water originates, and the new use is a beneficial use, which in the case of a municipal provider shall be satisfied if the water right is necessary to serve reasonably anticipated future needs as provided in this chapter.

With respect to amending permits, Idaho Code § 42-211 states, in pertinent part:

> Whenever a permit has been issued pursuant to the provisions of this act, and the permit holder desires to change the place, period, or nature of the intended use, or make other substantial changes in the method of diversion or proposed use or uses of the water, he shall file an application for amendment upon forms to be furnished by the department of water resources together with the statutory fee for filing and recording same, and upon receipt thereof it shall be the duty of the department of water resources to examine same and if approval thereof would not result in the diversion and use of more water than originally permitted and if the rights of others will not be adversely

affected thereby, the director of the department of water resources shall approve said application and return an approved copy to the permit holder.

Authority to File and Water Right Validity

Pursuant to Idaho Code § 42-222 (for transfer applications) IDWR must determine whether the applicant is "entitled to the use of water." Pursuant to Idaho Code § 42-211 (for applications to amend permits), IDWR must determine whether a "permit has been issued" and the applicant is the "permit holder."

In addition, IDWR's transfer review policy states:

> For any application for transfer, the department must determine the validity of the water rights(s), or parts thereof, proposed to be changed . . . . If the records available to the department do no establish that a right has been used within the previous, consecutive, five-year period (except as provided in (1) above or for a right held by a municipal provider for reasonably anticipated future needs pursuant to Section 42-223(2), *Idaho Code*), the applicant must be asked to provide written documentation demonstrating that the right has been used within that time period.

Memorandum Re: Transfer Processing Policies and Procedures (Dec. 21, 2009) at 22.

The IMAP proposes changes to 94 water rights confirmed by license or decree.[9] Of the 94 water rights, 91 currently authorize non-RAFN municipal use for municipalities and un-incorporated portions of Ada County. Suez's portfolio of water rights authorizes diversion of water in excess of current beneficial use. Appendix A in the Master Water Plan (at A-7 and A-8) includes annual historic water use data for 1995-2011 and forecasts water use for 2012-2065. The highest MDD on record -- 100,044,000 gallons per day or 154.8 cfs -- occurred in the year 2000. This rate is less than half the diversion rate in Suez's portfolio of water rights. The Master Water Plan (at 41) specifies that Suez's current portfolio is sufficient to cover its current demands and RAFN through the year 2058. The IMAP proceeding seeks to formally designate the unused rights or portions of rights as necessary for RAFN in accordance with the 1996 Municipal Water Rights Act. Barring any additional evidence to the contrary, the 91 non-RAFN municipal use rights are valid at least to the extent of historic beneficial use. The status of the unused rights or portions of rights will be determined through the IMAP proceeding.

Three of the 94 water rights included in the IMAP authorize non-municipal uses. Right 63-10945 authorizes irrigation of 56 acres associated with domestic use for 256 homes and fire protection). Right 63-11990 authorizes domestic use for 520 homes and fire protection use Right 63-12362 authorizes only fire protection use Review of 2017 aerial imagery confirms the

[9] See *Attachment 2: IMAP Rights* for a listing of the water rights proposed to be changed through the IMAP process.

subdivision(s) under 63-10945, 63-11990, and 63-12362 are still occupied. Suez proposes at least one of the currently authorized points of diversion for each right as an APOD in the IMAP proceeding. This indicates the wells and associated distribution systems for these water rights are currently operational and likely in use. Absent any additional information to the contrary, these three water rights appear valid.

In the water rights database, United Water Idaho, Inc., is the owner of each of the 94 water rights and the seven permits involved in the IMAP. Documentation submitted in connection with the IMAP demonstrates United Water Idaho, Inc. changed the company name to Suez Water Idaho, Inc. *Suez's Motion to Change Caption to Reflect Name Change.* IDWR does not require a notice of change in water right ownership or an assignment of permit to be filed for a name change. *Memorandum Re: Processing Notices of Change in Water Right Ownership and Associated Updates to Water Right Records* (Aug. 5, 2008) at 8-9. Suez is entitled to the use of the rights and permits and is authorized to request the changes proposed in the IMAP proceeding.

As for the seven permits proposed to be amended as part of the IMAP, proof of beneficial use has been submitted for each of them, and IDWR has completed or nearly completed a beneficial use field report for each.[10] The beneficial use field reports support issuance of a water right license in connection with each of the seven permits. However, IDWR cannot issue a water right license for a permit with a pending application for amendment. Therefore, before IDWR can issue water right licenses for the development that occurred in connection with the permits, the proposed IMAP amendments must be approved, approved in part or conditionally, or denied pursuant to Idaho Code § 42-211.

Enlargement

Pursuant to Idaho Code §§ 42-222 (for transfer applications) and 42-211 (for applications to amend permits), IDWR must determine whether the proposed change will result in enlargement of the original rights.

The IMAP proposes that water rights currently authorizing municipal use will retain their existing diversion rate limits, with the exception of those rights with annual volume limits or combined use limits. *2017 Update Report* at 35. Suez desires to eliminate annual volume limits and combined use limits from all water rights that have them. To achieve this, the IMAP proposes reducing the authorized diversion rates on water rights bearing annual diversion volume limits or combined use limits, to the point that the limits could not be exceeded if the rights were diverted continuously all year. *Id.* at 5 and 35. The diversion rate reductions are intended to eliminate enlargement concerns that would otherwise arise from the elimination of annual volume limits and combined use limits.

[10] See *Attachment 2: IMAP Rights* for a listing of the permits proposed to be amended through the IMAP process.

Another enlargement concern arises from the inclusion of Rights 63-10945, 63-11990, and 63-12362 in the IMAP even though they were not licensed for municipal purposes. When water is diverted and used pursuant to a water right, the unconsumed portion of the water returns to the original source or another water source and is available for use by others. Allowing the water right to be changed so that more of the water is consumed through evaporation or transpiration is an enlargement of the use, and could cause injury by reducing the water available for use by other water right holders. To prevent enlargement of use and the resulting potential injury, IDWR restricts change-in-nature-of-use transfers to the volume of water consumptively used prior to the transfer.

IDWR considers municipal water use to be fully consumptive. The components of municipal use – industrial, commercial, domestic, irrigation of parks and open space, etc. – include uses that are fully consumptive or could be fully consumptive. Municipal water providers typically do not guarantee that the mix of water uses within their municipal umbrella will not be fully consumptive in the future. Moreover, holders of municipal water rights can increase the consumption of water under their rights over time as the community's needs and land use patterns change. Therefore, IDWR assumes that the water diverted and used for municipal purposes will be fully consumed.

To prevent enlargement and the resulting potential injury to other water right holders, a change-in-nature-of-use evaluation must be completed for Rights 63-10945, 63-11990, and 63-12362 to determine if there is historic consumptive use that can be converted to municipal use. Suez should submit the information necessary to complete the consumptive use analysis for Rights 63-10945, 63-11990, and 63-12362. The consumptive use analysis must account for the following factors:

- Right 63-11990 includes a condition requiring the continued use of surface water shares, to the extent water is available, for irrigation of lawns and gardens in connection with the authorized domestic use. Irrigation is typically the most consumptive component of subdivision water use. If a significant portion of the irrigation water for the subdivision was accomplished with surface water, the consumptive use volume available for transfer to municipal use may be limited.

- To prevent enlargement, IDWR should not change the fire protection use specifically identified on Rights 63-10945, 63-11990, and 63-12362, to municipal use. Fire protection use is an occasional use of water authorized only to fight active fires, whereas municipal use is an ongoing use. Changing a fire protection use to municipal use would allow the annual volumes of water diverted under the water rights to be enlarged because water is rarely diverted to fight a fire, whereas water is diverted for municipal purposes throughout the entire year.

To be consistent with Suez's desire to remove annual volume limits, if the proposed change in nature of use for Rights 63-10945 and 63-11990 is approved, their diversion rates for municipal

use should be restricted to the rates that would produce their current annual consumptive use volumes if pumping occurred continuously all year.

The seven permits in the IMAP also require evaluation for enlargement. Currently, none of the permits is for RAFN. IMAP proposes converting the permits to RAFN. IDWR's policy concerning the conversion of a non-RAFN permit to RAFN is: "[A] permit issued to a municipal provider that does not provide for RAFN cannot be later amended to gain the benefit of a RAFN permit." *IDWR Recommendations for RAFN Processing* at 18. The policy seems to emanate from a concern that converting a permit from non-RAFN to RAFN with a planning horizon longer than the originally authorized non-RAFN development period (and any extensions granted pursuant to Idaho Code § 42-204) would result in enlargement of the development opportunity authorized by the permit. Whether converting a permit from non-RAFN to RAFN constitutes enlargement should be vetted through the IMAP process.

Injury

Pursuant to Idaho Code §§ 42-222 (for transfer applications) and 42-211 (for applications to amend permits), IDWR must determine whether the proposed change will injure any other rights.

Suez proposes to describe and authorize the use of 80 alternative points of diversion ("APODs") on each of 101 ground water rights (94 water rights and 7 permits). *2017 Update Report* at 4. The 80 proposed APODs are existing ground water wells. Each of the 80 wells is an authorized point of diversion for at least one water right. Diversion from two of the wells (Cassia #2 and Maple Hills #2) is currently authorized only by rights not included in the IMAP proceeding. *2017 APODs Update Report* at 5-6. Several, but not all, rights included in the IMAP proceeding already authorize diversions from multiple APODs in different sets of 12, 42, and 43 APODs. *Id.* at 4. The addition of APODs to all the rights as part of a single combined system would increase the rate of diversion that could occur from any single point of diversion. Such a change raises concerns about injury to other rights through local well interference. Consistent with IDWR policy, if the proposed changes are approved, a condition should be applied to each right or permit to identify the originally authorized points of diversion for each right prior to transfer for future administration between points of diversion and hydraulically connected surface sources. *Transfer Processing No. 24: Transfer Processing Policies & Procedures, December 21, 2009,* at 24.

In the Boise River drainage, surface water upstream from the Star Bridge is not available for appropriation unless the applicant mitigates or avoids injury to senior water rights. *Amended Moratorium Order in the Matter of Applications for Permits for the Diversion and Use of Surface and Ground Water Within the Boise River Drainage Area* at 3. IDWR also restricts new appropriations of ground water shallower than 200 feet below ground surface in an area where such ground water is presumed to be tributary to the Boise River upstream from Star Bridge. *Amended Application Processing Memorandum No. 59* at 1-2. Some Suez permits developed within the area where ground water is tributary to the Boise River upstream from Star Bridge

include a condition specifying the depth from land surface to the water bearing zone being appropriated. If the IMAP changes are approved, IDWR should condition the permits to prevent increased pumping from the shallow (< 200 feet below ground surface) ground water tributary to the Boise River upstream from Star Bridge. For more detailed discussion of this point, see the "Considerations for Specific Water Rights and Permits" section below.

In addition, IDWR should condition Suez's water rights with points of diversion located within the Boise Front Low-Temperature Geothermal Resource Ground Water Management Area to specifically exclude diversion and use of water with a temperature greater than 85 degrees Fahrenheit and prevent the increased pumping of cold (< 85 degrees Fahrenheit) water deeper than 300 ft that may impact the low temperature geothermal ("LTG") resource. See the *Final Order Extending Moratorium in the Matter of the Boise Front Low Temperature Geothermal Resource Ground Water Management Area*, the *Order Establishing a Ground Water Management Area in the Matter of the Boise Front Low Temperature Geothermal Resource Ground Water Management Area,* and the *Management Policy for the Boise Front Ground Water Management Area.* For more detailed discussion of this point, see the "Considerations for Specific Water Rights and Permits" section below.

Conservation of Water Resources

Pursuant to Idaho Code § Section 42-222, for any application for transfer, IDWR must consider whether the proposed use of water is consistent with the conservation of water resources within the State of Idaho.

IDWR generally interprets "conservation" in terms of efficient use. Suez's standard practice is to deploy meters to measure the volume of water used by each customer and to charge by volume. It has been generally established that metering and charging by volume affects per capita water consumption. *Transfer Processing No. 24: Transfer Processing Policies & Procedures, December 21, 2009,* at 12. Thus, Suez's business model – sale of water by volume – results in some economic incentive for its customers to use water with reasonable efficiency. However, Suez sells water for profit. Thus, the customer's incentive to conserve may be somewhat offset by Suez's incentive to sell. As Table 15 of the *DCMI Report* shows, Suez's customers use more water on a per capita basis than users in some other Treasure Valley municipal water systems. *DCMI Report* at 72.

Another conservation of water resources consideration is IDWR's practice of requiring the use of surface water, where it is available, in lieu of ground water use. The strong public policy in favor of using surface water first is stated in Idaho Code § 67-6537. Normally IDWR would preserve the status quo with regard to surface water use by restricting ground water rights changed to municipal purposes from replacing existing surface water use. IDWR's practice was recently affirmed in the *Order Addressing Exception and Amending Transfer Approval* in the Matter of Application for Transfer No. 79778 in the Name of City of Meridian. Nevertheless, Suez argued in a status conference for the IMAP that the decision whether to use surface water or ground water is made by its customers, not by Suez, and that any such limitation would

unfairly hold Suez accountable for its customers' choices. Given the strong public policy in favor of surface water first, IDWR should not abandon its practice.

Idaho Code § 42-211 does not list the conservation of water resources in Idaho as a criterion for evaluating applications to amend permits.

Local Public Interest

Pursuant to Idaho Code § 42-222, IDWR must consider whether the proposed change is in the local public interest. Idaho Code § 42-202B(3) defines "local public interest" as "the interests that the people in the area directly affected by a proposed water use have in the effects of such water use on the public water resource." The current definition of local public interest was adopted in 2003 and supersedes the evaluation criteria set forth in Rule 45.01.e of the Water Appropriation Rules, which dates from 1986.

Generally, it is in the local public interest for a municipal provider to plan to meet the water needs of its customers now and in the future. However, the potential for a water resource to accomplish an alternative benefit is an appropriate component of the public interest review criterion. For the IMAP, the main local public interest consideration is the extent to which it is reasonable for Suez to hold water rights to meet unrealized future needs, as opposed to limiting Suez's water rights to what is necessary to meet immediate or near-term needs. Conferring RAFN status on some of Suez's ground water rights may prevent allocation of the ground water to alternative beneficial uses now and in the future. The entire RAFN analysis addresses this main public interest consideration.

Idaho Code § 42-211 does not list the local public interest as a criterion for evaluating applications to amend permits.

Beneficial Use

Idaho Code § 42-222(1) states that the new use proposed in a transfer must be a "beneficial use." It further states that "in the case of a municipal provider" the beneficial use requirement "shall be satisfied if the water right is necessary to serve [RAFN]." The "Gap Analysis" section in this memorandum addresses whether and to what degree Suez's water rights are necessary for RAFN.

Idaho Code § 42-211 does not list beneficial use as a criterion for evaluating applications to amend permits. However, Idaho Code § 42-204 states that IDWR may grant permits "which contemplate the application of water to a beneficial use."

CONSIDERATIONS FOR SPECIFIC WATER RIGHTS AND PERMITS

The purpose of this section is to summarize the proposed changes to the water rights and permits in IMAP and highlight items pertaining to specific water rights. The analysis focuses on

review of the existing nature of use, quantity, and conditions in comparison to the applicant's requested changes to the records.

Suez submitted various amendments to the IMAP applications between 2001 and 2012. As part of the 2012 relaunch effort, in February 2013 Suez submitted two tables and a map[11] ("2013 Further Submission") summarizing the proposed changes to the permits and water rights included in the IMAP. The 2013 Further Submission is the most current description of the proposed changes to the rights involved in IMAP, with a few exceptions. In March 2013, Suez removed Rights 63-31797, 63-31798, and 63-31879 from the IMAP proceeding.[12] In November 2017, Suez removed Rights 63-2892 and 63-12055 from the IMAP proceeding.[13] In 2018, Michael Lawrence, attorney for Suez, emailed IDWR a table[14] listing the rights currently in IMAP and the current list of APODs. The list of APODs provided via email includes the "Sherman Oaks" well, which should be excluded per the 2017 APODs Update Report. IDWR should ask Suez to confirm 80 instead of 81 APODs are proposed.

Suez summarizes the purpose of IMAP in its 2017 Update Report and 2017 APODs Update Report. To paraphrase, Suez wants to accomplish three main objectives:

1. Authorize 80 ground water APODs on 94 water rights and 7 permits.

2. Secure forfeiture protection by converting 94 water rights and 7 permits to RAFN purposes.

3. Change the elements on 94 water rights and 7 permits so they all are for municipal use with year round season of use, no volume limitations, and no combined use limitations.

Shelley Keen drafted proposed conditions that, from IDWR's perspective, may be added to each IMAP water right or permit as a result of the IMAP process ("Keen Memo").[15] The Keen Memo suggests conditions for all water rights within IMAP. A second source of proposed approval conditions are the stipulations of IMAP parties in conditional protest withdrawals. Additionally,

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[11] United Water Idaho Inc., *United Water's Further Submission in Compliance with the Director's January 11, 2013 Order* (13 February 2013) ("2013 Further Submission").

[12] United Water Idaho Inc., *United Water's Notice of Withdrawal of Water Right Nos. 63-31797, 63-31798, and 63-3187* (26 March 2013).

[13] Suez Water Idaho Inc., *Suez's Notice of Withdrawal of Water Right Nos. 63-2829 and 63-12055* (28 November 2017). AND Suez Water Idaho Inc., *Suez's Notice of Withdrawal of Water Right Nos. 63-2829 and 63-12055 (Corrected)* (1 December 2017).

[14] Michael P. Lawrence, *RE: Draft Order for IMAP* (28 September 2018) (email to James Cefalo, Hearing Officer).

[15] Keen, Shelley. Idaho Department of Water Resources. *Proposed Conditions of Approval Memo to IMAP Participants & Hearing Officer Cefalo* (29 June 2018).

many of the water rights included in the IMAP present unique sets of facts requiring careful analysis relative to the IMAP objectives. The remaining portion of this analysis summarizes items for special consideration on specific water rights or permits or groups of water rights or permits and actions or conditions that may be necessary if the IMAP is approved.

- The Keen Memo suggests that all the IMAP water rights and permits should receive standard condition number 01Q, which requires measurement and reporting upon future notification. IDWR is authorized to require installation of measuring devices. *Idaho Code § 42-701*. There is no water district administering ground water rights in the area of the IMAP APOD wells. Nevertheless, Rights 63-2500, 63-2874, 63-7067, 63-11467, 63-12334, 63-12192, and 63-19456 already have existing conditions requiring installation and ongoing maintenance of measuring devices. Given that these water rights already contain measuring device requirements and that Suez is seeking consistency among its water rights, all IMAP water rights and permits should be conditioned to require installation and maintenance of measuring devices.

- 53 of the 80 proposed APODs are within the Boise Front GWMA/Boise Front Moratorium Area. The moratorium limits the development of new water rights for the use of the LTG resource in this area. Several Suez ground water rights currently authorize at least one of these 53 wells as their original point of diversion. Permit 63-12310 is the only right in the IMAP proceeding with standard condition 073, which prohibits the use of water greater than 85°F. To avoid injury to LTG water users within the restricted area, IDWR should include standard condition 073 on all the IMAP rights and permits, unless the right or permit historically diverted LTG water. Also, IDWR should consider limiting the use of cold water (< 85 degrees Fahrenheit) below 300 ft, the additional use of which may impact the LTG resource. If the right or permit historically diverted LTG water, a condition like 073 should be crafted to prevent Suez from increasing its use of the LTG resource. Note also that Idaho Code § 42-202B(6) states that municipal purposes excludes "use of water from geothermal sources for heating." As a first step, it may be necessary to require Suez to submit information about which of its wells, if any, results in diversion of the LTG resource and which wells divert water from deeper than 300 ft in the Boise Front GWMA.

- Suez requests volume limitation removal via reduction of the diversion rate for rights; 63-3411, 63-3457, 63-7979, 63-7998, 63-8011, 63-8248, 63-8385, 63-8405, 63-8635, 63-9384, 63-10150, 63-10391, 63-10945, 63-11090A, 63-11467, 63-11990, 63-12334, and permit 63-11878. Suez also requests removal of combined limit conditions on rights 63-3457, 63-4395, 63-7641, 63-8385, 63-8405, 63-10150, 63-10945, and 63-11558. Suez proposes removing combined limits by assigning the rate and/or volume to the most senior right. For Rights 63-8385 and 63-10150, this process results in a diversion rate of 0 cfs, rendering

them useless. IDWR should require Suez to state whether it intends to abandon Rights 63-8385 and 63-10150. Attachment 2: IMAP Rights table summarizes the rights proposed diversion rates after removal of volumes and combined use limitations.

- Suez requests the removal of combined use limits on Rights 63-11558 and 63-12363. Right 63-12363 is not included in the IMAP, possibly because it is limited to Fire Protection purposes. In order to modify Right 63-12363 as requested, Suez needs to include this right in the IMAP proceeding as an associated water right or submit a separate transfer application to IDWR. However, Suez's proposal for eliminating combined use limits would result in a diversion rate reduction for Right 63-12363, which IDWR would not usually do to an associated right. IDWR should consult Suez regarding its intent for Right 63-12363. See Note 13 of Attachment 2: IMAP Rights table for further information regarding this proposal and combined limit.

- As noted in the enlargement analysis above, Suez requests a nature of use change for Rights 63-10945, 63-11990, and 63-12362. Limited information is currently available regarding the historic extent of consumptive use associated with the rights, especially Right 63-11990. See Note 4, 6, and 7 in Attachment 2: IMAP Rights table for additional considerations regarding changes proposed to these rights. This table also shows the rights' proposed post-transfer rates and beneficial uses based on the information currently available and IDWR policy. These rates and beneficial uses differ from those proposed by the applicant per the 2013 Further Submission.

- If the Fire Protection use remains on Rights 63-10945, 63-11990, and 63-12362, standard condition 077 (stating fire protection use is restricted to fighting or repelling an existing fire) should be included on the rights.

- The IMAP proposes to change the diversion rate, volume, and/or nature of use for the following rights: 63-3411, 63-3457, 63-4395, 63-7979, 63-7998, 63-8011, 63-8248, 63-8405, 63-8635, 63-9384, 63-10391, 63-10945, 63-11090A, 63-11467, 63-11990, 63-12334, and for permit 63-11878.[16] IDWR standard condition 205 should be added to these rights confirming that the changes to the elements of the rights was intended. Condition 205 states: "The approval of this transfer redefines all of the elements of this water right, and the new use of water authorized by this approval shall constitute the full extent of the right."

- Right 63-10945 has a condition stating, "The right holder shall provide streamflow augmentation water or other action determined to be appropriate to protect prior surface water or ground water rights. Such streamflow

[16] This list of rights does not include rights likely rendered obsolete (63-8385 and 63-10150) as mentioned above.

augmentation or other action will be required only upon a determination of need and applicability by the Director." The condition is vague and should be removed from the right.

- Right 63-11090A has a condition stating well(s) previously used for the right shall be properly abandoned. IDWR should consider whether the applicant is in compliance with this condition and if the condition can be removed.

- Rights 63-10386, 63-10688, and 63-11232 currently authorize a single point of diversion. Their unique diversion points are not included in the 80 APODs proposed in the IMAP proceeding. Right 63-11467 and permit 63-11878 currently authorize two points of diversion, only one of which is included in the 80 APODs proposed in the IMAP proceeding. IDWR should contemplate how to address this with regard to inclusion of a standard APOD condition stating the original point of diversion for administration purposes.

- IDWR practice is to include standard condition T19 on Snake River Basin Adjudication ("SRBA") decreed rights. Condition T19 states that the right is subject to the general provisions of the SRBA *Final Unified Decree*. Condition T19 should be included on SRBA decreed rights.

IDWR has completed or nearly completed beneficial use field reports and draft licenses for Permits 63-11878, 63-12140, and 63-12310. For these three permits, the elements (including approval conditions) in the draft licenses should form the basis for any IMAP approval of the amendments proposed for the permits.

IDWR is not likely to have draft licenses for permits 63-12192, 63-12452, 63-12464, and 63-12516 completed before issuing a decision on the IMAP. For these four permits, IDWR should carry forward the permitted quantities and special conditions so that they can be evaluated in the beneficial use examination and licensing process. Some of the permit conditions address issues arising from the development and use of a specific point of diversion. In those instances, if the permitted point of diversion is proposed to be one of the APODs for all the IMAP rights and permits, these permit conditions should be applied as follows:

- Permit 63-12192 currently has a condition stating the right holder should ensure use of the permit does not result in a prior right's well exceeding a reasonable pumping level without compensation or mitigation. Additionally, this permit is conditioned to require collection and future reporting of ground water level and production data. Any IMAP approval should address whether these requirements should be carried forward on permit 63-12192 or on all rights and permits authorized to use this permit's points of diversion.

- Permit 63-12452 is conditioned to require monitoring of water levels in the production well and nearby domestic wells. Additionally, this permit has a condition requiring the owner to report water diversions and water levels from the production well. IDWR should consider whether to include these conditions on all permits and rights that authorize use of these points of diversion as part of the IMAP approval.

- Permit 63-12464 has standard condition 120, which authorizes IDWR to require the right holder to off-set its depletions to the Lower Snake River flows when needed for salmon migration purposes. IDWR practice is to retain a version of the condition (standard condition 103) when licensing a permit previously conditioned in this manner.

- Permit 63-12464 is conditioned to clarify that the water right permit does not authorize the construction of any new well, or the deepening or enlargement of any existing well. IDWR practice is to remove this condition at licensing.

- Permits 63-12452, 63-12464, and 63-12516 currently have a condition limiting the water-bearing zone ("WBZ") from which water can be diverted under the water rights. The points of diversion for all three of these permits are within the area where IDWR would normally keep the WBZ condition when licensing permits. To avoid injury to senior Boise River water rights, IDWR should restrict the points of diversion for these permits to the established water bearing zones. The restriction should be placed on all the IMAP rights if the points of diversion developed for these permits will be included among the APODs on all the IMAP rights and permits. If the water bearing zones actually developed have not yet been recorded by IDWR in a beneficial use field report, IDWR may need to seek the information from Suez.

SUMMARY OF ADDITIONAL INFORMATION TO BE REQUESTED FROM SUEZ

The following is a recap of the items IDWR should ask Suez to substantiate or clarify. The page numbers refer to the location in this memorandum where the item is discussed in detail.

- IDWR should seek information from Suez to substantiate its qualification as a municipal provider for the record. Page 3.

- IDWR should ask Suez to explain its process for obtaining authorization or obligation to serve an area. Page 5.

- IDWR should ask Suez for information explaining how and why it is reasonable to anticipate that its service area will expand to include all of the "Planning Area." Page 6.

- IDWR should also ask Suez to explain what portion of its anticipated future needs over the 50-year planning horizon is attributable to Suez's current service area and what portion is attributable to the anticipated growth of its service area. Page 6.

- IDWR should ask Suez how it obtains approval for expanding its service area and why its service area will expand into certain areas in the future. Page 7.

- IDWR should ask Suez to submit the information necessary to complete the consumptive use analysis for the nature of use changes proposed for Rights 63-10945, 63-11990, and 63-12362. Page 19.

- IDWR should ask Suez to confirm 80 instead of 81 APODs are proposed. Page 23.

- IDWR should ask Suez which of its wells, if any, results in diversion of the LTG resource and which wells, if any, divert water from deeper than 300 ft in the Boise Front GWMA. Page 24.

- IDWR should ask Suez if it intends to abandon Rights 63-8385 and 63-10150. Pages 24-25.

- IDWR should ask Suez its intent regarding Right 63-12363 in relation to removal of the combined limit with 63-11558. Page 25.

- If the water bearing zones actually developed have not yet been recorded by IDWR in a beneficial use field report, IDWR may need to seek the information from Suez. Page 27.

Attachment 1: Suez Water Right Portfolio

Basin	Sequence	Suffix	Process	Basis	Status	Draft	RightID	Priority Date	Diversion Rate	Combined Limits	CFS Reduced for Combo Limit and/or volume removed from face	CFS limit after Vol on face removed (assumes 1/1 to 12/31 season of use)	Source List	Water Use List	Current Owner	Total Acres	Acre Limit	Volume
	2	2339	Water Right	Decreed	Active	N	589891	12/7/1964	11.000		11.000	11.000	SNAKE RIVER	IRRIGATION	UNITED WATER IDAHO INC	610.0		2,745.0
	2	2341	Water Right	Decreed	Active	N	589727	12/28/1964	12.520	2-2341, 2-2358, + 2-2420 = 35.21 cfs wl 63-31871 = 35.21	0.000	0.000	SNAKE RIVER	IRRIGATION	UNITED WATER IDAHO INC	626.0		2,817.0
	2	2358	Water Right	Decreed	Active	N	589724	7/28/1964	14.500	2-2341, 2-2358, + 2-2420 = 35.21 cfs wl 63-31871 = 35.21	0.000	0.000	SNAKE RIVER	IRRIGATION	UNITED WATER IDAHO INC	725.0		3,262.5
	2	2420	Water Right	Decreed	Active	N	589729	12/31/1963	14.080	2-2341, 2-2358, + 2-2420 = 35.21 cfs wl 63-31871 = 35.21	0.000	0.000	SNAKE RIVER	IRRIGATION	UNITED WATER IDAHO INC	704.0		3,168.0
	63	169 F	Water Right	Decreed	Active	N	573921	6/1/1868	0.810		0.810	0.810	BOISE RIVER	MUNICIPAL	UNITED WATER IDAHO INC			199.0
	63	243 E	Water Right	Decreed	Active	N	573924	5/1/1889	3.300		3.300	3.300	BOISE RIVER	MUNICIPAL	UNITED WATER IDAHO INC			682.0
	63	243 H	Water Right	Decreed	Active	N	573925	5/1/1889	0.930		0.930	0.930	BOISE RIVER	MUNICIPAL	UNITED WATER IDAHO INC			172.0
	63	2500	Water Right	Decreed	Active	N	625848	8/30/1934	0.800		0.800	0.800	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2506	Water Right	Decreed	Active	N	626346	6/5/1935	1.660		1.660	1.660	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2576	Water Right	Decreed	Active	N	626359	4/26/1938	1.900		1.900	1.900	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2595	Water Right	Decreed	Active	N	626372	8/31/1966	1.340		1.340	1.340	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2605	Water Right	Decreed	Active	N	626373	7/2/1943	0.900		0.900	0.900	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2668	Water Right	Decreed	Active	N	626380	7/15/1947	2.140		2.140	2.140	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2703	Water Right	Decreed	Active	N	626382	6/23/1948	5.000		5.000	5.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2808	Water Right	Decreed	Active	N	626383	4/3/1950	3.100		3.100	3.100	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2874	Water Right	Decreed	Active	N	626387	8/18/1951	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2892	Water Right	Decreed	Active	N	626320	2/7/1952	6.180		6.180	6.180	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2915	Water Right	Decreed	Active	N	626315	11/17/1952	2.000	63-2915 + 63-3239 = 1332.0	1.420	1.420	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			1,031.4
	63	2954	Water Right	Decreed	Active	N	626389	8/27/1953	0.900		0.900	0.900	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2956	Water Right	Decreed	Active	N	626407	8/27/1953	0.560		0.560	0.560	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	2989	Water Right	Decreed	Active	N	626409	6/2/1954	1.000		1.000	1.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3064	Water Right	Decreed	Active	N	626411	10/31/1955	1.220		1.220	1.220	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3073	Water Right	Decreed	Active	N	626412	1/4/1956	2.000		2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3105	Water Right	Decreed	Active	N	626421	12/19/1956	2.000		2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3112	Water Right	Decreed	Active	N	626425	9/11/1957	1.440		1.440	1.440	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3128	Water Right	Decreed	Active	N	626427	4/24/1958	4.440		4.440	4.440	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3164	Water Right	Decreed	Active	N	626432	8/5/1959	1.730		1.730	1.730	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3172	Water Right	Decreed	Active	N	626437	10/14/1959	2.220		2.220	2.220	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3202	Water Right	Decreed	Active	N	626440	6/8/1960	2.890		2.890	2.890	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3239	Water Right	Decreed	Active	N	626444	6/22/1961	2.800	63-2915 + 63-3239 = 1332.0	0.420	0.420	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			1,197.0
	63	3291	Water Right	Decreed	Active	N	626447	5/21/1962	2.400		2.400	2.400	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3292	Water Right	Decreed	Active	N	626452	5/21/1962	2.260		2.260	2.260	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3293	Water Right	Decreed	Active	N	626457	5/21/1962	3.560		3.560	3.560	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3295	Water Right	Decreed	Active	N	626460	5/24/1962	3.240		3.240	3.240	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3411	Water Right	Decreed	Active	N	626461	6/17/1964	1.500		1.500	0.250	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			178.0
	63	3448	Water Right	Decreed	Active	N	626465	4/27/1965	4.900		4.900	4.900	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3457	Water Right	Decreed	Active	N	626474	7/14/1965	1.670	63-3457 + 63-10945 = 3.10	1.670	0.230	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			168.0
	63	3494	Water Right	Decreed	Active	N	626477	3/8/1966	6.440		6.440	6.440	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	3562	Water Right	Decreed	Active	N	626483	11/7/1966	1.470		1.470	1.470	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	4015	Water Right	Decreed	Active	N	626509	10/17/1960	2.000		2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	4395	Water Right	Decreed	Active	N	574126	6/1/1950	0.560	63-4395, 63-8385, + 63-10150 = 0.80 cfs + 240.3 af	0.560	0.330	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	4414	Water Right	Decreed	Active	N	626513	7/1/1943	1.110		1.110	1.110	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			

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	63	4424	Water Right	Decreed	Active	N	626527	7/1/1943	1.330		1.330	1.330	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	4752	Water Right	Decreed	Active	N	626534	7/1/1947	1.110		1.110	1.110	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7066	Water Right	Decreed	Active	N	626535	2/28/1968	5.800		5.800	5.800	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7067	Water Right	Decreed	Active	N	626555	2/28/1968	2.840		2.840	2.840	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7264	Water Right	Decreed	Active	N	626557	3/13/1969	1.820		1.820	1.820	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7282	Water Right	Decreed	Active	N	626566	12/2/1969	4.120		4.120	4.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7348	Water Right	Decreed	Active	N	626572	7/14/1970	6.600		6.600	6.600	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7479	Water Right	Decreed	Active	N	626575	8/20/1971	7.000		7.000	7.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7577	Water Right	Decreed	Active	N	626580	4/6/1972	2.010		2.010	2.010	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7589	Water Right	Decreed	Active	N	626587	4/20/1972	4.400		4.400	4.400	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7641	Water Right	Decreed	Active	N	574159	8/17/1972	2.000	63-7641 + 63-8405 = 3.12 cfs	2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7658	Water Right	Decreed	Active	N	626592	1/8/1973	1.060		1.060	1.060	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7896	Water Right	Decreed	Active	N	626685	11/13/1973	0.250		0.250	0.250	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	7979	Water Right	Decreed	Active	N	626689	5/13/1974	2.000		2.000	1.750	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			1,268.0
	63	7998	Water Right	Decreed	Active	N	626694	6/25/1974	1.270		1.270	0.910	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			658.0
	63	8011	Water Right	Decreed	Active	N	626705	7/18/1974	3.000		3.000	0.380	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			276.0
	63	8059	Water Right	Decreed	Active	N	626596	11/12/1974	0.570		0.570	0.570	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	8236	Water Right	Decreed	Active	N	626600	11/28/1975	3.630		3.630	3.630	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	8248	Water Right	Decreed	Active	N	626707	1/2/1976	1.570		1.570	1.160	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			843.3
	63	8265	Water Right	Decreed	Active	N	626709	2/23/1976	2.370		2.370	2.370	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	8385	Water Right	Decreed	Active	N	626603	11/5/1977	0.490	63-4395, 63-8385, + 63-10150 = 0.80 cfs + 240.3 af	0.240	0.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			182.4
	63	8405	Water Right	Decreed	Active	N	626710	1/12/1977	2.000	63-7641 + 63-8405 = 3.12 cfs	1.120	1.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			1,320.0
	63	8432	Water Right	Decreed	Active	N	626608	2/10/1977	1.780		1.780	1.780	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	8635	Water Right	Decreed	Active	N	626810	8/17/1983	0.890		0.890	0.150	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			106.2
	63	8990	Water Right	Decreed	Active	N	626615	7/19/1977	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9087	Water Right	Decreed	Active	N	626813	11/25/1977	3.400		3.400	3.400	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9106	Water Right	Decreed	Active	N	626817	1/23/1978	1.120		1.120	1.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9147	Water Right	Decreed	Active	N	626616	6/6/1978	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9198	Water Right	Decreed	Active	N	626819	1/2/1979	2.450		2.450	2.450	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9199	Water Right	Decreed	Active	N	626829	1/3/1979	3.120		3.120	3.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9204	Water Right	Decreed	Active	N	626620	1/9/1979	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9205	Water Right	Decreed	Active	N	626631	1/9/1979	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9219	Water Right	Decreed	Active	N	626632	3/20/1979	2.230		2.230	2.230	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9223	Water Right	Decreed	Active	N	626634	4/3/1979	4.230		4.230	4.230	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9384	Water Right	Decreed	Active	N	626832	5/27/1980	1.000		1.000	0.580	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			420.0
	63	9671	Water Right	Decreed	Active	N	626643	2/25/1981	2.120		2.120	2.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	9855	Water Right	Decreed	Active	N	626645	12/23/1981	3.340		3.340	3.340	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10150	Water Right	Decreed	Active	N	574181	7/1/1983	0.480	63-4395, 63-8385, + 63-10150 = 0.80 cfs + 240.3 af	0.000	0.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			56.1
	63	10386	Water Right	Decreed	Active	N	574182	9/19/1986	1.110		1.110	1.110	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10391	Water Right	Decreed	Active	N	626833	11/14/1986	0.300		0.300	0.090	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			62.4
	63	10405	Water Right	Decreed	Active	N	574184	3/17/1987	1.560		1.560	1.560	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10569	Water Right	License	Active	N	58102	2/5/1988	1.780		1.780	1.780	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10688	Water Right	License	Active	N	99977	8/15/1988	2.000		2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10862	Water Right	License	Active	N	14817	7/18/1989	1.440		1.440	1.440	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	10945	Water Right	License	Active	N	551638	10/29/1989	1.720	63-3457 + 63-10945 = 3.10	1.430	0.260	GROUND WATER	DOMESTIC, FIRE PROTECTION, IRRIGATION	UNITED WATER IDAHO INC	71.0	53.0	393.0
	63	11034	Water Right	License	Active	N	99998	10/22/1989	2.740		2.740	2.740	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11058	Water Right	License	Active	N	99999	11/17/1989	2.790		2.790	2.790	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			

Attachment 1: Suez Water Right Portfolio

Basin	Sequence	Suffix	Process	Basis	Status	Draft	RightID	Priority Date	Diversion Rate	Combined Limits	CFS Reduced for Combo Limit and/or volume removal from face	CFS limit after Vol on face removed (assumes 1/1 to 12/31 season of use)	Source List	Water Use List	Current Owner	Total Acres	Acre Limit	Volume
	63	11090 A	Water Right	License	Active	N	104844	1/21/1990	1.730		1.730	0.520	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			376.4
	63	11118	Water Right	License	Active	N	16319	2/1/1990	2.780		2.780	2.780	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11232	Water Right	License	Active	N	58723	2/12/1990	2.830		2.830	2.830	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11384	Water Right	License	Active	N	100009	8/7/1990	3.120		3.120	3.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11385	Water Right	License	Active	N	100010	8/7/1990	2.580		2.580	2.580	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11467	Water Right	License	Active	N	551645	2/21/1991	2.270		2.270	0.720	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			520.0
	63	11558	Water Right	License	Active	N	590659	6/24/1991	2.670	63-11558 + 63-12363 = 5.50 cfs from Fisk Well only.	2.67	2.67	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11878	Water Right	License	Active	Y	686767	6/15/1992	0.990		0.990	0.260	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			190.5
	63	11950	Water Right	License	Active	N	16415	10/14/1992	2.300		2.300	2.300	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11951	Water Right	License	Active	N	16511	10/14/1992	0.850		0.850	0.850	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	11990	Water Right	License	Active	N	101617	1/27/1993	1.800		1.800	0.880	GROUND WATER	DOMESTIC, FIRE PROTECTION	UNITED WATER IDAHO INC			624.0
	63	12043	Water Right	License	Active	N	547770	7/23/1993	4.460		4.460	4.460	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12055	Water Right	License	Active	Y	673280	9/8/1993	24.800		24.800	24.800	BOISE RIVER	MUNICIPAL				
	63	12138	Water Right	License	Active	N	548263	8/16/1994	3.900		3.900	3.900	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12139	Water Right	License	Active	N	554194	8/19/1994	3.200		3.200	3.200	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12140	Water Right	License	Active	Y	685851	10/19/1994	1.720		1.720	1.720	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12192	Water Permit		Active	N	100312	8/6/2002	5.000		5.000	5.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12310	Water Right	License	Active	Y	685852	8/29/2001	1.740		1.740	1.740	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12334	Water Right	License	Active	N	551654	3/28/1995	0.380		0.380	0.060	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			42.0
	63	12362	Water Right	License	Active	N	551657	9/30/1996	2.220		2.220	2.220	GROUND WATER	FIRE PROTECTION	UNITED WATER IDAHO INC			
	63	12363	Water Right	License	Active	N	590655	8/9/1996	4.500	63-11558 + 63-12363 = 5.50 cfs from Fisk Well only.	4.500	2.83	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12452	Water Permit		Active	N	22693	4/15/1998	4.500		4.500	4.500	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12464	Water Permit		Active	N	100719	7/13/1998	0.300		0.300	0.300	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	12516	Water Permit		Active	N	110311	4/13/1999	4.000		4.000	4.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	19455	Water Right	Decreed	Active	N	626650	3/31/1953	1.600		1.600	1.600	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31406	Water Permit		Active	N	577077	1/18/2002	2.000		2.000	2.000	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31409	Water Permit		Active	N	559840	11/16/2001	20.000		20.000	20.000	BOISE RIVER	GROUND WATER RECHARGE, MUNICIPAL	UNITED WATER IDAHO INC			
	63	31797	Water Right	Decreed	Active	N	626324	6/1/1895	2.630		2.630	2.630	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31798	Water Right	Decreed	Active	N	626337	6/1/1899	1.550		1.550	1.550	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31856	Water Right	Decreed	Active	N	600624	6/2/1890	2.120		2.120	2.120	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31857	Water Right	Decreed	Active	N	626312	7/21/1928	2.480		2.480	2.480	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	31871	Water Right	License	Active	N	576537	12/31/1963	35.210	2-2341, 2-2358, + 2-2420 = 35.21 cfs wl 63-31871 = 35.21	35.210	35.210	BOISE RIVER	IRRIGATION	UNITED WATER IDAHO INC			9,247.5
	63	31879	Water Right	Decreed	Active	N	626342	12/31/1910	4.640		4.640	4.640	GROUND WATER	MUNICIPAL	UNITED WATER IDAHO INC			
	63	20041	Water Right	Decreed	Active	N	578767	6/1/1866	0.680		0.68	0.68	BOISE RIVER	MUNICIPAL	BOISE CITY CANAL CO (Only Municipal portion of WR)		6.0	45.4
		Anderson Ranch											BOISE RIVER					1,000.0
		Lucky Peak											BOISE RIVER					1,100.0
									412.880		366.900	351.140						

RED Draft License to be used for quantity in portfolio
BLUE Permit to be used for quantity in portfolio
Yellow Highlight Not in IMAP

Attachment 2: IMAP Rights

Basin	Sequence	Suffix	Process	Basis	Status	RightID	Priority Date	Water Use (Before IMAP)	Water Use (After IMAP*)	Diversion Rate (Before IMAP)	Municipal Use Diversion Rate (After IMAP*)	Volume Removed by IMAP*	Total Acres Removed by IMAP*	Acre Limit Removed by IMAP*	Combined Limits Removed by IMAP*	Place of Use (Before IMAP)	Place of Use (After IMAP*)	Season of Use (Before IMAP)	Season of Use (After IMAP*)	Source Use	Current Owner	NOTES
Water Rights (Licensed or Decreed)																						
63	2507		Water Right	Decreed	Active	626364	6/30/1934	MUNICIPAL	MUNICIPAL (RAFN)	0.80	0.80					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2509		Water Right	Decreed	Active	626368	6/3/1935	MUNICIPAL	MUNICIPAL (RAFN)	1.66	1.66					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2515		Water Right	Decreed	Active	626358	4/26/1938	MUNICIPAL	MUNICIPAL (RAFN)	1.90	1.90					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2565		Water Right	Decreed	Active	626372	8/31/1956	MUNICIPAL	MUNICIPAL (RAFN)	1.34	1.34					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2565		Water Right	Decreed	Active	626373	7/2/1943	MUNICIPAL	MUNICIPAL (RAFN)	0.90	0.90					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2566		Water Right	Decreed	Active	626362	7/15/1947	MUNICIPAL	MUNICIPAL (RAFN)	2.14	2.14					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2703		Water Right	Decreed	Active	626382	6/23/1948	MUNICIPAL	MUNICIPAL (RAFN)	5.00	5.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2809		Water Right	Decreed	Active	626383	6/27/1950	MUNICIPAL	MUNICIPAL (RAFN)	3.10	3.10					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2874		Water Right	Decreed	Active	626387	6/18/1951	MUNICIPAL	MUNICIPAL (RAFN)	4.00	4.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2954		Water Right	Decreed	Active	626389	6/27/1953	MUNICIPAL	MUNICIPAL (RAFN)	0.90	0.90					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2956		Water Right	Decreed	Active	626407	6/27/1953	MUNICIPAL	MUNICIPAL (RAFN)	0.55	0.55					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	2999		Water Right	Decreed	Active	626409	6/2/1954	MUNICIPAL	MUNICIPAL (RAFN)	1.00	1.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3094		Water Right	Decreed	Active	626411	10/31/1955	MUNICIPAL	MUNICIPAL (RAFN)	1.22	1.22					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3373		Water Right	Decreed	Active	626412	1/4/1956	MUNICIPAL	MUNICIPAL (RAFN)	2.00	2.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3136		Water Right	Decreed	Active	626421	12/19/1956	MUNICIPAL	MUNICIPAL (RAFN)	2.00	2.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3112		Water Right	Decreed	Active	626425	9/11/1957	MUNICIPAL	MUNICIPAL (RAFN)	1.44	1.44					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3128		Water Right	Decreed	Active	626427	6/24/1958	MUNICIPAL	MUNICIPAL (RAFN)	4.44	4.44					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3164		Water Right	Decreed	Active	626432	6/5/1959	MUNICIPAL	MUNICIPAL (RAFN)	1.73	1.73					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3172		Water Right	Decreed	Active	626433	10/19/1959	MUNICIPAL	MUNICIPAL (RAFN)	2.27	2.27					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3202		Water Right	Decreed	Active	626440	6/6/1960	MUNICIPAL	MUNICIPAL (RAFN)	2.89	2.89					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3261		Water Right	Decreed	Active	626441	5/21/1962	MUNICIPAL	MUNICIPAL (RAFN)	2.40	2.40					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3263		Water Right	Decreed	Active	626453	5/21/1962	MUNICIPAL	MUNICIPAL (RAFN)	2.25	2.25					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3293		Water Right	Decreed	Active	626442	5/21/1962	MUNICIPAL	MUNICIPAL (RAFN)	3.56	3.56					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3295		Water Right	Decreed	Active	626455	5/24/1962	MUNICIPAL	MUNICIPAL (RAFN)	3.24	3.24					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3411		Water Right	Decreed	Active	626461	8/13/1964	MUNICIPAL	MUNICIPAL (RAFN)	1.56	0.35	178.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3448		Water Right	Decreed	Active	626465	4/23/1965	MUNICIPAL	MUNICIPAL (RAFN)	4.90	4.90					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3457		Water Right	Decreed	Active	626474	7/14/1965	MUNICIPAL	MUNICIPAL (RAFN)	1.61	0.23	168.0			63-3457 + 63-10965 = 3.10	UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	1
63	3484		Water Right	Decreed	Active	626477	2/8/1966	MUNICIPAL	MUNICIPAL (RAFN)	6.44	6.44					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	3562		Water Right	Decreed	Active	626483	11/29/1966	MUNICIPAL	MUNICIPAL (RAFN)	1.61	1.61					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	4015		Water Right	Decreed	Active	626500	10/17/1980	MUNICIPAL	MUNICIPAL (RAFN)	2.00	2.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	4395		Water Right	Decreed	Active	574126	9/1/1950	MUNICIPAL	MUNICIPAL (RAFN)	0.56	0.33				63-4395, 63-8385, + 63-10150 = 0.60 cfs + 240.3 af	UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	4414		Water Right	Decreed	Active	626513	3/1/1943	MUNICIPAL	MUNICIPAL (RAFN)	1.11	1.11					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	4424		Water Right	Decreed	Active	626527	3/1/1943	MUNICIPAL	MUNICIPAL (RAFN)	1.33	1.33					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	4752		Water Right	Decreed	Active	626534	3/1/1947	MUNICIPAL	MUNICIPAL (RAFN)	1.11	1.11					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8057		Water Right	Decreed	Active	626535	3/29/1968	MUNICIPAL	MUNICIPAL (RAFN)	2.84	2.84					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8204		Water Right	Decreed	Active	626537	5/13/1969	MUNICIPAL	MUNICIPAL (RAFN)	1.82	1.82					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8292		Water Right	Decreed	Active	626560	12/2/1969	MUNICIPAL	MUNICIPAL (RAFN)	4.12	4.12					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8348		Water Right	Decreed	Active	626577	6/19/1970	MUNICIPAL	MUNICIPAL (RAFN)	6.60	6.60					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8478		Water Right	Decreed	Active	626579	6/29/1971	MUNICIPAL	MUNICIPAL (RAFN)	7.00	7.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8537		Water Right	Decreed	Active	626583	4/6/1972	MUNICIPAL	MUNICIPAL (RAFN)	2.01	2.01					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	7589		Water Right	Decreed	Active	626587	6/9/1972	MUNICIPAL	MUNICIPAL (RAFN)	4.46	4.46					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	7841		Water Right	Decreed	Active	574159	9/17/1977	MUNICIPAL	MUNICIPAL (RAFN)	2.00	2.00				63-7841 + 63-8425 = 3.12 cfs	UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	2
63	7853		Water Right	Decreed	Active	626584	9/8/1973	MUNICIPAL	MUNICIPAL (RAFN)	1.06	1.06					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	7898		Water Right	Decreed	Active	626585	11/13/1973	MUNICIPAL	MUNICIPAL (RAFN)	0.25	0.25					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	7931		Water Right	Decreed	Active	626643	3/13/1974	MUNICIPAL	MUNICIPAL (RAFN)	7.00	1.75	1,264.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	7995		Water Right	Decreed	Active	626644	5/21/1974	MUNICIPAL	MUNICIPAL (RAFN)	7.77	6.91	668.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8031		Water Right	Decreed	Active	626309	7/16/1974	MUNICIPAL	MUNICIPAL (RAFN)	3.00	0.38	276.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8056		Water Right	Decreed	Active	626595	11/12/1974	MUNICIPAL	MUNICIPAL (RAFN)	0.57	0.57					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8236		Water Right	Decreed	Active	626665	11/26/1975	MUNICIPAL	MUNICIPAL (RAFN)	1.85	1.85					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8248		Water Right	Decreed	Active	626707	1/2/1975	MUNICIPAL	MUNICIPAL (RAFN)	1.57	1.17	843.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8265		Water Right	Decreed	Active	626709	2/23/1976	MUNICIPAL	MUNICIPAL (RAFN)	2.37	2.37					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8385		Water Right	Decreed	Active	626601	11/6/1977	MUNICIPAL	MUNICIPAL (RAFN)	0.49	0.06	182.4			63-4395, 63-8385, + 63-10150 = 0.60 cfs + 240.3 af	UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8425		Water Right	Decreed	Active	626716	7/12/1977	MUNICIPAL	MUNICIPAL (RAFN)	7.00	1.12	1,320.0			63-7841 + 63-8425 = 3.12 cfs	UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	3
63	8432		Water Right	Decreed	Active	626606	2/15/1977	MUNICIPAL	MUNICIPAL (RAFN)	1.78	1.78					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8535		Water Right	Decreed	Active	626618	8/17/1983	MUNICIPAL	MUNICIPAL (RAFN)	0.89	0.15	106.2				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	8590		Water Right	Decreed	Active	626615	8/15/1977	MUNICIPAL	MUNICIPAL (RAFN)	4.00	4.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9082		Water Right	Decreed	Active	626613	11/25/1977	MUNICIPAL	MUNICIPAL (RAFN)	3.45	3.45					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9126		Water Right	Decreed	Active	626631	1/23/1978	MUNICIPAL	MUNICIPAL (RAFN)	1.12	1.12					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9147		Water Right	Decreed	Active	626576	6/6/1978	MUNICIPAL	MUNICIPAL (RAFN)	4.00	4.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9199		Water Right	Decreed	Active	626619	10/1/1979	MUNICIPAL	MUNICIPAL (RAFN)	2.45	2.45					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9199		Water Right	Decreed	Active	626629	10/1/1979	MUNICIPAL	MUNICIPAL (RAFN)	3.12	3.12					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9204		Water Right	Decreed	Active	626629	10/1/1979	MUNICIPAL	MUNICIPAL (RAFN)	4.00	4.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9205		Water Right	Decreed	Active	626631	10/1/1979	MUNICIPAL	MUNICIPAL (RAFN)	4.00	4.00					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9219		Water Right	Decreed	Active	626632	12/5/1979	MUNICIPAL	MUNICIPAL (RAFN)	2.23	2.23					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9223		Water Right	Decreed	Active	626634	1/3/1979	MUNICIPAL	MUNICIPAL (RAFN)	4.21	4.21					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9384		Water Right	Decreed	Active	626636	5/27/1980	MUNICIPAL	MUNICIPAL (RAFN)	1.00	0.58	420.0				UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9671		Water Right	Decreed	Active	626642	2/25/1981	MUNICIPAL	MUNICIPAL (RAFN)	2.12	2.12					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	9855		Water Right	Decreed	Active	626645	12/2/1981	MUNICIPAL	MUNICIPAL (RAFN)	3.34	3.34					UWD Service Area	UWD Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	

Attachment 2: IMAP Rights

Basin	Sequence	Suffix	Process	Basis	Status	RightID	Priority Date	Water Use (Before IMAP)	Water Use (After IMAP*)	Diversion Rate (Before IMAP)	Municipal Use Diversion Rate (After IMAP*)	Volume Removed By IMAP*	Total Acres Removed by IMAP*	Acre Limit Removed by IMAP*	Combined Limits Removed by IMAP*	Place of Use (Before IMAP)	Place of Use (After IMAP*)	Season of Use (Before IMAP)	Season of Use (After IMAP*)	Source List	Current Owner	NOTES
63	10150		Water Right	Decreed	Active	574181	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	0.49	0.00	56.1			63-4309, 53-8385, + 63-10150 = 0.80 cfs + 240.3 af	UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10386		Water Right	Decreed	Active	574182	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	1.11	1.11					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10391		Water Right	Decreed	Active	[illegible]	11/14/1986	MUNICIPAL	MUNICIPAL (RAFN)	0.50	0.00	42.4				UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10405		Water Right	Decreed	Active	574184	5/13/1987	MUNICIPAL	MUNICIPAL (RAFN)	1.56	1.56					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10509		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	1.79	1.79					Boise City Limits	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10668		Water Right	License	Active	90027	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.00	2.00					Boise City Limits + surrounding service area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10862		Water Right	License	Active	14117	7/18/1989	MUNICIPAL	MUNICIPAL (RAFN)	1.44	1.44					Boise City Limits + surrounding service area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	10845		Water Right	License	Active	551638	10/29/1989	DOMESTIC FIRE PROTECTION IRRIGATION	MUNICIPAL (RAFN), FIRE PROTECTION	1.72	0.11	380.0	71.6	68.0	63-3167 + 63-10845 = 3.10	T3N, R2E, Sec 24 L2(SENE), T3N, R3E, Sec 19 NWNE, NENW, L2(SWNW), SENW, NESW + L3(NWSW)	UWID Service Area	1/1-12/31 & 3/1-11/15	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	4
63	11034		Water Right	License	Active	99998	10/22/1989	MUNICIPAL	MUNICIPAL (RAFN)	2.74	2.74					Boise Water Corporation Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11061		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.75	2.75					Boise Water Corporation Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	[illegible]	A	Water Right	License	Active	104844	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	1.73	0.52	379.4				UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11118		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.78	2.78					Boise City Limits + Boise Water Corporation Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11232		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.83	2.83					Boise City Limits	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11384		Water Right	License	Active	100009	8/7/1990	MUNICIPAL	MUNICIPAL (RAFN)	3.12	3.12					Boise City Limits + surrounding service area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11385		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.58	2.58					Boise Water Corporation Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11467		Water Right	License	Active	551845	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	2.27	0.72	[illegible]				UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11558		Water Right	License	Active	590859	6/24/1991	MUNICIPAL	MUNICIPAL (RAFN)	2.67	2.67				63-11558 + 63-12263 = 5.50 cfs from Fisk Well only	Boise City Limits + surrounding service area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	5
63	11950		Water Right	License	Active	16415	10/14/1992	MUNICIPAL	MUNICIPAL (RAFN)	2.30	2.30					Boise City Limits + UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11951		Water Right	License	Active	[illegible]	10/14/1992	MUNICIPAL	MUNICIPAL (RAFN)	0.85	0.85					Boise City Limits + UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	11980		Water Right	License	Active	[illegible]	[illegible]	DOMESTIC FIRE PROTECTION	MUNICIPAL (RAFN), FIRE PROTECTION	1.80	0.00	624.0				T3N, R1E, Sec 15 NW1/4, T3N, R1E, Sec 16 NE1/4	UWID Service Area		1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	6
63	12041		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL (RAFN)	4.49	4.49					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	12138		Water Right	License	Active	548283	8/19/1994	MUNICIPAL	MUNICIPAL (RAFN)	3.90	3.90					Boise City Limits + UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	12139		Water Right	License	Active	554194	8/19/1994	MUNICIPAL	MUNICIPAL (RAFN)	3.20	3.20					Boise City Limits + UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	12334		Water Right	License	Active	551664	3/29/1995	MUNICIPAL	MUNICIPAL (RAFN)	[illegible]	[illegible]	42.0				UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
63	12362		Water Right	License	Active	551657	9/30/1996	FIRE PROTECTION	FIRE PROTECTION	2.22	0.00					T4N, R1W, Sec 24 SWSE	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	7
63	16454		Water Right	Decreed	Active	[illegible]	3/31/1953	MUNICIPAL	MUNICIPAL (RAFN)	[illegible]	[illegible]					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	
TOTAL											[illegible]											

Attachment 2: IMAP Rights

Basin	Sequence	Suffix	Process	Basis	Status	RightID	Priority Date	Water Use (Before IMAP)	Water Use (After IMAP*)	Diversion Rate (Before IMAP)	Municipal Use Diversion Rate (After IMAP*)	Volume Removed by IMAP*	Total Acres Removed by IMAP*	Acre Limit Removed by IMAP*	Combined Limits Removed by IMAP*	Place of Use (Before IMAP)	Place of Use (After IMAP*)	Season of Use (Before IMAP)	Season of Use (After IMAP*)	Source Use	Current Owner	NOTES
PERMITS																						
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	[illegible]	0.25	190.5				UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	8
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	3.50	1.72					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	9
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	5.00	5.00					Area verified by IPUC	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	10
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	3.00	1.74					UWID Service Area [illegible] Boise	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	11
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	4.50	4.50					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	12
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	8.30	8.30					[illegible] Water Corp Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	12
63	[illegible]		Water Permit		Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	4.00	4.00					UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	12
TOTAL											17.52											
ASSOCIATED RIGHTS																						
63	12363		Water Right	License	Active	[illegible]	[illegible]	MUNICIPAL	MUNICIPAL	4.50	2.83				63-11558 + 63-12363 = 5.50 cfs from Fisk Well only	UWID Service Area	UWID Service Area	1/1-12/31	1/1-12/31	GROUND WATER	UNITED WATER IDAHO INC	13

NOTES

* Proposed for Hearing Office consideration 10/5/2018

1 Volume limiting factor for recommended rate. After NOU change on 63-10945, 0.23 cfs (63-3457) + 0.11 cfs (63-10945) < 3.10 cfs historic combined rate limit

2 2.00 cfs requested on 63-7641. Leaves maximum of 1.12 cfs for 63-8405 to account for combined limit of 63-7641 + 63-8405 = 3.12 cfs limit

3 Volume limit results in rate of 1.82 cfs. However, when remove 2.00 cfs for 63-7641 from 63-7641 + 63-8405 = 3.12 cfs combined limit, left with 1.12 cfs for 63-8405 < 1.82 cfs

4 [illegible] Change in Nature of Use to Municipal spreadsheet. After NOU change on 63-10945, 0.23 cfs (63-3457) + 0.11 cfs (63-10945) = 3.10 cfs historic combined rate limit. IDWR policy indicates Fire Protection use can not be changed to different beneficial use such as municipal (enlargement of essentially non-consumptive use). Recommend hearing officer consider retaining Fire Protection as beneficial use on right.

5 Limit diversion from specific well only POD of 63-11558, but right 63-12363 has one additional POD. 63-12363 not in IMAP only reduce if added as associated right. Can reduce face of 63-11558 to 1.0 cfs ok to remove limit OR if add 63-12363 as associated right can leave 63-11558 as 2.67 cfs then reduce face of 63-12363 to 2.83 cfs as applicant proposes.

6 NOU change evaluation requires additional information from applicant to determine historic consumptive [illegible] before transferable volume can be determined. This volume likely to be limiting factor on rate rather than [illegible] of volume limit currently on the face of right ([illegible] af = 0.[illegible] cfs in 24 hr 365 day period). No value input in table until sufficient information presented for NOU change evaluation. IDWR policy indicates Fire Protection use can not be changed to different beneficial use such as municipal (enlargement of essentially non consumptive use). Recommend hearing officer consider retaining Fire Protection as beneficial use on right.

7 IDWR policy indicates Fire Protection use can not be changed to different beneficial use such as municipal (enlargement of essentially non consumptive use). Recommend hearing officer consider retaining Fire Protection as beneficial use on right.

8 Draft license created for this pre-1996 Municipal Water Rights Act permit. Recommend hearing officer consider limiting permit amendment approval to consider beneficial use confirmed via beneficial use exam. Draft license recommends 0.99 cfs + 190.5 af vol. 190.5 af converted to 24 hr 365 day rate = 0.26 cfs. 5/30/18 Givens Pursley letter indicates acceptance of license being drafted for well pump capacity

9 Draft license created for this pre-1996 Municipal Water Rights Act permit. Recommend hearing officer consider limiting permit amendment approval to consider beneficial use confirmed via beneficial use exam. Draft license recommends 1.72 cfs and no volume limit. 5/30/18 Given's Pursley letter indicates acceptance of license being drafted for well pump capacity

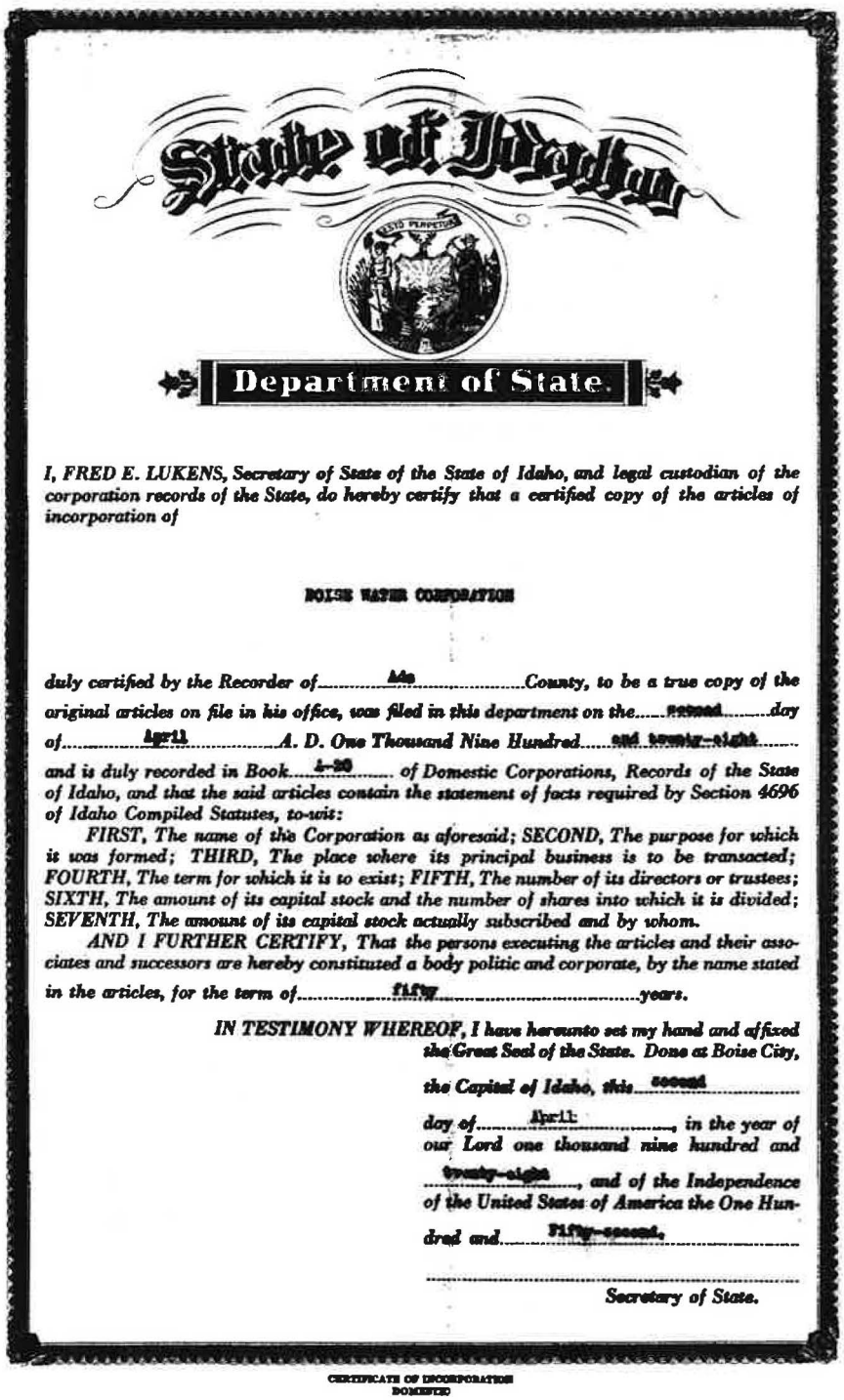
10 Beneficial use field exam recommended rate 2.74 cfs. Applicant does not agree with IDWRs initial license recommendations for this post-1996 Municipal Water Rights Act permit per the 5/30/18 Givens Pursley letter. Recommend hearing officer issue permit amendment approval without consideration of beneficial use examinations considering the permit amendment application was submitted prior to proof of beneficial use

11 Draft license created for this pre-1996 Municipal Water Rights Act permit. Recommend hearing officer consider limiting permit amendment approval to consider beneficial use confirmed via beneficial use exam. Draft license recommends 1.74 cfs and no volume limit. 5/30/18 Given's Pursley letter indicates acceptance of license being drafted for well pump capacity

12 Applicant does not agree with IDWRs initial license recommendations for this post-1996 Municipal Water Rights Act permit per the 5/30/18 Givens Pursley letter. Recommend hearing officer issue permit amendment approval without consideration of beneficial use examinations considering the permit amendment application was submitted prior to proof of beneficial use

13 Limit diversion from specific well only POD of 63-11558, but right 63-12363 has one additional POD. 63-12363 not in IMAP only reduce if added as associated right. Can reduce face of 63-11558 to 1.0 cfs ok to remove limit OR if add 63-12363 as associated right can leave 63-11558 as 2.17 cfs then reduce face of 63-12363 to 2.83 cfs as applicant proposes.

Exhibit B **IDAHO SECRETARY OF STATE DOCUMENTS**



State of Idaho

Department of State.

I, FRED E. LUKENS, Secretary of State of the State of Idaho, and legal custodian of the corporation records of the State, do hereby certify that a certified copy of the articles of incorporation of

BOISE WATER CORPORATION

duly certified by the Recorder of Ada *County, to be a true copy of the original articles on file in his office, was filed in this department on the* second *day of* April *A. D. One Thousand Nine Hundred* and twenty-eight *and is duly recorded in Book* A-20 *of Domestic Corporations, Records of the State of Idaho, and that the said articles contain the statement of facts required by Section 4696 of Idaho Compiled Statutes, to-wit:*

FIRST, The name of the Corporation as aforesaid; SECOND, The purpose for which it was formed; THIRD, The place where its principal business is to be transacted; FOURTH, The term for which it is to exist; FIFTH, The number of its directors or trustees; SIXTH, The amount of its capital stock and the number of shares into which it is divided; SEVENTH, The amount of its capital stock actually subscribed and by whom.

AND I FURTHER CERTIFY, That the persons executing the articles and their associates and successors are hereby constituted a body politic and corporate, by the name stated in the articles, for the term of fifty *years.*

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State. Done at Boise City, the Capital of Idaho, this second *day of* April, *in the year of our Lord one thousand nine hundred and* twenty-eight, *and of the Independence of the United States of America the One Hundred and* fifty-second.

Secretary of State.

CERTIFICATE OF INCORPORATION DOMESTIC

ARTICLES OF INCORPORATION

OF

BOISE WATER CORPORATION

KNOW ALL MEN BY THESE PRESENTS, That we, whose names are subscribed hereto, all of whom are bona fide residents and citizens of the State of Idaho, do under and in pursuance of the general corporation laws of the State of Idaho, and all amendments thereto, hereby organize, constitute and associate ourselves and such other person or persons as may hereafter become associated with us, into a body politic and corporate, and to that end execute the following Articles of Incorporation, and we hereby set forth and declare as follows:

FIRST

That the name of this corporation is and shall be BOISE WATER CORPORATION.

SECOND

That the objects and purposes for which this corporation is formed are: To acquire, own, hold and develop springs, wells and streams of both hot and cold water, and reservoirs therefor, and to conduct the waters thereof to Boise City and to the vicinity of Boise City in the County of Ada, State of Idaho, for the use of said City and the inhabitants thereof and the inhabitants of Ada County in the vicinity of said City, and to furnish water for municipal, county and state uses, for fire, street sprinkling, sewer flushing and irrigating, and to supply both hot and cold water for baths, domestic use, heating, mechanical, sanitary, irrigating and other useful and benefical purposes; to furnish steam and hot water for motive power and mechanical and other useful purposes; to erect, construct, hold, use, manage and maintain all necessary or convenient buildings, pumping stations, dams, reservoirs, machine shops, store-houses,

sanitariums, natatoriums, Hotels, baths, bath-houses, in or near Boise City; to erect, construct, operate, develop, own, hold, use, manage and maintain artesian wells, reservoirs, dams, galleries, mains, pipe-lines, power lines and tramways; also to acquire, hold, own, use, sell and transfer real estate and all such rights of way, franchises, easements, notes, securities, choses in action, and real and personal property suitable or convenient in carrying on the business of the corporation; to charge, collect and receive rates, tolls, rents and charges for all services performed, and to acquire, purchase, take over, maintain and operate corporations transacting a like business, and to acquire all properties, rights, easements, franchises and other rights of whatsoever kind of water companies, associations, corporations, joint stock companies and individuals engaged in the business of supplying water for municipal, domestic or other useful or beneficial purposes.

THIRD

That the place where the principal business of this corporation shall be transacted is the City of Boise, County of Ada, State of Idaho.

FOURTH

That the corporate existence of this corporation shall be limited to a term of fifty (50) years from the date of its incorporation.

FIFTH

That the corporate powers of this corporation shall be vested in a Board of Three (3) Directors.

SIXTH

That the amount of the authorized capital stock of this corporation shall be Five Hundred Thousand Dollars

($500,000.00), divided into Five Thousand (5,000) shares of the par value of One Hundred Dollars ($100.00) each.

SEVENTH

That the amount of said capital stock that has been actually subscribed and the number of shares subscribed by each subscriber and the par value thereof, are as follows:

Name	Number of Shares	Par Value
Oliver O. Haga	4	$400.00
Chas. H. Darling	1	100.00
Josephine C. Evans	1	100.00

IN WITNESS WHEREOF, We have hereunto set our hands and seals this 2nd day of April, 1928.

Oliver O. Haga

Chas. H. Darling

Josephine C. Evans

STATE OF IDAHO)
COUNTY OF ADA) ss.

On this 2nd day of April, in the year 1928, before me, H. M. Jeffrey, a Notary Public in and for said County and State, personally appeared Oliver O. Haga, Chas. H. Darling and Josephine C. Evans, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

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

H. M. Jeffrey
Notary Public for Idaho
Residence: Boise, Idaho

(SEAL)

State of Idaho,
County of Ada } ss.

CERTIFICATE

I, STEPHEN UTTER, Ex-Officio Recorder in and for Ada County, State of Idaho, do hereby certify that the annexed is a full, true and correct copy of certain Articles of Incorporation of the BOISE WATER CORPORATION

Numbered 2769 *as the same appears in my office.*

In Witness Whereof, I have hereunto set my hand and affixed my official Seal this 2nd *day of* April *1928.*

By Josephine Smith *Deputy.*

Stephen Utter *Ex-Officio Recorder.*

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State of Idaho

Department of State

CERTIFICATE OF AMENDMENT
OF

BOISE WATER CORPORATION
File Number C 16385

I, PETE T. CENARRUSA, Secretary of State of the State of Idaho, hereby certify that duplicate originals of Articles of Amendment to the Articles of Incorporation of BOISE WATER CORPORATION, changing the corporate name to UNITED WATER IDAHO INC., duly signed and verified pursuant to the provisions of the Idaho Business Corporation Act, have been received in this office and are found to conform to law.

ACCORDINGLY and by virtue of the authority vested in me by law, I issue this Certificate of Amendment to the Articles of Incorporation and attach hereto a duplicate original of the Articles of Amendment.

Dated: March 15, 1995

Pete T. Cenarrusa
SECRETARY OF STATE

By

ARTICLES OF AMENDMENT OF ARTICLES OF INCORPORATION

MAR 15 3 45 PM '95
SECRETARY OF STATE

OF

BOISE WATER CORPORATION

Pursuant to the provisions of Section 30-1-61, Idaho Code, the undersigned corporation submits the following Articles of Amendment of Articles of Incorporation:

FIRST: The name of the corporation (hereinafter called the "Corporation") is Boise Water Corporation.

SECOND: The Articles of Incorporation of the Corporation are hereby amended by striking out Article 1 thereof and by substituting in lieu of said Article the following new Article as adopted:

> "1. The name of the corporation shall be United Water Idaho Inc."

THIRD: The shareholders of the Corporation entitled to vote adopted the aforesaid amendment on February 24, 1995.

FOURTH: The number of shares of the Corporation which were outstanding at the time of the adoption of the aforesaid amendment is 23,157, of which 15,000 are common stock and 8,157 are preferred stock. The number of said shares which were entitled to vote thereon is 15,000. No shares of preferred stock are entitled to vote.

FIFTH: The number of the aforesaid shares of common stock which were voted for and against the amendment is as follows:

FOR	AGAINST
15,000	0

SIXTH: The effective time of the amendment herein certified shall be March 20, 1995.

Dated: March 10, 1995.

ATTEST:

ALLAN D. SHAKLEY, Secretary

BOISE WATER CORPORATION

By: William C. LINAM, Vice President

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CK: 23487 CUST: 20522
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#: C

STATE OF NEW JERSEY)
) SS.:
COUNTY OF BERGEN)

I, Gloria Tait, a notary public, do hereby certify that on this 10th day of March, 1995, personally appeared before me Allan D. Shakley, who, being by me first duly sworn, declared that he is the Secretary of Boise Water Corporation, that he signed the foregoing document as Secretary of the corporation, and that the statements contained therein are true.

Gloria Tait
Notary Public

(notarial seal)

My Commission Expires: GLORIA TAIT NOTARY PUBLIC OF NEW JERSEY MY COMMISSION EXPIRES JUL 10, 2000 ID#: 2172365

FILED EFFECTIVE

210

ARTICLES OF AMENDMENT
(General Business)

2015 NOV -9 PM 2:41

SECRETARY OF STATE
STATE OF IDAHO

To the Secretary of State of the State of Idaho
Pursuant to Title 30, Chapter 1, Idaho Code, the undersigned corporation amends its articles of incorporation as follows:

1. The name of the corporation is:

   UNITED WATER IDAHO INC.

   If the corporation has been administratively dissolved and the corporate name is no longer available for use, the amendment(s) below must include a change of corporate name.

2. The text of each amendment is as follows:

   The Articles of Incorporation of the Corporation are hereby amended by striking out Article 1 thereof and by substituting in lieu of said Article the following new Article as adopted:

   1. The name of the corporation shall be SUEZ Water Idaho Inc.

3. The date of adoption of the amendment(s) was: October 1, 2015

4. Manner of adoption (check one):

   ☐ The amendment consists exclusively of matters which do not require shareholder action pursuant to section 30-1-1002, 30-1-1005 and 30-1-1006, Idaho Code, and was, therefore, adopted by the board of directors.

   ☐ None of the corporation's shares have been issued and was, therefore, adopted by the ☐ incorporator ☐ board of directors.

   ☑ Approval by the shareholders is required and the shareholders duly approved the amendment(s) as required by either Title 30, Idaho Code or by the Articles of Incorporation.

Customer Acct #.
(If using pre-paid account)

Secretary of State use only

Dated: 11/2/15

Signed:

Typed Name: John T. Dillon

Capacity: Secretary

Web Form

IDAHO SECRETARY OF STATE
11/09/2015 05:00
CK: PREPAID CT:1157 BH:1499677
1@ 30.00 = 30.00 AMEND PROF #2
1@ 20.00 = 20.00 EXPEDITE C #3

C16385

Exhibit C IDEQ LETTER

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, Idaho 83706 • (208) 373-0550
www.deq.idaho.gov

Governor Brad Little
Director John H. Tippets

March 13, 2019

Roger Dittus
Suez
Roger.dittus@suez.com

RE: Suez – PWS #4010016

Dear Mr. Dittus:

The Suez Water System is in compliance with the *Idaho Rules for Public Drinking Water Systems*. The system is currently approved, and monitoring of the system for organic compounds, inorganic contaminants, radiological contaminants, and bacteriological contaminants is up to date, and no maximum contaminant levels have been exceeded.

If you have any questions, please feel free to contact me at (208) 373-0302, or via email at Sarah.Kelsay@deq.idaho.gov.

Sincerely,

Sarah Kelsay
Drinking Water Analyst

ec: 2019ACA1991

[Blank page inserted to facilitate double-sided printing and tabbing of exhibits.]

Exhibit D 2013 PINK LINE MAP

This is a copy of Attachment C to *United Water's Further Submission in Compliance with the Director's January 11, 2013 Order* ("*Further Submission*") dated 1/11/2013. The 2013 Pink Line Map also appears as Exhibit 1 to SUEZ's *Master Water Plan for the Years 2015 to 2065* ("*Master Water Plan*") (dated 9/23/2016 including errata dated 4/28/2017).

The original Pink Line Map was submitted to IDWR in 2002 ("2002 Pink Line Map"), prior to the 2003 stay of the proceedings and the "relaunch" in 2011. (The "relaunch" was initiated by *United Water's Motion to Lift Stay and Request for Status Conference* dated 10/6/2011.) A revised version of the Pink Line Map ("2012 Pink Line Map") was submitted as Exhibit F to *United Water's Statement Updating and Explaining the IMAP Relaunch* ("*Update Statement*") dated 8/14/2012. See discussion in *Update Statement* at pages 48-49. As noted above, the third and final Pink Line Map ("2013 Pink Line Map") was submitted as Attachment C to the *Further Submission* and as Exhibit 1 the *Master Water Plan*. The 2013 Pink Line Map provided some corrections on well locations, etc., but the pink line itself was not changed from the 2012 Pink Line Map. See discussion in *Further Submission* at pages 6-7 and in *Master Water Plan* at pages 5-7.

Note that, where it differs from the current Pink Line Map, the boundary of the 2002 pink line is displayed as a dashed pink line on the 2012 and 2013 Pink Line Maps.

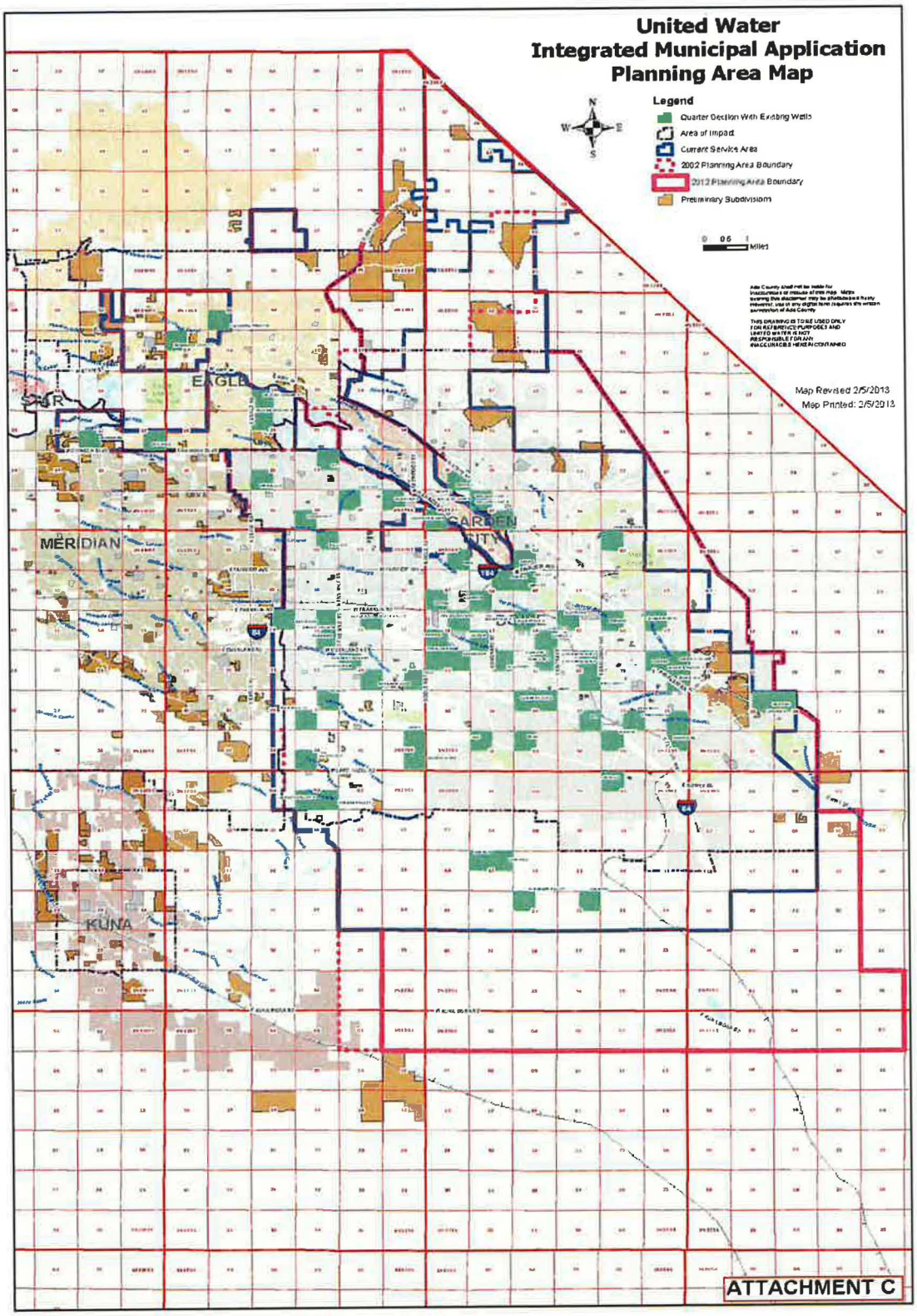
United Water
Integrated Municipal Application
Planning Area Map
Legend
Quarter Section With Existing Wells
Area of Impact
Current Service Area
2002 Planning Area Boundary
2012 Planning Area Boundary
Preliminary Subdivision
0 .05 .1 Miles
Map Revised 2/5/2013
Map Printed: 2/5/2013
EAGLE
MERIDIAN
GARDEN CITY
KUNA
ATTACHMENT C

Exhibit E ***EXPANSION QUANTIFICTION REPORT*** **BY JOHN S. CHURCH**

Idaho Economics
Economic Consulting & Forecasting

John Church Phone #1: (208) 284-0836
12477 W. Edna Dr. Phone #2: (208) 323-0732
Boise, ID 83713 e-mail: jchurchidecon@gmail.com

EXPANSION QUANTIFICATION REPORT

September 1, 2020

I. Purpose and Overview

In 2016, I prepared a 50-year forecast of "reasonably anticipated future needs" ("RAFN") for SUEZ Water Idaho Inc. ("SUEZ"). My forecast ("Church Forecast") is set out in Section V of SUEZ Water Idaho's *Master Water Plan* for the Years 2015 to 2065 ("Master Plan"). On January 14, 2019, staff at the Idaho Department of Water Resources ("IDWR") prepared a memorandum entitled "Staff Review of Suez Water Idaho, Inc.'s Integrated Municipal Application Package" ("*Staff Review Memo*").

The purpose of this Expansion Quantification Report is to respond to questions raised in the *Staff Review Memo* that relate to the Church Forecast.[1]

Specifically, Page 6 of the *Staff Review Memo* states:

> Suez also does not describe what portion of the anticipated future water need is expected to occur in the portions of the "Planning Area" that Suez does not now serve. Is the expanded service area marginal to the overall IMAP request, or does it account for a significant share of the projected growth in demand over the planning horizon? . . . IDWR should also ask Suez to explain what portion of its anticipated future needs over the 50-year planning horizon is attributable to the anticipated growth of its service area.

The *Staff Review Memo* is correct. The Church Forecast did not include a breakdown of how much of the projected growth will occur outside of SUEZ's current certificated area but inside of SUEZ's 2065 Planning Area (aka the Pink Line). I refer to this area as the

[1] The information in this report has been has been shared with SUEZ staff and counsel in order to confirm its accuracy. Its production was delayed due to personal and family matters.

"Expansion Area." At the request of SUEZ, I have now undertaken a quantification of the extent of RAFN attributable to the Expansion Area. I present those results here.

The short answer is that RAFN within the Expansion Area is a tiny fraction of SUEZ's total RAFN—1.690% in 2065. In other words, including the Expansion Area in the calculation of RAFN added very little to total projected future need. The reason is that the Church Forecast did not project a great deal of new population or commercial development in the Expansion Area, even 50 years out. Instead, most of the growth in water demand is projected to occur within SUEZ's current certificated area.

II. Summary of Analysis and Results

In order to quantify projected growth in the Expansion Area, I employed the same methodology as in the Church Analysis. Specifically, I examined the forecasted population, number of households, and employment in the Expansion Area.

As with the Church Forecast, these population, household, and employment growth projections are used to forecast the number of SUEZ's future residential and commercial customers. Those numbers provide the basis for projecting residential and commercial water demand, which in turn provides the basis for forecasting total water demand (which also includes public authority sales, other sales, company water use, hydrant use, and water system losses).[2]

The key statistics summarizing the extent of growth in the Expansion Area for eight categories of growth are summarized in Table 1 below. This table also directs the reader to the source of the information in the *Master Water Plan* (for total Planning Area numbers) and in this report (for Expansion Area numbers). These numbers and percentages are explained in further detail in the discussion below.

[2] As explained in the Church Forecast (Section V of the *Master Water Plan*), the great bulk of SUEZ's water production serves residential and commercial customers. "Public authority" sales and "other" sales make up less than 10 percent of SUEZ's annual total production. And company water use, hydrant use, and water system losses make up even less. Consequently, the Church Forecast employed a complex econometric model, four multivariate linear regressions, and other statistical analyses to forecast the quantity of future demand by residential and commercial customers, and used a far simpler methodology for "public authority" and "other" demand, as well as company water use, hydrant use, and water system losses.

Table 1

Summary of "Expansion Area" Numbers and Percentages
(Showing source of information)

Forecast Category (for Year 2065)	Within entire "Planning Area"	Within "Expansion Area" only	% of growth arising within "Expansion Area"	Source of "Planning Area" number in Master Water Plan, Appendix A	Source of "Expansion Area" number in this Memo
Population	499,708	14,211	2.844	Table A6 (page A-171)	Table 2
Households	219,236	5,096	2.324	Table A6 (page A-171)	Table 2
Residential Customers	196,658	4,571	2.324	Table A1 (page A-4)	Table 2
Commercial Customers	19,618	124	0.632	Table A1 (page A-4)	Table 2
Residential Water Sales (annual) (1000 gal.)	19,696,742	436,305	2.215	Table A1 (page A-4)	Table 3
Commercial Water Sales (annual) (1000 gal.)	12,672,707	73,930	0.583	Table A1 (page A-4)	Table 3
Total Water Sales (annual) (1000 gal.)	32,645,637	547,073	1.676	Table A1 (page A-6)	Table 3
Total Water Production (annual) (1000 gal.)	33,541,750	566,722	1.690	Table A1 (page A-8)	Table 3

A. Residential and Commercial Customers

As shown in Table 2 below, it is anticipated that by the year 2065 a population of 14,211 will be residing in 5,096 households in the Expansion Area. This accounts for 2.844% of the total population (499,708) and 2.324% of total households (219,236) that the Church Forecast projects in SUEZ's entire Planning Area in 2065.[3]

These 5,096 households are forecasted to represent 4,571 residential customers, or 2.324% of the total number of residential customers (196,658) the Church Forecast projects in SUEZ's entire Planning Area in 2065.[4]

[3] In preparing this analysis, I noted a minor typographical error in the Church Forecast. It is inconsequential to the RAFN forecast, because the correct number was employed in the underlying spreadsheet data set out in Appendix A of the *Master Water Plan*, and that is the data that drove the forecast. Specifically, the correct total population within the Planning Area for the year 2065 is 499,708, as shown in Appendix A – Table A6 on page A-171. It is incorrectly shown as 449,708 in Forecast Table 2 on page 22 and Forecast Table 5 on page 33 of the *Master Water Plan*.

[4] Appendix A of the *Master Water Plan* displays different sets of numbers for the total number of residential and commercial customers within the Planning Area for the year 2065. One set (shown in Appendix A – Table A1 on page A-4) is an annualized projection. The other set (shown in Appendix A – Table A1 on page A-26) is a more specific projection for the month of September 2065. Both sets of numbers are correct in context. Table 2 on page 33 of the *Master Water Plan* employs the annualized number; Table 5 on page 33 employs the September 2065 number. In this Expansion Quantification Report, I have used the annualized numbers in Appendix A – Table A1 at page A-4 for the number of residential customers and commercial customers (196,658 and 19,618, respectively).

The Ada County non-agricultural employment projected to occur in the Expansion Area is forecasted to provide SUEZ with 124 commercial customers in 2065, which is 0.632% of the total number commercial customers (19,618) the Church Forecast projects in SUEZ's entire Planning Area in 2065.

Table 2 below details the forecasted population, households, employment, and the number of residential and commercial customers in the Expansion Area, in 5-year increments, for the years 2015 through 2065. The percentages of each of these as a share of SUEZ's total Planning Area are shown in the lower half of Table 2.

Table 2
Forecasted Population, Households, & Employment
plus Forecasted Residential & Commercial Customers
In Areas Outside of Suez Water Idaho's Service Area
and Within the Suez Water IMAP Planning Area

	Forecasted			Forecasted	
Year	Population	Households	Employment	Residential Customers	Commercial Customers
2015	1,081	446	274	358	12
2020	2,267	905	273	757	25
2025	3,431	1,359	274	1,152	37
2030	5,320	1,995	276	1,698	54
2035	7,602	2,848	301	2,400	77
2040	10,795	3,846	326	3,165	109
2045	11,189	4,040	345	3,445	113
2050	11,828	4,216	359	3,677	117
2055	12,560	4,485	373	3,938	120
2060	13,357	4,774	388	4,234	122
2065	14,211	5,096	415	4,571	124

Population, Households, & Employment Plus
Residential & Commercial Customers as a Percent of Projected Total IMAP Planning Area
Population, Households, Employment and Residential and Commercial Customers

				Residential	Commercial
Year	Population	Households	Employment	Customers	Customers
2015	0.437%	0.448%	0.096%	0.448%	0.133%
2020	0.889%	0.866%	0.087%	0.866%	0.248%
2025	1.257%	1.213%	0.080%	1.213%	0.334%
2030	1.842%	1.641%	0.075%	1.641%	0.446%
2035	2.394%	2.121%	0.076%	2.121%	0.587%
2040	3.127%	2.563%	0.076%	2.563%	0.770%
2045	3.073%	2.554%	0.074%	2.554%	0.742%
2050	3.040%	2.490%	0.071%	2.490%	0.718%
2055	2.974%	2.431%	0.068%	2.431%	0.690%
2060	2.909%	2.373%	0.065%	2.373%	0.660%
2065	2.844%	2.324%	0.065%	2.324%	0.632%

B. Projected Water Demand

The forecasted average residential and commercial water use per customer is applied to the number of forecasted residential and commercial customers. This yields the forecasted residential and commercial water sales.

As shown in Table 3 below, in the year 2065, it is forecasted that residential and commercial water sales to those customers located inside the Expansion Area will be 436,305 thousand gallons and 73,930 thousand gallons, respectively. These volumes represent 2.215% and 0.583%, respectively, of the Church Forecast's 2065 total residential water sales (19,696,742) and commercial water sales (12,672,707) within the entire SUEZ Planning Area.

The forecasted total water sales in the Expansion Area is the sum of residential and commercial water sales plus an allowance for "public authority" and "other" water sales. The total 2065 annual water sales in the Expansion Area for all four categories is forecasted to be 547,073 thousand gallons, or about 1.676% of the Church Forecast's 2065 forecasted total annual water sales in SUEZ's entire Planning Area of 32,645,637 thousand gallons.

Total forecasted annual water production for the Expansion Area is made up of total annual water sales plus water produced for company water use, hydrant water use, and the water system losses, which are projected to be 19,649 thousand gallons in 2065.

In sum, it is forecasted that total water production in the Expansion Area in year 2065 will be 566,722 thousand gallons. This represents 1.690% of the forecasted 2065 annual water production for the entire Planning Area of 33,541,750 thousand gallons.

Table 3 below details residential, commercial, and total water sales as well as the forecasted annual production attributable to the Expansion Area, in 5-year increments, for the years 2015 through 2065. The percentages of each of these as a share of the total Planning Area are shown in the lower half of Table 3.

Table 3
Forecasted Residential, Commercial, & Total Water Sales plus Annual Water Production in Areas Outside of Suez Water's Service Area & Within the Suez Water IMAP Planning Area

Year	Forecasted Water Sales: Residential Water Sales (1,000 Gal.)	Forecasted Water Sales: Commercial Water Sales (1,000 Gal.)	Forecasted Water Sales: Total Water Sales (1,000 Gal.)	Forecasted Annual Water Production (1,000 Gal.)
2015	41,301	6,702	52,241	54,493
2020	85,438	13,906	110,946	115,669
2025	127,802	20,690	166,960	174,027
2030	177,976	30,040	234,400	245,410
2035	238,868	42,563	318,841	329,313
2040	307,484	60,453	416,951	430,114
2045	326,380	63,367	442,170	455,464
2050	325,491	64,481	441,308	455,928
2055	353,683	67,722	475,007	492,258
2060	393,849	70,858	509,652	525,838
2065	436,305	73,930	547,073	566,722

Residential, Commercial & Total Annual Water Sales & Production as a Percent of the Forecasted Total IMAP Planning Area
Residential, Commercial, & Total Water Sales & Water Production

Year	Residential Water Sales	Commercial Water Sales	Total Water Sales	Water Production
2015	0.422%	0.120%	0.337%	0.336%
2020	0.785%	0.223%	0.642%	0.641%
2025	1.085%	0.299%	0.886%	0.886%
2030	1.463%	0.401%	1.183%	1.189%
2035	1.875%	0.526%	1.518%	1.516%
2040	2.266%	0.688%	1.850%	1.848%
2045	2.254%	0.667%	1.828%	1.826%
2050	2.151%	0.665%	1.763%	1.767%
2055	2.163%	0.619%	1.726%	1.743%
2060	2.193%	0.601%	1.699%	1.706%
2065	2.215%	0.583%	1.676%	1.690%

C. Bottom Line

In sum, the Expansion Area in the RAFN forecast represents projected water demand in year 2065 of 566,722 thousand gallons, which is 1.690% of the total forecast.

III. Analysis of Forecasted Water Sales and Water Production in the Expansion Area

In this section, I explain the methodology I used in this Expansion Quantification Report to tease out the portion of RAFN associated with water use in the Expansion Area.

A. Methodology

As explained in the Church Forecast, the Community Planning Association of Southwest Idaho ("COMPASS") has forecasted total population, households, and employment by Traffic Analysis Zone ("TAZ") in five-year increments through 2040.[5] The Church Forecast used the TAZs in the same way as COMPASS to allocate population, households, and employment by TAZ within SUEZ's Planning Area through 2065.

Projected water demand in the Expansion Area is based on the total population, households, and employment forecasted by TAZ. As with the Church Forecast, these population, household, and employment growth projections are used to forecast the number of SUEZ's future residential and commercial customers, which is the basis for projecting residential and commercial demand. The residential and commercial demand projections in turn provide the basis for forecasting total water demand (including "public authority" and "other" water sales, and company water use, hydrant use, and the water system losses).

Some TAZ's are located totally within the Expansion Area, in which case all forecasted population, household, and employment growth is attributed to the Expansion Area. For example, TAZ 652 is fully located inside the Expansion Area. All of the Church Forecast's projected 2065 population (6,427) and households (2,106) is attributed to the Expansion Area.

Likewise, in cases where a TAZ straddles the Planning Area boundary such that only part of the TAZ is located within the Planning Area, all of the population, household, and employment growth allocated to that TAZ in the Church Forecast is allocated to the Expansion Area. For example, TAZ 1299 straddles the Planning Area boundary (i.e., part of it is inside the Planning Area, and part of it is outside the Planning Area. All of the Church Forecast's projected 2065 population (188) and households (81) is attributed to the Expansion Area.[6]

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[5] COMPASS has divided Ada and Canyon counties into hundreds of TAZs, which are small geographic areas used to analyze and predict traffic flow patterns. COMPASS allocates its total projected population and number of households within the two counties to each TAZ. COMPASS performed this allocation for each five-year increment between 2010 and 2040.

[6] In reviewing the 2016 Church Forecast, I noted an error in the display of some data. The following TAZs were displayed not being within the Planning Area in the *Master Water Plan* Appendix A's Table A5: 131, 173, 174, 177, 299, 300, 313, 316, 613, 641, 659, 1290, 1291, 1296,

However, in some cases, a TAZ partially straddles the boundary between SUEZ's current service area and the Expansion Area, in which case I used professional judgment based on land use information obtained from Ada County to allocate projected growth to the Expansion Area. For example, TAZ 633 straddles SUEZ's current service area boundary so most of it is located in the Expansion Area and a small portion is within SUEZ's current service area. In this case, only 95% of the Church Forecast's projected population and households is attributed to the Expansion Area. The rest is attributed to SUEZ's current service area.

For convenience of analyzing forecasted water production, the Expansion Area was divided into five geographic areas described in Section III.B below. This report's Exhibit A contains tables displaying, for each of the five areas, the projected population, households, employment, residential and commercial customers, residential, commercial, and total water sales, and total production in five-year increments though 2065. The final table in Exhibit A shows the aggregate of all five areas—in other words, the total projected growth in the Expansion Area.

The methodologies for projecting residential and commercial customers, water sales for those customers, and total water sales and production are described in the next four subsections.

1299, 1303, 1304, 1309, 1311. Table A5 (found at pages A-112 to A-141 of the *Master Water Plan*'s Appendix A) incorrectly displays 0% for these TAZs which, in fact, are located partly or completely within the Planning Area. The display error had no impact whatsoever on the actual forecast of RAFN. The totals displayed for "Population" and "Households" for each year between 2015 and 2065 are correct, and those are the numbers that matter. The error was a failure to properly display, in a few instances, the number for "Percent of TAZ within Suez's Planning Area." I have reviewed the underlying spreadsheet data and confirmed that the calculation of "Population" and "Households" was calculated based on the correct percentage for each TAZ, not the incorrectly displayed numbers in Table A5. This resulted in a second display error in Table A6 (found at pages A-142 to A-171 of the *Master Water Plan*). TAZs which incorrectly displayed zero percent within the Planning Area were not included in the TAZs displayed in Table A6. However, I have confirmed that those TAZs that were improperly excluded from the display were included in the actual calculation of total "Population" and "Households" shown on pages A-157 and A-171 of the *Master Water Plan*. Thus, for example, the 2065 Population projection for SUEZ's Planning Area is 499,708 (see page A-171 of the *Master Water Plan*). That number is correct. It includes not only the population for each TAZ displayed above it, but also the population within the Planning Area for the 21 TAZs that failed to display. The total number of people (population) that failed to display (excluding prison population, which is not served by SUEZ) was 223. The total number of households that failed to display was 98. In sum, the display error was microscopic and inconsequential. And the effect on the bottom line (RAFN projection) was zero, because those numbers were included in the grand totals.

i. Forecasted Residential Customers

As with the Church Forecast, the forecasted number of households in each TAZ in the Expansion Area is used to determine the forecasted number of residential customers. However, because some households reside within multi-family housing units that are master metered and are classified as commercial water customers the number of SUEZ's residential customers will be somewhat less than the projected number of future households. The ratio of the number of residential customers to the total projected number of households in the Church Forecast was used to forecast the total number of residential customers in the Expansion Area.

ii. Forecasted Commercial Customers

The Church Forecast projects the number of commercial customers in the entire Planning Area based upon the total employment within the Planning Area. Parameters from the Church Forecast were applied to the projected total employment forecasted by TAZ in the Expansion Area to project the future number of commercial customers in the Expansion Area. That is, in general, commercial customers in the Expansion Area is based on the Church Forecast's projection that SUEZ would realize another commercial customer for every thirty-one person increase in employment.

iii. Forecasted Residential and Commercial Water Sales

The forecast of residential and commercial water sales in the Expansion Area is based on the projected number of residential and commercial customers forecasted in the Expansion Area using the same forecasted annual residential and commercial water sales per customer used in the Church Forecast.

iv. Forecasted Total Water Sales and Production

Forecasted residential and commercial water sales for the entire Planning Area in the Church Forecast represent approximately 90 percent of SUEZ's total water sales. The remaining 10 percent or so are water sales to "public authority" customers and to a category classified as "other" water sales.

The forecasted sum of residential and commercial water sales was increased by the ratio of the sum of "public authority" water sales and the category of "other" water sales to the projected total water sales in the Church Forecast.[7] This adjustment yields a

[7] This analysis is slightly different than the public authority and other water sales analysis described in the *Master Water Plan*, which at page 16 describes how public authority sales are based on residential and commercial, while other water sales are based on residential, commercial, and public authority sales combined. The analysis in this report, however, describes both "public authority" and "other" water sales as calculated based on residential and

forecast of total water sales in the Expansion Area.

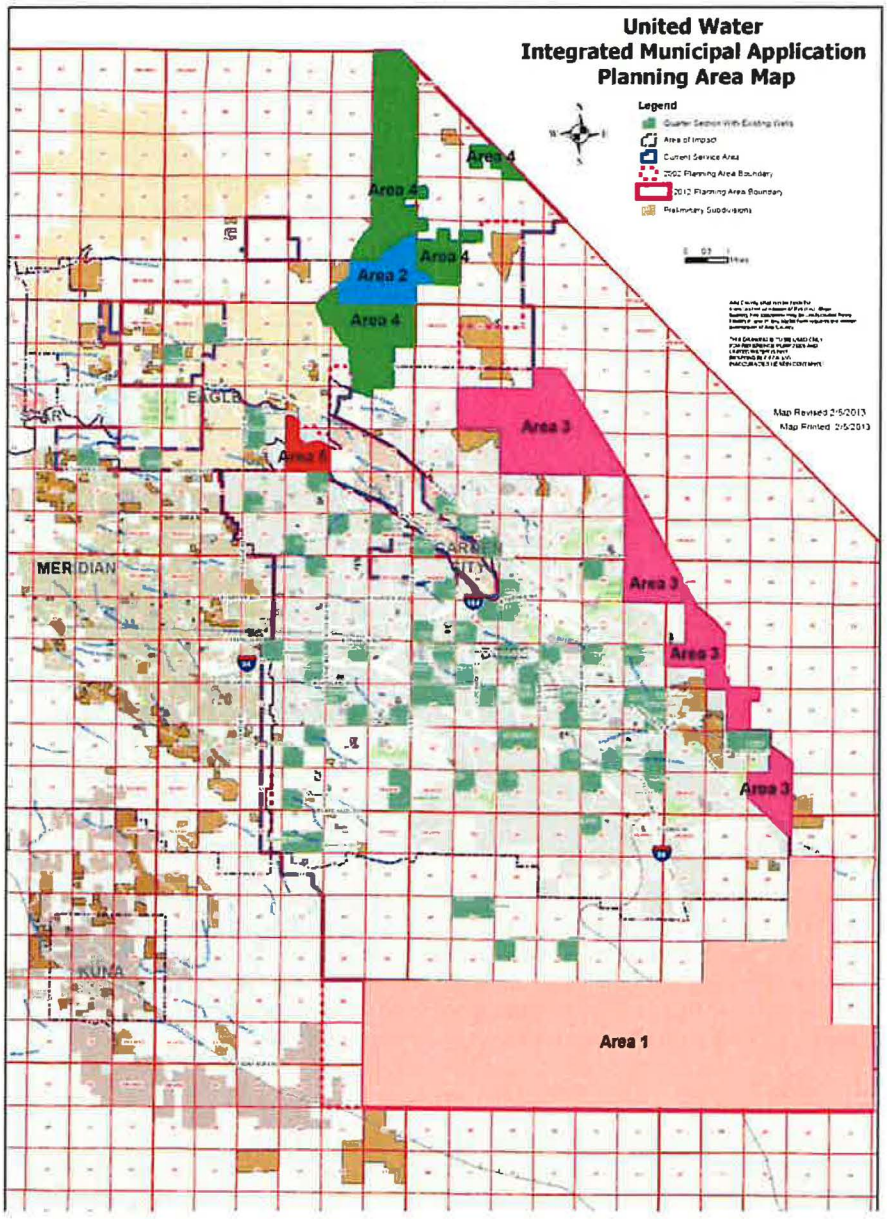
The difference between total water sales and total water production are "non-billed" uses, which are company water use, hydrant water use, and system water losses. These non-billed uses account for approximately 3-4 percent of total water production, and were calculated based on the ratio of total water production compared to the total water sales projected in SUEZ's entire Planning Area in the Church Forecast.

Total water production in the Growth Area was projected by adding total water sales to non-billed production.

B. Expansion Area

For purposes of analyzing forecasted water production, the Expansion Area was divided into five geographic areas described further below and generally depicted on the following map:

commercial customers. Because "other" water sales are such a small fraction of all water sales, this shortcut does not materially affect the outcome of this analysis.


United Water
Integrated Municipal Application
Planning Area Map
Legend
Area of Impact
Current Service Area
2002 Planning Area Boundary
2012 Planning Area Boundary
Preliminary Subdivisions
Map Revised 2/5/2013
Map Printed 2/5/2013
Area 4
Area 4a
Area 4
Area 2
Area 4
Area 3
Area 1
Area 3
Area 3
Area 3
Area 1
EAGLE
MERIDIAN
KUNA

i. Area 1:

Area 1 is the land south of SUEZ's current service area and inside the Planning Area. This area includes land extending south from SUEZ's current service area to approximately one mile south of Kuna-Mora Road, bounded on the west by the north-south meridian that extends north to S. Maple Grove Road extending eastward to approximately two miles east of Interstate 84. This area includes all of TAZs 173, 174, 177, 299, 300, 313, 316, 1290, 1291, and parts of TAZs 172, 176, 315, 1296, 1299, 1303, 1304, 1309, and 1311.

For the purpose of this analysis, the population, households, and employment in TAZs 173 and 299 have been excluded from the Area 1 projections. These two TAZs contain five of Idaho's correctional Institutions: Idaho Correctional Center, the Idaho State Correctional Institution, the South Idaho Correctional Institution, the Idaho Maximum Security Institution, and the South Boise Women's Correctional Center, with an estimated 2015 population of 5,170 with zero households. COMPASS forecasts that these two TAZs will have additional population and employment, but no households, in the year 2040. It is not anticipated that SUEZ will serve any of the population or employment in these two TAZs.

ii. Area 2

Area 2 contains all of TAZ 652 and part of TAZ 633. This area contains the Dry Creek Ranch residential development, which is anticipated to have most of the projected population, households, and employment in the area. SUEZ does not currently serve Dry Creek Ranch (which has its own municipal water supply) although, as with other small water suppliers SUEZ has acquired in the past, it is possible that SUEZ will serve Dry Creek Ranch in the future. In any case, for purposes of this analysis, these TAZs are included in the projected water demand in the Expansion Area.

iii. Area 3

Area 3 contains lands along the foothills north and east of the City of Boise. It includes parts of TAZs 129, 130, 131, 613, 614, 617, 622, 623, 624, 625, 626, 627, 628, 641, and 647. A number of these TAZs contain foothills lands outside of SUEZ's Planning Area where residential and commercial development is less likely. Therefore, in this analysis it was assumed that future population, household, and employment growth within these TAZs will be in and adjacent to SUEZ's current service area.

iv. Area 4

Area 4 contains the projected population, households, and employment associated with portions of TAZs 780 and 781 that are west of State Highway 55 ("SH-55") and portions of TAZs 631, 634, 635, 648, 650, and 651 that are to the east of SH-55. The vast majority

of the projected future growth are in TAZs 780 and 781 which contain the proposed expansion of the Avimor planned community to the west side of SH-55.

v. Area 5

Area 5 is located north of Chinden Boulevard between Cloverdale Road on the west and Five Mile Road on the east. Within Area 5 are portions of TAZs 659, 661, 692, and 738.

Future population, household, and employment growth in the area may be limited because of existing municipal and industrial facilities in the area, including the City of Boise's Joplin Street Water Treatment plant, the Boise Water Shed Project, and the Boise Fire Department's new training facility in TAZ 692. Also, Sunroc Corporation's sand and gravel operation and cement plant takes up the western portion of TAZ 659. TAZ 661 has existing commercial self-storage facilities and some areas of very steep topography.

However, some future population, household, and employment growth is possible in the Expansion Area, mainly in the easternmost end of the TAZ 738. It is projected that an addition of 41 households could be added in this portion of the Expansion Area.

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Exhibit F LIST OF 81 APODs

APODs sought in IMAP

	Original Well Name	Twn	Rge	Sec	Tract
1	Amity (aka Amity #2)	3N	1E	36	NW,NW,NE
2	Arctic #1	3N	2E	8	NE,NE,NE
3	B.I.F.	3N	2E	27	SE,NW,SE
4	Bali Hai #1	3N	1E	3	SW,SE,NE
5	Barber #2 (now Licorice)	3N	3E	28	SW,NW
6	Barber #1 (now Durham)	3N	3E	29	SE,NE
7	Beacon	3N	2E	14	NW,SE,NW
8	Bergeson	3N	2E	26	NW,NE,SE
9	Bethel	3N	2E	7	NE,SW,SW
10	Broadway	3N	2E	22	SE,SE,SE
11	Brookhollow No. 1	3N	1E	15	SE,NE
12	Byrd	3N	2E	33	SW,NE,NW
13	Cassia	3N	2E	16	NE,NE,SE
14	Cassia #2	3N	2E	16	NE,NE,SE
15	Centennial	3N	2E	25	NW,NW,SE
16	Central Park	3N	2E	2	NW,NE,NW
17	Chamberlin #1	3N	2E	22	SE,NW,NE
18	Chamberlin #2	3N	2E	22	SE,NW,NE
19	Cliffside	3N	2E	15	SW,NW,NW
20	Clinton	3N	2E	8	SW,NE,SW
21	Cole	3N	1E	24	NE,NE,SE
22	Country Club	3N	2E	28	SE,NW,NW
23	Country Square	3N	1E	23	NW,NW
24	Countryman Estates	3N	1E	23	SE,NW
25	Edgeview	3N	1E	16	SE,NE
26	Fisk	3N	2E	6	SW,SE,SE
27	Five Mile West #12	3N	1E	27	NW,SW
28	Floating Feather	4N	1E	5	SESW
29	Foxtail (aka Fox Tail #2)	4N	1W	24	SE,SW,SE
30	Franklin Park	3N	2E	18	SW,NW,NE
31	Frontier	4N	1E	34	SE,NE,SW
32	Goddard	4N	1E	36	SW,NE,NW
33	H.P.	4N	1E	27	SW,SE,NE
34	Hidden Valley Estates #1	2N	1E	3	SE,SE
35	Hidden Valley Estates #2	2N	1E	3	NE,SW
36	Hillcrest	3N	2E	20	SE,SE,NE
37	Hilton	3N	2E	17	SE,NE,SW
38	Hummel	3N	2E	18	SW,NE,SW
39	Idaho	3N	2E	4	NE,SW,SW
40	Island Woods #1	4N	1E	16	NE,NW,SW (lot 5)
41	Island Woods #2	4N	1E	21	NW,NW,NW

APODs sought in IMAP

	Original Well Name	Twn	Rge	Sec	Tract
42	J.R. Flat	2N	2E	2	SW,NW,NW
43	Kirkwood	3N	2E	19	SW,NE,NE
44	La Grange	3N	1E	34	NE,SW
45	Logger	3N	2E	24	NW,SW,NW
46	Longmeadow	3N	2E	13	NW,SW,NW
47	Mac	3N	2E	32	SW,NW,NW
48	Maple Hills #1	3N	1E	14	SW,NE,NE
49	Maple Hills #2	3N	1E	14	SE,NE,NE
50	Market	3N	2E	35	NE,NE,NW
51	McMillan	4N	1E	28	SE,SW,SW
52	Warm Springs Mesa #2	3N	2E	24	NE,SW,NE
53	Warm Springs Mesa #3	3N	2E	24	NE,SW,NE
54	Overland #6	3N	2E	19	NW,NE,NW
55	Paradise North	3N	1E	15	NE,SE
56	Pioneer	2N	2E	22	NE,NW,NE
57	Pleasant Valley	2N	2E	21	NW,NE,NW
58	Raptor	2N	2E	17	NW,NW,NW
59	Redwood Creek	4N	1E	7	SWNW (lot 2)
60	River Run	3N	2E	24	NE,SW,SE
61	Roosevelt #1	3N	2E	16	SW,NW,NW
62	Roosevelt #3	3N	2E	16	SW,NW,NW
63	Settlers	4N	1E	35	NW,NE,NW
64	Sherman Oaks	3N	1E	23	SE, SE
65	Sixteenth St.	3N	2E	9	SW,SE,NW
66	Spurwing	4N	1W	23	NE,SW
67	Sunset West #1	3N	1E	36	SE,NE,SE
68	Swift #1	3N	2E	30	SE,SW,SE
69	Swift #2	4N	2E	31	SE,SW,SE
70	Taggart #1	3N	2E	21	SW,NE,NE
71	Taggart #2	3N	2E	21	SW,NE,NE
72	Tenmile	2N	2E	17	NE,SE,NE
73	Terteling	3N	2E	36	NE,SW,NE
74	Twenty-seventh	3N	2E	4	SW,SW
75	Veterans well	4N	2E	32	SW,SE,SE
76	Victory	3N	1E	27	NE,NE
77	Vista	3N	2E	28	NE,NE,NE
78	Westmoreland	4N	2E	31	NE,NW,SW
79	Willow Lane #1	4N	2E	32	NW,NW,NW
80	Willow Lane #2	4N	2E	32	NW,SW,NW
81	Willow Lane #3	4N	2E	32	NW,SW,NW

Exhibit G LIST OF SUEZ APODS IN THE BOISE FRONT GWMA

SUEZ APODs in Boise Front GWMA

Count	Original Well Name	Twn	Rge	Sec	Tract
1	Arctic #1	3N	2E	8	NE,NE,NE
2	B.I.F.	3N	2E	27	SE,NW,SE
3	Barber #2 (now Licorice)	3N	3E	28	SW,NW
4	Barber #1 (now Durham)	3N	3E	29	SE,NE
5	Beacon	3N	2E	14	NW,SE,NW
6	Bergeson	3N	2E	26	NW,NE,SE
7	Bethel	3N	2E	7	NE,SW,SW
8	Broadway	3N	2E	22	SE,SE,SE
9	Byrd	3N	2E	33	SW,NE,NW
10	Cassia	3N	2E	16	NE,NE,SE
11	Cassia #2	3N	2E	16	NE,NE,SE
12	Centennial	3N	2E	25	NW,NW,SE
13	Central Park	3N	2E	2	NW,NE,NW
14	Chamberlin #1	3N	2E	22	SE,NW,NE
15	Chamberlin #2	3N	2E	22	SE,NW,NE
16	Cliffside	3N	2E	15	SW,NW,NW
17	Clinton	3N	2E	8	SW,NE,SW
18	Cole	3N	1E	24	NE,NE,SE
19	Country Club	3N	2E	28	SE,NW,NW
20	Fisk	3N	2E	6	SW,SE,SE
21	Franklin Park	3N	2E	18	SW,NW,NE
22	Frontier	4N	1E	34	SE,NE,SW
23	Goddard	4N	1E	36	SW,NE,NW
24	H.P.	4N	1E	27	SW,SE,NE
25	Hillcrest	3N	2E	20	SE,SE,NE
26	Hilton	3N	2E	17	SE,NE,SW
27	Hummel	3N	2E	18	SW,NE,SW
28	Idaho	3N	2E	4	NE,SW,SW
29	J.R. Flat	2N	2E	2	SW,NW,NW
30	Kirkwood	3N	2E	19	SW,NE,NE
31	Logger	3N	2E	24	NW,SW,NW
32	Longmeadow	3N	2E	13	NW,SW,NW
33	Mac	3N	2E	32	SW,NW,NW
34	Market	3N	2E	35	NE,NE,NW
35	Warm Springs Mesa #2	3N	2E	24	NE,SW,NE
36	Warm Springs Mesa #3	3N	2E	24	NE,SW,NE
37	Overland #6	3N	2E	19	NW,NE,NW
38	River Run	3N	2E	24	NE,SW,SE
39	Roosevelt #1	3N	2E	16	SW,NW,NW
40	Roosevelt #3	3N	2E	16	SW,NW,NW
41	Settlers	4N	1E	35	NW,NE,NW
42	Sixteenth St.	3N	2E	9	SW,SE,NW

SUEZ APODs in Boise Front GWMA

Count	Original Well Name	Twn	Rge	Sec	Tract
43	Swift #1	3N	2E	30	SE,SW,SE
44	Swift #2	4N	2E	31	SE,SW,SE
45	Taggart #1	3N	2E	21	SW,NE,NE
46	Taggart #2	3N	2E	21	SW,NE,NE
47	Terteling	3N	2E	36	NE,SW,NE
48	Twenty-seventh	3N	2E	4	SW,SW
49	Veterans well	4N	2E	32	SW,SE,SE
50	Vista	3N	2E	28	NE,NE,NE
51	Westmoreland	4N	2E	31	NE,NW,SW
52	Willow Lane #1	4N	2E	32	NW,NW,NW
53	Willow Lane #2	4N	2E	32	NW,SW,NW
54	Willow Lane #3	4N	2E	32	NW,SW,NW

Exhibit H **AMENDED PERMIT NO. 63-12310**

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

AMENDMENT OF PERMIT
PERMIT NO. 63-12310

This is to certify, that UNITED WATER IDAHO INC
PO BOX 7488
BOISE ID 83707-1488
has requested a change to the above captioned water right(s). This change in water right(s) is authorized pursuant to the provisions of Section 42-211, Idaho Code. The approved amendment of permit is described as follows:

SOURCE

GROUNDWATER

Priority: January 19, 1996

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION
MUNICIPAL	01/01 to 12/31	3.00 CFS

LOCATION OF POINT(S) OF DIVERSION: Lot 1(SESE), Sec. 32, Township 04N, Range 02E
ADA County

PLACE OF USE: See Remarks

CONDITIONS OF APPROVAL AND REMARKS

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before April 1, 2001.
2. Subject to all prior water rights.
3. After specific notification by the department, the right holder shall install a suitable measuring device or shall enter into an agreement with the department to determine the amount of water diverted from power records and shall annually report the information to the department.
4. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.
5. The right holder shall comply with Idaho well construction standards when constructing a well pursuant to this right.
6. The point of diversion identified in this right is located within the boundaries of the Boise Front Low Temperature Geothermal Resource Groundwater Management Area. The well driller shall monitor water temperatures while drilling the well. If water with a temperature greater than 85 degrees Fahrenheit is encountered by the driller, drilling must immediately cease, and the Department must be notified. Drilling shall not resume until the Department has reviewed the drilling conditions, and established standards for construction with the driller.

MICROFILMED

AUG 2 3 1999

PERMIT NO. 63-12310

CONDITIONS OF APPROVAL AND REMARKS

7. The issuance of this right does not grant any right-of-way or easement across the land of another.
8. Place of use is within the United Water Idaho, Inc. area of certification in and around the City of Boise.

Witness my hand this 16th day of August, 1999

L. Glen Saxton
Chief, Water Allocation Bureau

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

RECEIVED
JUN 11 1996

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 63-95-L-0966-200
Other IDWR No.

2. OWNER:
Name United Water Idaho Inc.
Address P.O. Box 7488
City Boise State Id. Zip 83707

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 2 East ☒ or West ☐
Sec. 32 1/4 SE 1/4 SE 1/4 (10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Ada

Address of Well Site 751 Riviera
City
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☒ Other Reverse

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0'	164'	26,250 lbs	Overburden
#8 #12 Colorado Sand	150'	299'	1350 ft³	Overburden

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y☐ N☐ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+1.5	165'	.375	Steel	☒	☐	☒	☐
10"	150'	177'	.365	Steel	☒	☐	☒	☐
10"	254'	270'	.365	Steel	☒	☐	☒	☐

Length of Headpipe 22' Length of Tailpipe 16'

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Hanson wire wrap

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
177'	254'	.030		10"	SS	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
13 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: 1" Pipe

11. WELL TESTS: UNITED WATER
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
800		150'	4 hrs

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	1	Top soil		X
	1	41	Sand & Gravel	X	
	41	44	Brn Silty Clay		X
	44	46	Fine to Coarse Sand	X	
	46	100	Grey Clay		X
	100	105	Fine to Med Sand	X	
	105	167	Grey Clay		X
18"	167	173	Fine to Med Sand	X	
	173	174	Brn Clay		
	174	184	Fine Brn Sand	X	
	184	187	Brn Clay some Sand		X
	187	192	Fine Brn Sand	X	
	192	197	Brn Clay		X
	197	251	Fine to Med Sand	X	
	251	269	Grey Clay		X

Completed Depth 269' (Measurable)
Date: Started 4-1-96 Completed 5-13-96

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc. Firm No. 333

Firm Official ____ Date ____
and
Supervisor or Operator [signature] Date 6/7/96

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BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF THE BOISE FRONT LOW TEMPERATURE GEOTHERMAL RESOURCE GROUND WATER MANAGEMENT AREA	ORDER ESTABLISHING A GROUND WATER MANAGEMENT AREA

This matter having come before the Director of the Department of Water Resources as a result of declining water levels reported in the low temperature geothermal resource system, the Director Finds, Concludes and Orders as follows:

FINDINGS OF FACT

1. The Director of the Department of Water Resources has the responsibility to administer the ground water basins of the State to protect prior rights yet allow full economic development.

2. There is a growing concern that the present stage of permitted development of the low temperature geothermal resource system in the Boise Front Area may be approaching the conditions of a critical ground water area.

3. Two of the three major users of the thermal system came on line in the early 1980's.

4. Outstanding, approved permits allow for the additional development of more than 30 cubic feet per second from the low temperature geothermal resource system.

5. The early priority user of the thermal system has expressed concern over declines in production and recovery of their wells over the past few years.

6. A preliminary study performed by Boise State University on several wells in a portion of the low temperature geothermal resource system indicates that the resource may be limited and that significant declines in water levels in pumped and monitored wells within the system are occurring.

CONCLUSIONS OF LAW

1. Section 42-226, Idaho Code, declares all ground waters to be the property of the State, and charges the State with supervising the appropriation and allotment of the same so that early appropriation of underground water are protected in the maintenance of reasonable groundwater pumping levels.

2. In order to establish whether withdrawals from the low temperature geothermal resource system are exceeding the capacity of the system to provide an ongoing supply of water and to protect early appropriators, all existing wells and future wells that obtain water either from a depth greater than 300 feet and/or a temperature of 85°F within the area designated, must be monitored and controlled.

3. Section 42-233b, Idaho Code, authorizes the Director of the Idaho Department of Water Resources to designate areas as "ground water management areas" to allow increased management of the ground water resources.

ORDER

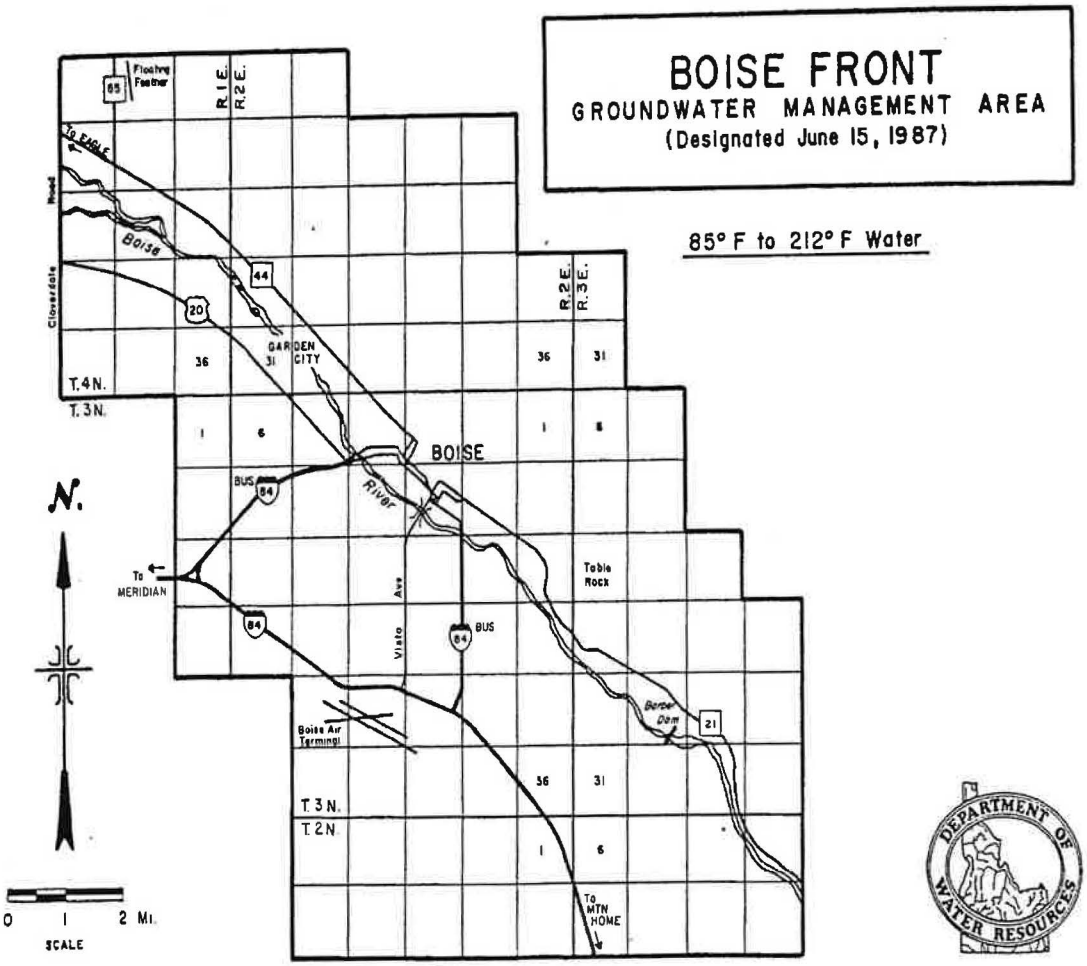
NOW, THEREFORE, IT IS HEREBY ORDERED that the following described area be included within and designated as the "Boise Front Low Temperature Geothermal Resource Ground Water Management Area" pursuant to provisions of Section 42-233b, Idaho Code:

From a point of beginning at the Northeast corner of Sec. 8, T4N, R2E; thence southerly 1 mile to the southeast corner of Sec. 8; thence easterly approximately 3 miles to the northeast corner of Sec. 14; then southerly 2 miles to the southeast corner of Sec. 23; thence easterly 2 miles to the northeast corner of Sec. 30, T4N, R3E; thence southerly 2 miles to the southeast corner of Sec. 31; thence easterly approximately 1 mile to the southeast corner of Sec. 32; thence southerly approximately 2 miles to the northwest corner of Sec. 16, T3N, R3E; thence easterly 1 mile to the northeast corner of Sec. 16; thence southerly 1 mile to the southeast corner of Sec. 16; thence easterly 1 mile to the southeast corner of Sec. 15; thence southerly approximately 5 miles to the southeast corner of Sec. 10, T2N, R3E; thence westerly approximately 9 miles to the southwest corner of Sec. 8, T2N, R2E; thence northerly 4 miles to the southwest corner of Sec. 20, T3N, R2E; thence westerly approximately 2 miles to the southwest corner of Sec. 24, T3N, R1E; thence northerly approximately 4 miles to the southwest corner of Sec. 36, T4N, R1E; thence westerly 2 miles to the southwest corner of Sec. 34; thence northerly approximately 5 miles to the northwest corner of Sec. 10; thence easterly approximately 5 miles to the point of beginning.

IT IS FURTHER HEREBY ORDERED that the resource of concern is the ground water greater than 85°F and/or the ground water at a depth of 300 feet or more below land surface.

DATED this 15th day of June 1987.

A. KENNETH DUNN
Director


BOISE FRONT
GROUNDWATER MANAGEMENT AREA
(Designated June 15, 1987)
85° F to 212° F Water
R.1E.
R.2E.
R.3E.
T.4N.
T.3N.
T.2N.
BOISE
GARDEN CITY
Boise River
Table Rock
Boise Air Terminal
To MERIDIAN
To MTN HOME
BUS
N.
0 1 2 MI.
SCALE
DEPARTMENT OF WATER RESOURCES

June 1988

MANAGEMENT POLICY

FOR

THE BOISE FRONT GROUND WATER MANAGEMENT AREA

I. GENERAL

A. Introduction

Beneficial use of warm ground water for its heat value is a part of the heritage of the Boise area. Wells were constructed as early as the 1890's to increase the available supply. Policies intended to foster the use of renewable energy resources caused a renewed interest in development of the heat resources in the 1970's. Several significant space heating projects commenced using warm water in the early 1980's, and projects to continue expanding the use are now being pursued.

The recent increase of diversions from the aquifer, however, have been accompanied by decreases in aquifer water levels and pressures. Some reduction in temperature has been measured in at least one of the producing systems. On June 15, 1987, the Idaho Department of Water Resources (IDWR) designated the Boise Front Ground Water Management Area (BFGWMA) to allow increased management of the resource (Figure #1). The continued interest in additional development as represented by applications and undeveloped permits continues to concern some existing users. Several petitions were filed in January 1988, seeking a suspension of processing of applications and a moratorium on further development of undeveloped permits.

The purpose of this draft plan is to summarize the present knowledge of the aquifer and the low temperature geothermal resource, review legal responsibilities and authorities, and to propose a policy to guide IDWR administrative actions.

B. The Aquifer

The Boise area is underlain by three aquifer systems: A shallow cold water system, a deeper cold water artesian system and a still deeper low temperature geothermal artesian system. Not all three aquifers exist in all areas. The low temperature geothermal aquifer system, which is the only aquifer addressed in this plan, is thought to be a fractured media ground water system which

produces hot artesian water from the network of fractures of the Boise Frontal fault system and the fractured, layered rhyolite and interbedded sediments of the Idavada Group, and from fractured zones within the Idaho Batholith.

Several possible models have been suggested to describe the occurrence of warm water in the Boise Front area. While there are differences of opinion concerning details of fault orientation and the degree of interconnection between water producing zones, the basic concept of deep circulation into the Boise Front fault system as a source of heat is common to the various models. The warmest water is found at or near the Front fault in springs and wells at the northeast edge of Boise. Temperatures decrease with distance away from the fault to the south and west apparently because of mixing with cold water sources.

C. Present and Proposed Uses

Until the early 1980's, the principal user of the warm water resource was Boise Warm Springs Water District (BWSWD) which provided the resource principally for the heating of homes. This use consisted of the diversion of approximately 800 acre feet (AF) per year which is discharged to surface drains or sewer lines.

There were, however, other existing uses of the resource which were relatively minor in nature such as the heating of greenhouses. Although there was some variation in the resource prior to 1980, the principal changes became apparent when other users started using the resource.

In approximately 1982 Boise Geothermal Ltd. (BGL) constructed four wells for the purposes of heating buildings in downtown Boise. At approximately the same time, the State of Idaho (state) started heating some state owned buildings. The BGL use is approximately 600 AF per year and the state use is approximately 580 AF per year. The state reinjects the water while BGL does not.

The Veterans Administration well is scheduled for use in 1988. The water will be reinjected. Boise is planning to expand its use of the resource to heat buildings at Boise State University and is looking at the possibility of reinjection.

D. Recent Declines

As a result of the increased use of the aquifer, the maximum recovery level of the water table as measured in a BWSWD well located in NW1/4NE1/4 Section 13, T3N, R2E,B.M. has declined 30 feet from 1983 to 1987. A different well monitored by the BLM has declined approximately 26 feet in

the same time period. The water level in the state wells has not significantly changed and declines in BGL wells are presently unknown.

Present rights to use low temperature geothermal water within the BFGWMA are summarized in Table 1. Also listed in Table 1 are estimates of the present diversion rates and volumes under these rights as reported to IDWR or listed in recent reports. Information is not now available to make this table comprehensive, however, it is apparent that present diversion rates are less than 20% of those authorized by permits or licenses or claimed for existing uses. If all existing rights were fully exercised, the diversion rate and the volume withdrawn from the aquifer would be increased by 3 to 4 times the present rate and volume.

The information in Table 1 suggests that some existing and planned uses do not use the resource primarily for the heat value. The information shown has been compiled from a variety of sources in the department's records including well logs, and written and verbal data which has been submitted to the department. The information is as complete and accurate as is presently known or estimated.

The attached summary showing well construction data (Table 2) shows the known and suspected wells which enter the low temperature geothermal aquifer. Information is not available concerning the construction of all of the wells, but the information available suggests that some wells are not constructed to prevent mixing of the upper cold water aquifer and the low temperature geothermal aquifer. The temperature reported for most of the wells places the resource in the low temperature geothermal resource category as defined in Section 42-230, Idaho Code.

II. STATUTORY REQUIREMENTS AND AUTHORITIES

The following management principles and requirements to be followed by the Director of IDWR are supported by the listed statutory authorities.

A. The resource must be managed as a low temperature geothermal resource where the following provisions apply:

1. "Groundwater" is all water under the surface of the ground whatever may be the geological structure in which it is standing or moving. I.C. Sec. 42-230(a).

2. All ground water having a temperature of greater than eighty-five (85) degrees Fahrenheit and less than two hundred twelve (212) degrees Fahrenheit in the bottom of a well shall be classified and administered as a low temperature geothermal resource pursuant to section

42-233, Idaho Code. I.C. Sec. 42-230 (a)(1).

3. All ground water having a temperature of two hundred twelve (212) degrees Fahrenheit or more in the bottom of a well shall be classified as a geothermal resource pursuant to section 42-4002, Idaho Code, and shall be administered as a geothermal resource pursuant to chapter 40, title 42, Idaho Code. (Emphasis added.) I.C. Sec. 42-230(a)(2).

B. The resource is to be allocated and managed using the doctrine of prior appropriation.

1. The right to the use of low temperature geothermal resources of this state shall be acquired by appropriation. I.C. Sec. 42-233(1).

2. As between appropriators, the first in time is first in right. I.C. Sec. 42-106.

3. The appropriation must be for some useful or beneficial purpose, and when the appropriator or his successor in interest ceases to use it for such purpose, the right ceases. I.C. Sec 42-104.

C. Prior appropriations (other than domestic uses which began prior to July 1, 1978) are to be protected to a reasonable ground water pumping level or artesian pressure and the full economic development of the resource shall not be blocked.

The traditional policy of the state of Idaho, requiring the water resources of this state to be devoted to beneficial use in reasonable amounts through appropriation, is affirmed with respect to the ground water resources of this state as said term is hereinafter defined and, while the doctrine of "first in time is first in right" is recognized, a reasonable exercise of this right shall not block full economic development of underground water resources. Prior appropriators of underground water shall be protected in the maintenance of reasonable ground water pumping levels as may be established by the director of the department of water resources as herein provided. In determining a reasonable ground water pumping level or levels, the director of the department of water resources shall consider and protect the thermal and/or artesian pressure values for low temperature geothermal resources and for geothermal resources to the extent that he determines such protection is in the public interest. All ground waters in this state are declared to be the property of the state, whose duty it shall be to supervise their appropriation and allotment to those diverting the same for beneficial use. This act shall not affect the rights to the use of ground

water in this state acquired before its enactment. (Emphasis added.) I.C. Sec. 42-226.

D. "Mining" of the resource is to be prevented.

Water in a well shall not be deemed available to fill a water right therein if withdrawal therefrom of the amount called for by such right would affect, contrary to the declared policy of this act, the present or future use of any prior surface or ground water right or result in the withdrawing of the ground water supply at a rate beyond the reasonably anticipated average rate of future natural recharge. However, the director may allow withdrawal at a rate exceeding the reasonably anticipated rate of future natural recharge if the director finds it is in the public interest and if it satisfies the following criteria:

1. A program exists or likely will exist which will increase recharge or decrease withdrawals within a time period acceptable to the director to bring withdrawals into balance with recharge.

2. Holders of senior rights to use ground water will not be caused thereby to pump water from below the established reasonable pumping level or levels. (Emphasis added.) I.C. 42-237 a.g.

E. The resource is to be primarily used for its heat value.

Usage of a low temperature geothermal resource primarily for reasons other than heat value is not a beneficial use of the resource, unless the director of the department of water resources exempts the proposed use. I.C. Sec. 42-233(1).

F. The resource may be controlled using the application, permit and license procedure.

All rights to divert and use the waters of this state for beneficial purposes shall hereafter be acquired and confirmed under the provisions of this chapter and not otherwise. And after the passage of this title all the waters of this state shall be controlled and administered in the manner herein provided. Such appropriation shall be perfected only by means of the application, permit and license procedure as provided in this title; provided, however, that in the event an appropriation has been commenced by diversion and application to beneficial use prior to the effective date of this act it may be perfected under such method of appropriation. (Emphasis added.) I.C. Sec. 42-201(1).

G. A drilling permit is required.

Prior to constructing or drilling any well, an owner shall obtain a permit from the director of the department of water resources, to protect the public health, safety and welfare and the environment and to prevent the waste or mixture of any water from a well. I.C. Sec. 42-235.

H. Areas of common ground water supply may be determined.

In connection with his supervision and control of the exercise of ground water rights the director of the department of water resources shall also have the power to determine what areas of the state have a common ground water supply. I.C. Sec. 42-237 a.g.

I. Reasonable pumping levels or artesian pressures and rates of future natural recharge (aquifer yield) may be determined.

To assist the director of the department ofwater resources in the administration and enforcement of this act, and in making determinations upon which said orders shall be based, he may establish a ground water pumping level or levels in an area or areas having a common ground water supply as determined by him as hereinafter provided. I.C. Sec. 42-237 a.g.

J. Ground water management areas, critical ground water areas, areas of drilling concern, and moratoriums on applications and permits may be declared.

1. "Critical ground water area" is defined as any ground water basin, or designated part thereof, not having sufficient ground water to provide a reasonably safe supply for irrigation of cultivated lands, or other uses in the basin at the then current rates of withdrawal, or rates of withdrawal projected by consideration of valid and outstanding applications and permits, as may be determined and designated, from time to time, by the director of the department of water resources. I.C. Sec 42-233a.

2. "Ground water management area" is defined as any ground water basin or designated part thereof which the director of the department of water resources has determined may be approaching the conditions of a critical ground water area. I.C. Sec. 42-233b.

3. The director of the department of water resources may designate as he determines necessary, "areas of drilling concern" on an aquifer by aquifer basis within which drillers must comply with the additional requirements of this section. The director shall designate "areas of drilling concern" to protect public health and to prevent waste or contamination of ground

or surface water because of factors such as aquifer pressure, vertical depth of the aquifer, warm or hot ground water, or contaminated ground or surface waters. I.C. 42-238(7).

4. After notice, to suspend the issuance or further action on permits or applications as necessary to protect existing vested water rights or to ensure compliance with the provisions of chapter 2, title 42, Idaho Code, or to prevent violation of minimum flow provisions of the state water plan. I.C. Sec. 42-1805(7) and Water Appropriation Rule 7.

K. Unauthorized diversions may be prevented.

1. To seek a preliminary or permanent injunction, or both, or a temporary restraining order restraining any person from violating or attempting to violate: a) those provisions of law relating to all aspects of the appropriation of water, distribution of water, headgates and measuring devices; or b) the administrative or judicial orders entered in accordance with the provisions of law. I.C. Sec. 42-1805(9).

2. If the director of the department of water resources finds, on the basis of available information, that a person is diverting water from a natural watercourse or from a ground water source without having obtained a valid water right to do so or is applying water not in conformance with the conditions of a valid water right, then the director of the department of water resources may issue an order directing the person to cease and desist the activity or activities alleged to be in violation of applicable law or of any existing water right. A cease and desist order may direct compliance with applicable law and with any existing water right or may provide a time schedule to bring the person's actions into compliance with applicable law and with any existing water right. I.C. Sec. 42-351(1).

L. Waste and contamination may be controlled.

1. In the administration and enforcement of this act and in the effectuation of the policy of this state to conserve its ground water resources, the director of the department of water resources is empowered to require both flowing and nonflowing wells to be so constructed and maintained as to prevent the waste of ground waters through leaky wells, casings, pipes, fittings, valves or pumps either above or below the land surface. I.C. Sec. 42-237a.

2. Any person owning or controlling an artesian well shall maintain the well to prevent waste or contamination of

ground waters through leaky casings, pipes, fittings, valves, pumps, seals or through leakage around the outside of the casings, whether the leakage is above or below the land surface. I.C. Sec. 42-1601(2).

III. MANAGEMENT GOALS

The goals for management of the BFGWMA are:

A. Protect the existing users under the doctrine of prior rights.

This protection will not consist of total preservation of the artesian pressure and flow rate occurring at the time an existing right was developed and may not be the pressure and rate occurring today. The prior existing users are to be protected by management to assure:

1. An adequate water supply for the beneficial use authorized at a reasonable efficiency of use as determined by the Director.

2. An adequate water temperature as determined by the Director for the use authorized, and

3. An artesian pressure or pumping level adequate to allow the authorized use to continue as determined by the director.

B. Allow full use of the low temperature geothermal resource to maximize public benefit.

Full use of the resource includes:

1. A recognition that the resource is to be used primarily for its heat value.

2. All uses, new and existing, must use the resource with reasonable efficiency to prevent waste of the heat in the resource.

3. Encourage transfers or contracts among existing users to most efficiently use the resource within the limits of existing water rights.

C. Provide clear understandable management policies for the resource.

IDWR's management policies need to be available in written form and available to existing and potential future users of the resource as well as to the public. These policies must:

1. Maintain consistency in IDWR actions,

2. Minimize administrative paper work,

3. Minimize management cost to users and the public, and

4. Provide a reliable basis for actions of both users and IDWR.

D. Stabilize depletions from the aquifer at existing or reasonable rates (whichever is less), until a new equilibrium condition can be accurately predicted. The goals of protection for existing users and for maximizing public benefit from the resource may appear to be in conflict, one seeking to minimize the number of users and the other seeking to maximize development. IDWR must balance these goals to obtain a workable management plan. The key to balance is adequate knowledge of the resource. In particular, IDWR needs reliable estimates of the volume of water the resource can yield, how this volume changes if water levels or pressures are reduced in the aquifer, the effect of reduced water levels or pressures on water temperature, the degree of interconnection between present and future wells, how interconnection can be minimized, and a workable estimate for reasonable pumping (pressure) levels.

Development of this information will be facilitated by the maintenance of stable conditions in the aquifer.

IV. OBJECTIVES TO MEET GOALS

A. Existing Uses

1. Each use will be limited to the lesser of the recorded right, beneficial use being made of the water or sustained historic diversion rate and/or volume.

2. Use with reasonable efficiency will be required.

3. IDWR will require the substitution of cold water resources for existing uses that do not need the heat value of the low temperature geothermal resource, wherever practical.

4. Well and system construction to prevent waste above and and below ground will be required.

5. Reinjection will be required unless it can be shown to the satisfaction of the Director that reinjection is not economically and technically feasible.

6. Uniform monitoring equipment, data collection, and reporting will be required where possible.

7. Diversion and use of water will be administered through the authority in Sections 42-237a.g., 42-311, 42-350 and 42-351, Idaho Code, until a water district can be formed.

8. IDWR will create a water district and appoint a watermaster upon entry of an interim decree in the Snake River Adjudication (or other adjudication) to measure and deliver water to the users.

B. Undeveloped and Partially Developed Permits

1. Permits to use the low temperature geothermal resource for which the full extent of authorized diversion rate, volume and beneficial use has not been diverted and beneficially used may not be further developed until IDWR determines from information submitted that further development will not:

   a) Increase depletions from the aquifer,

   b) Increase pumping lift or decrease pressurefor existing senior users,
   c) Reduce temperature to existing users causing systems operating at reasonable efficiency to no longer operate.

   Permit holders may submit proposed mitigation approved by IDWR to accomplish a), b), and c).

   Further development can only occur if specifically authorized by IDWR after review and approval of development plans and other applicable information.

2. Permits which do not use heat as a primary purpose will be cancelled.

3. Reinjection to the aquifer will be required unless determined by the Director to be unreasonable.

4. All systems will be required to use water and heat with a reasonable efficiency as determined by the Director.

C. Applications

1. Pending and future applications will be rejected unless information is provided by the applicant to demonstrate the use will not cause:

   a) Additional depletion of the aquifer,

   b) An increase in pumping lift or pressure reduction

to existing users or undeveloped permit holders,

c) Temperature to be reduced to present users or undeveloped permit holders below that necessary for a system operating at reasonable efficiency to operate.

Applicants may propose mitigation necessary to accomplish a), b), and c).

2. Protested applications will not be set for hearing unless the Director makes a preliminary determination that a), b) and c) are satisfied or acceptable mitigation has been proposed.

3. The applicant is responsible to provide all existing users and holders of undeveloped permits a copy of the application and supporting information upon request.

4. Applications which do not propose heat as the primary use will be rejected. Exceptions will be considered based upon the following factors:

   a) Reinjection is proposed.
   b) The system is designed to achieve reasonable efficiency.
   c) Only non consumptive uses are proposed.
   d) Water quality will not be impaired.
   e) A reliable practical source of cold water does not exist.

5. Domestic uses (exempted from the filing of a water appropriation permit by Sec. 42-227, Idaho Code) will be authorized only after approval of a drilling prospectus submitted with the required drilling permit.

V. ADMINISTRATIVE ACTIONS REQUIRED TO IMPLEMENT OBJECTIVES

A. Impose a moratorium pursuant to Section 42-1805(7), Idaho Code, and Rule 7 of the Water Appropriation rules on further development of undeveloped permits until IDWR determines further development is authorized.

B. Require uniform monitoring equipment, data collection and reporting where possible.

C. Require existing users to have systems evaluated by a qualified licensed engineer or geologist with a report to IDWR to confirm adequacy of system construction (including wells) to prevent waste and to use water and heat with reasonable efficiency as determined by the Director. The studies shall include an analysis of the

practicality and efficiency of reinjecting all or a portion of water diverted and retrofitting of existing systems. For systems which do not use or need the heat value of the resource, an analysis of the practicality of substituting a cold water source will be required.

D. Issue administrative orders to enjoin unauthorized or excessive use and to require system reconstruction or repair and reinjection.

E. Continue IDWR data collection efforts and seek funding to conduct studies to increase knowledge of aquifer, water, and heat resources.

F. Issue administrative orders to amend licenses and permits within the BFGWMA which show "heating" as a use but which do not take water from the low temperature geothermal aquifer.

G. Require a drilling prospectus to be submitted for review and approval with each drilling permit proposing to construct a well into the low temperature geothermal aquifer or which exceeds a 300 ft depth.

H. Retain designation as a ground water management area rather than revise the designation to a critical ground water area. This will keep in place the authority to require instrumentation, monitoring, reporting and recordkeeping.

I. Require applicants for water appropriation to furnish sufficient technical data and plans to allow a preliminary determination by the Director that water is available, that existing users will not be damaged, and that depletion of the aquifer will not be increased. Applications will not be advertised and protest hearings will not be scheduled until an affirmative preliminary determination is made by IDWR.

J. Develop a complete inventory of wells constructed into the low temperature geothermal aquifer.

Signed this 30th day of June, 1988 in Boise, Idaho.

R. KEITH HIGGINSON, Director

Review of Boise Front Low Temperature Geothermal Monitoring Data for Water Year 2018 (October 1, 2017 – September 30, 2018)

Mike McVay, Technical Hydrogeologist
Idaho Department of Water Resources (IDWR)

February 14, 2019

EXECUTIVE SUMMARY

The total gross withdrawal from the four district heating systems in the Downtown Boise-East Boise area of the Boise Front Low Temperature Geothermal Resources Ground Water Management Area in Water Year 2018 (WY18) was 845.5 million gallons (mgal), which is 17.8 mgal less than in Water Year 2017 (WY17). The City of Boise system increased gross withdrawals in WY18 by 22 mgal. However, the City of Boise also injected more water in WY18, and the net withdrawal in WY18 was 3.8 mgal less than in WY17. The combined net withdrawal for all systems in WY18 was 256 mgal, which is 9.7 mgal less than WY17. The other three systems all decreased net withdrawals. Approximately 70% of the water withdrawn in WY18 was re-injected, which is an increase of about 2% from WY17.

In general, both the shallowest water levels (maximums) and deepest water levels (minimums) rose in WY18. The maximum water level for the BLM well rose 1.35 feet, and the minimum value rose 0.5 feet. The monitoring equipment in the Kanta well failed in October 2017, and was reset in September 2018; therefore, only the change in maximum water level is presented. The Kanta well maximum water level rose 0.4 feet. The changes in maximum water levels for the three Boise Warm Springs Water District (BWSWD) wells were as follows: a rise of 3 feet in the East well, no change in the West well, and a rise of 3 feet in BWSWD #3. The minimum water levels for the East and West wells were 64 and 45 feet higher, respectively, and the minimum water level for BWSWD#3 did not change.

The maximum water temperature for the State of Idaho Capitol Mall Production well, as determined on a monthly basis, was 0.4 degrees Fahrenheit (°F) lower in WY18. The average of the monthly temperatures was also 0.4°F lower in WY18. The maximum temperature for BWSWD system was 1°F lower in WY18; however, the WY17 value is based on a single reading in 2017. The maximum water temperature for the City of Boise system was about 0.2°F lower in WY18.

Withdrawals and Re-Injection

Combined gross and net withdrawals from the four Downtown Boise-East Boise district heating systems were 845.5 mgal and 256 mgal, respectively, in WY18 (Table 1 and Figure 1). Gross withdrawals were reduced 17.8 mgal (-2%), and net withdrawals were reduced 9.7 mgal (-4%). Approximately 70% of the fluids were re-injected, which is a 2% increase over WY17.

Table 1. Withdrawals[1] from the four district geothermal heating systems in the Downtown Boise-East Boise areas for Water Year 2018 (October 1, 2017 through September 30, 2018).

System	Gross Withdrawals (million gallons) and percent change from WY17 to WY18	Net Withdrawals[1] (million gallons) and percent change from WY17 to WY18
Boise Warm Springs Water District	240.6 (-2%)	240.6 (-2%)
State of Idaho Capitol Mall[3]	81.9 (-10%)	0 (NC[2])
City of Boise	312.5 (+8%)	15.41 (-20%)
Veterans Administration	210.4 (-11%)[3]	0 (NC[2])
Total	**845.5 (-2%)**	**256 (-4%)**

[1]Net Withdrawals equal Gross Withdrawals minus Injection amounts. [2]NC = No change. [3]Veterans Administration WY17 gross withdrawal was miscalculated; the WY17 to WY18 change has been calculated using the corrected value.

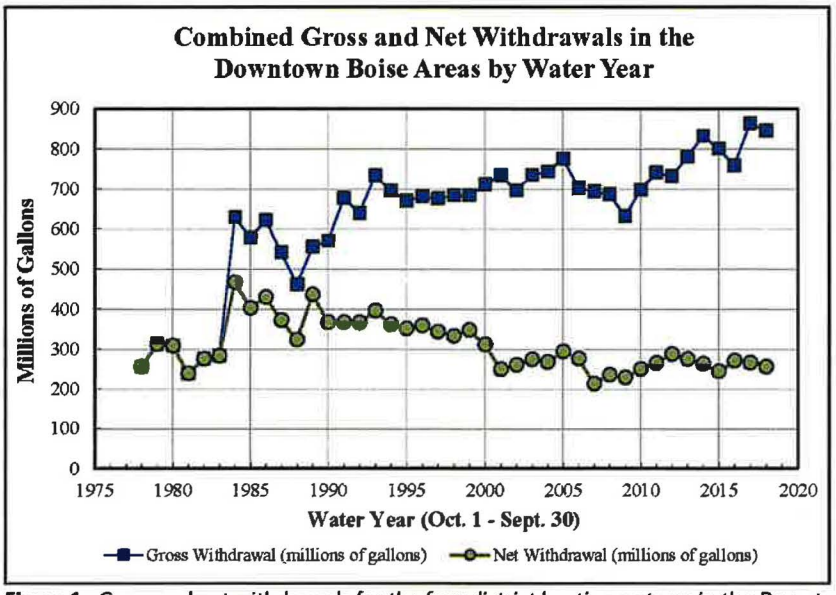


Figure 1. Gross and net withdrawals for the four district heating systems in the Downtown Boise area for water years 1978 through 2018.

The changes from WY17 to WY18 reflect the long-term trends in gross and net withdrawals. The trends in combined gross and net withdrawals are +5.4 and -4.6 mgal/year, respectively, and both trends are statistically significant (Table 2).

Table 2. Gross and net withdrawal trends and significance for the four district geothermal heating systems in Downtown Boise-East Boise areas for WY90 – WY18.

Withdrawals	Withdrawal Trends (mgal per year)[1]	Withdrawal Trend p-value[2]
Gross Withdrawals	**5.4**	**0.00**
Net Withdrawals	**-4.6**	**0.00**

[1] Trends and significance have been calculated using the statistical approach known as the Mann-Kendall test.

[2] P-values less than 0.05 indicate the trend is significant at the 95% confidence interval.

The City of Boise is the only system that increased gross withdrawals in WY18. Although the City's withdrawals grew by 22 mgal (+8%), net withdrawals were 3.75 mgal less (-20%) than WY17 due to increased injection. The other three systems decreased gross withdrawals, and either decreased or held net withdrawals constant in WY18.

Water Levels in the BLM, Kanta, BWSWD, City of Boise, and Harris Ranch Wells

The BLM well is located near the City of Boise, Capitol Mall, and VA wellfields, which makes it a good indicator of system water levels. The maximum water level rose 1.3 feet from WY17 to WY18, and the minimum water level rose 0.5 feet (Figure 2).

The monitoring equipment in the Kanta well began to malfunction in October 2017, and was reset in September 2018 (Figure 3). The City has addressed the equipment issue and has resumed data collection. The maximum water level in September 2018 is assumed to represent the water-year maximum water level because the maximum water level often occurs near the end of September, but this assumption results in more uncertainty than if data had been collected over the entire water year. Using the September 2018 data, the maximum water level rose 0.4 feet from WY17 to WY18. The data gap prevents an analysis of changes in minimum water level.

The BGL #1 well continued to have unusually high values for the manual measurements, which were noted in previous reports (Figure 4). The transducer measurements indicate that the maximum water level in BGL1 fell 1.3 feet from WY17 to WY18, and the minimum water level rose 0.5 feet. The Harris Ranch wells have decreased 0.7 feet and 0.8 feet over the last two years (Figure 5).

The BWSWD East and West wells both had single readings of zero feet below their measuring points in WY17 and WY18 (Figures 6 and 7). During WY16 and WY 17, zeros were recorded when the wells flowed over the top of the well casings. Because the wells cannot be shut-in, the true water levels are unknown when a zero is recorded. If the zero readings are ignored,

then maximum water levels in the East and West wells experienced a rise of 3 feet and no change, respectively. Beginning in WY18, a "zero" is recorded when the water level is exactly at the top of the casing and "+1" when the water is flowing over the casing top; subsequent water-level analyses will include the zero values. The BWSWD #3 well maximum water level rose 3 feet in WY18. The minimum values for the East and West wells were 64 and 45 feet higher, respectively. The minimum value for the BWSWD #3 well did not change.

Water levels have generally risen over the last 14 years, with statistically significant rising trends in 4 of 5 wells analyzed. The water-level trends in BWSWD#3 are statistically insignificant, indicating that the water levels have remained statistically constant since WY05.

Table 3. Water-year water-level trends for select wells in the Downtown Boise-East Boise areas for WY05 – WY18.

Wells	Max Water Levels Trend (ft. per year)[1]	Max WL Trend p-value[2]	Min Water Levels Trend (ft. per year)	Min WL Trend p-value
BLM Well	**0.5**	**0.00**	**0.8**	**0.02**
Kanta Well	**0.4**	**0.00**	NA	NA
City of Boise[3]	NA	NA	NA	NA
Boise Warm Springs Water District[4]	0.33	0.15	0.74	0.3
Harris Ranch[5]	**0.6**	**0.00**	**0.6**	**0.00**

[1] Trends and significance have been calculated using the statistical approach known as the Mann-Kendall test.

[2] P-values less than 0.05 indicate the trend is significant at the 95% confidence interval.

[3] Water-level trend has been not been calculated for BGL#1 nor BGL#2 due to lack of reliable data during the WY05 – WY18 period.

[4] Water-level trend has been calculated for only BWSWD#3.

[5] Water-level trend has been calculated for only Harris Ranch West.

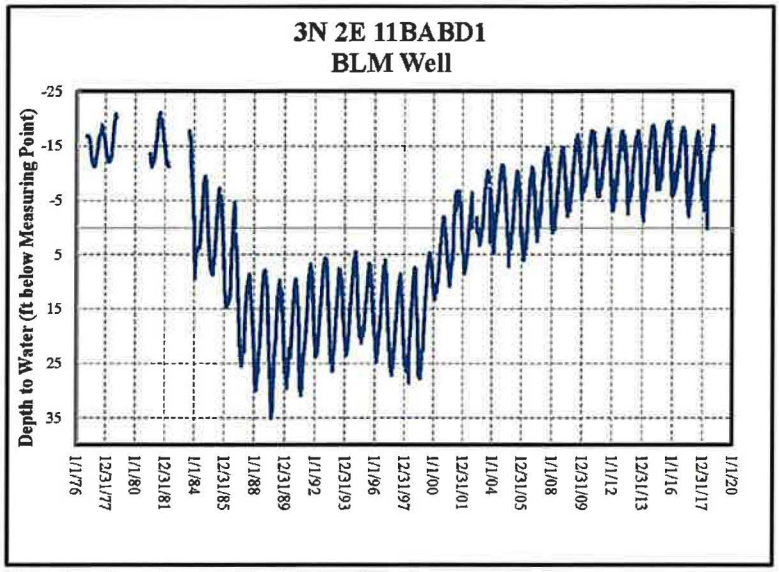


Figure 2. Water levels in the BLM well.

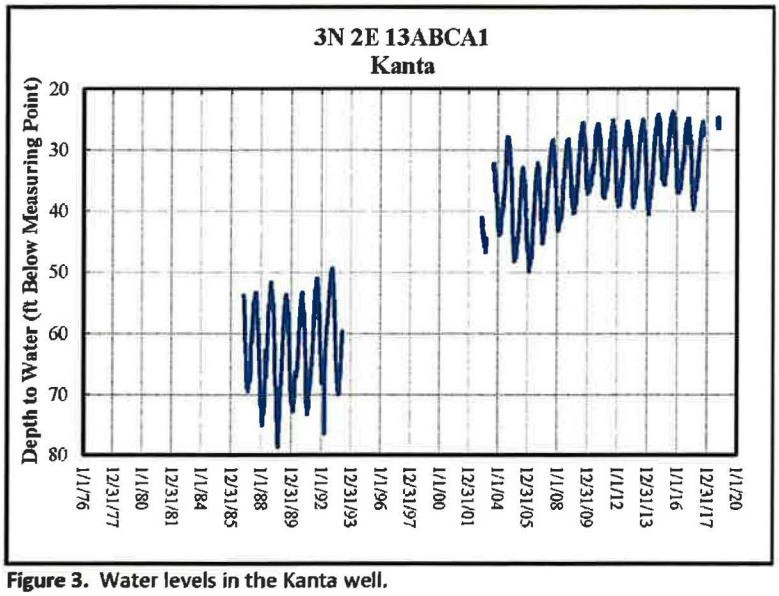


Figure 3. Water levels in the Kanta well.

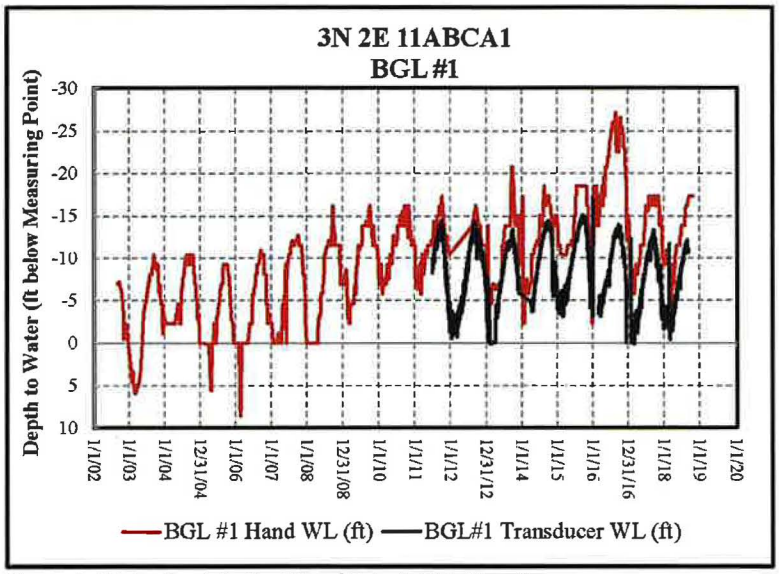


Figure 4. Water levels in the City of Boise's BGL #1 well.

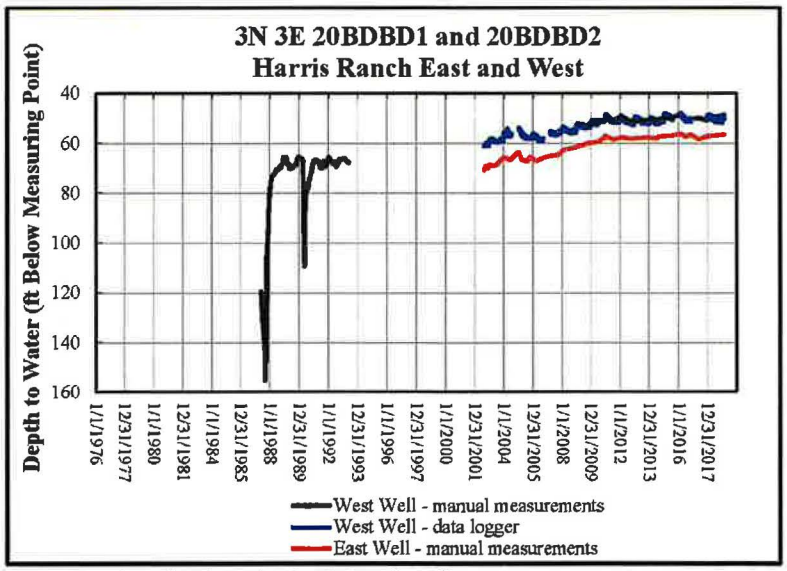


Figure 5. Water levels in the Harris Ranch wells.

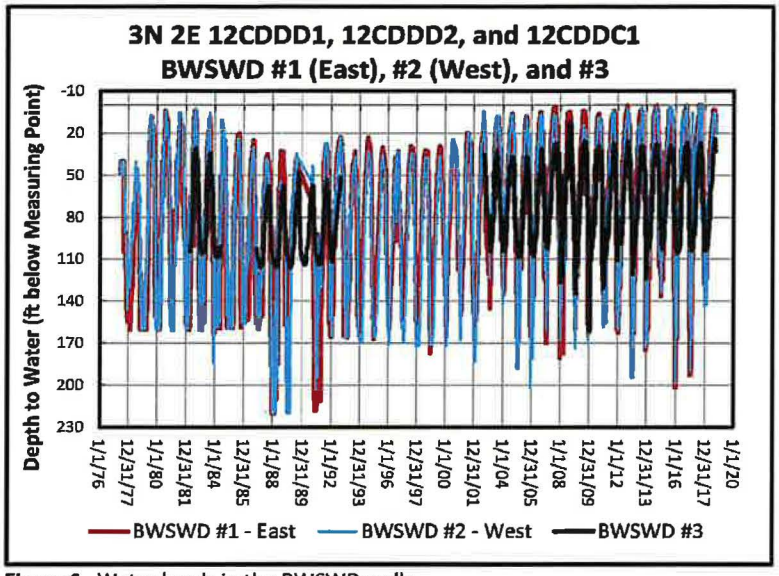


Figure 6. Water levels in the BWSWD wells.

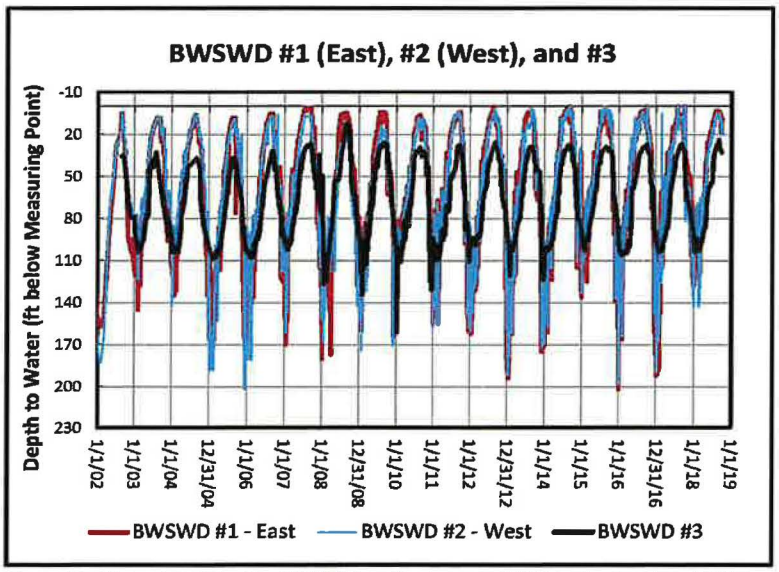


Figure 7. Water levels in the BWSWD wells, January 2002 to September 2018.

Water Supply Temperatures for the Capitol Mall, BWSWD and City of Boise.

The maximum temperature for the BWSWD system was 1°F lower in WY18 (Figure 8); however, the WY17 value is based on a single reading in 2017. The very small calculated trend in water temperature is not statistically significant, which means maximum water temperatures have remained statistically constant since 2005 (Table 5).

The maximum monthly water temperature for the State of Idaho Capitol Mall Production well[1] was 0.4°F lower in WY18 (Figure 9). The water-year average of the maximum monthly temperatures was also 0.4°F lower in WY18 (Figure 10). It is important to note that in some water years, data that met the requirements for analyses were available for six months; in other years, fewer than six months had temperature data that met the requirements. Despite the decline in temperature over time that is visible in Figures 9 and 10, the trend is insignificant (Table 5). Therefore, the water-year average of the maximum monthly water temperatures have been statistically constant over the span of WY05 – WY18.

The maximum daily-average water temperature for the City of Boise was about 0.2°F lower in WY18 (Figure 11). Despite the temperature decline from WY17 to WY18, the calculated trend is not statistically significant, and the maximum daily-average temperatures have remained statistically constant since 2004 (Table 5).

Table 5. Water-year temperature trends in the four district geothermal heating systems in the Downtown Boise-East Boise areas for WY05 – WY18.

System	Calculated Trend (°F per year)[2]	Trend p-value[3]
Boise Warm Springs Water District	0.003	0.46
State of Idaho Capitol Mall	-0.02	0.22
City of Boise	0.002	0.96
Veterans Administration	NA	NA

[2] Trends and significance have been calculated using the statistical approach known as the Mann-Kendall test.

[3] P-values less than 0.05 indicate the trend is significant at the 95% confidence interval.

[1]Readings that are preceded by 8 hours of discharge rates over 300 gallons per minute are valid for use in this analysis.

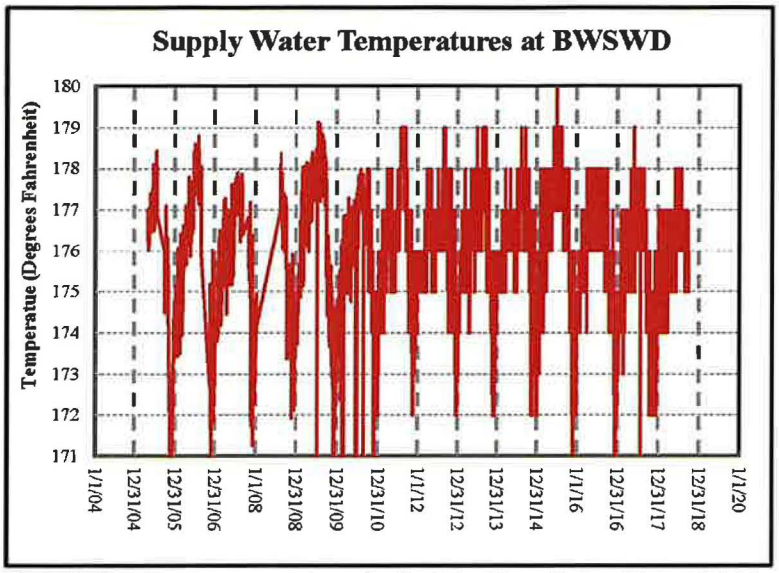


Figure 8. Supply water temperatures for the Boise Warm Springs Water District.

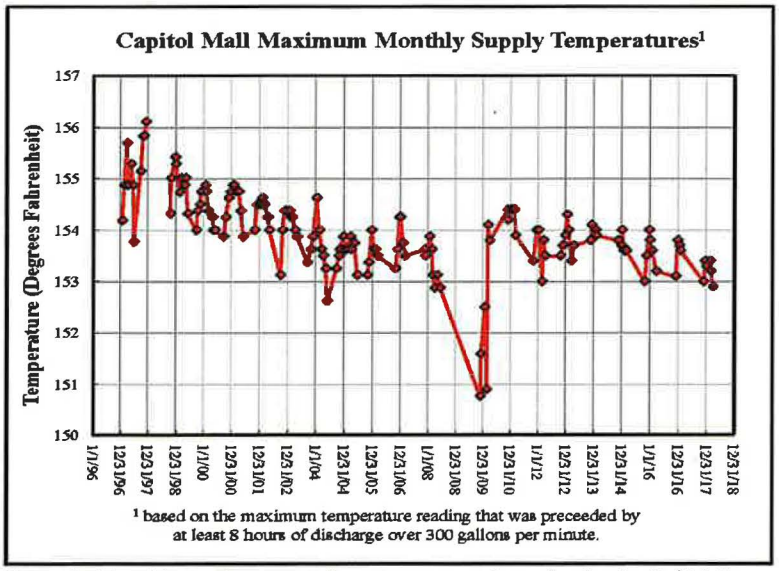


Figure 9. Monthly maximum supply water temperatures for the Capitol Mall geothermal system.

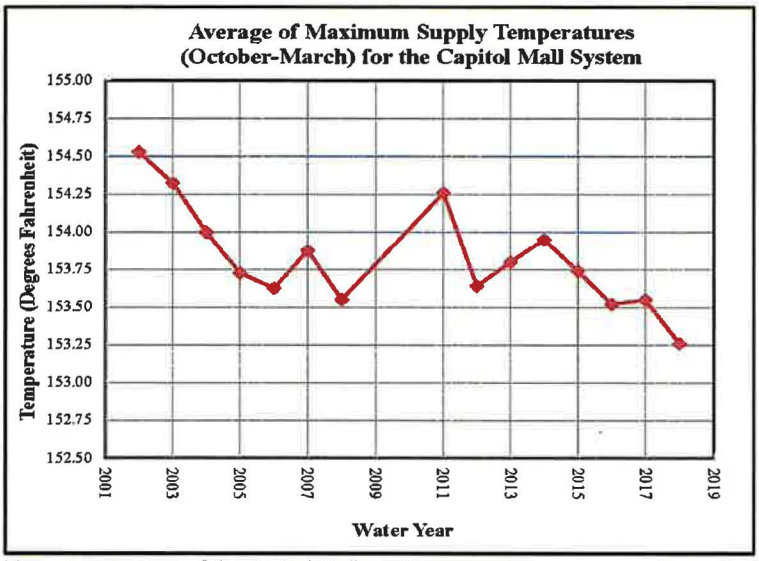


Figure 10. Average of the Capitol Mall maximum supply water temperatures for the October-March time periods for Water Years 2002 through 2018.

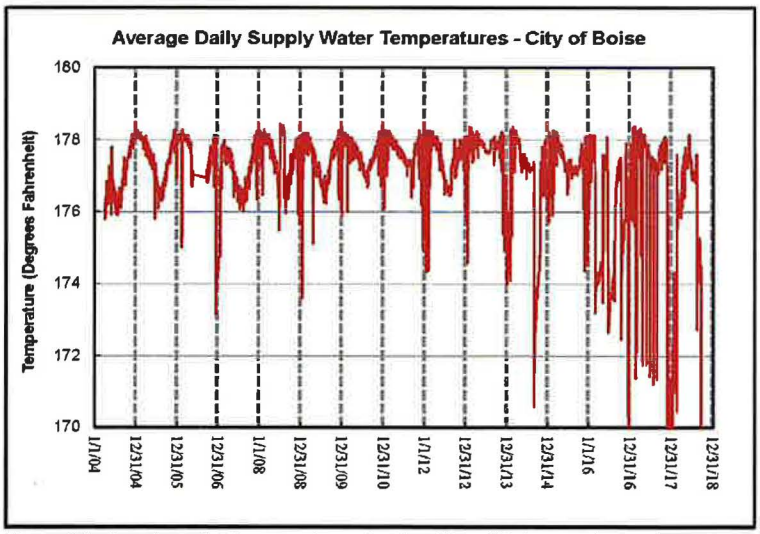


Figure 11. Supply water temperatures for the City of Boise geothermal system. Readings less than 170°F were omitted from the analysis.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE BOISE FRONT LOW TEMPERATURE GEOTHERMAL RESOURCE GROUND WATER MANAGEMENT AREA	**ORDER EXTENDING MORATORIUM**

BACKGROUND

On June 15, 1987, the Director of the Idaho Department of Water Resources ("IDWR") designated the Boise Front Low Temperature Geothermal Resource Ground Water Management Area ("Boise Front GWMA") in Ada County, Idaho, due to reported declines in aquifer water levels and water pressure. A map of the Boise Front GWMA is attached hereto as Attachment A.

On June 10, 1988, IDWR issued an order establishing a five (5) year moratorium to prevent further development or additional use of the low temperature geothermal ("LTG") water resource within the Boise Front GWMA.

On June 11, 1993, September 1, 1998, November 25, 2003, April 14, 2009, and April 29, 2014, the Director of IDWR issued orders each extending the moratorium for a period of five years.

FINDINGS OF FACT

1. Recent studies of the Boise Front Low Temperature Geothermal Resource, including IDWR's annual review of Boise Front geothermal monitoring data, focus on three areas within the geothermal system: the Downtown Boise-East Boise area, the Stewart Gulch area (Water District 63-S), and the Harris Ranch area. Wells in these areas generally encounter the warmest LTG water, share common uses, and have more available data than LTG wells in other areas along the Boise Front. Water users in these three areas have historically expressed concern about possible effects associated with proposed increases in LTG water withdrawals from the system.

Downtown Boise-East Boise Area

2. The Downtown Boise-East Boise area defines a sub-region within the Boise Front GWMA, which is comprised of four separate LTG heating systems including the Boise Warm Springs Water District system, the State of Idaho Capitol Mall system, the City of Boise system, and the Veterans Administration system. In *Review of Boise Front Low Temperature Geothermal Monitoring Data for Water Year 2018*[1], IDWR concluded that gross withdrawals for

[1] Water Year 2018 started on October 1, 2017 and ended on September 30, 2018.

the four Downtown Boise-East Boise area heating systems declined 2%, while net withdrawals declined 4% compared to the previous water year. Since Water Year 2013, gross withdrawals have generally increased from a low of 781 million gallons to 846 million gallons per water year. Net withdrawals have generally decreased from 275 to 256 million gallons per water year.

3. IDWR reviews LTG monitoring data, including depth to water recorded either as shut-in pressure for flowing wells, or distance from a measuring point near land surface to water surface for non-flowing wells, from the following wells in the Downtown Boise-East Boise area: the United States Bureau of Land Management ("BLM") well; Boise Warm Springs Water District's ("BWSWD") #1 (East supply), #2 (West supply), and #3 (monitoring) wells; the Kanta well; Boise Geothermal, Ltd. ("BGL") #1, #2, #3, and #4 wells; and the Veteran's Administration production well. The non-pumping wells (BLM, Kanta, BGL #1, and BWSWD #3) are the most useful wells for determining trends in this area. These wells show fairly stable water levels from Water Year 2009 through Water Year 2018, which follows a distinct increasing water level trend from Water Year 2000 to Water Year 2009.

4. In *Review of Boise Front Low Temperature Geothermal Monitoring Data for Water Year 2018*, IDWR concluded that peak water levels from Water Year 2003 through Water Year 2018 in the BLM and Kanta wells exhibited statistically significant increasing water-level elevation trends of 0.5 and 0.4 feet/year, respectively.

5. IDWR reviews geothermal monitoring data, including water supply temperature, from the Capitol Mall, BWSWD, and City of Boise systems in the Downtown Boise-East Boise area. The water supply temperatures in these systems have remained fairly stable for the past several years.

6. IDWR authorized additional use under permits 63-9138 and 63-9139 in the name of the City of Boise for Water Years 2014, 2015, 2016, and 2017. The orders permitting the additional use increased the maximum allowable annual pumping volume of the geothermal resource by the City of Boise from 267 million gallons per year to 310 million gallons per year. The issuance of license 63-9139 on April 27, 2018, authorizes a maximum allowable annual pumping volume of the LTG resource by the City of Boise of 310 million gallons per year. The City of Boise relinquished permit 63-9138 on July 16, 2018.

7. IDWR authorized additional use under existing permit 63-34326 in the name of the City of Boise for Water Years 2018. The order permitting the additional use increased the maximum allowable annual pumping volume of the LTG resource by the City of Boise from 310 million gallons per year to 325 million gallons per year.

8. The City of Boise has increased pumped volumes since Water Year 2013 from 266.50 million gallons per year to 312.5 million gallons per year in Water Year 2018. IDWR has authorized the City of Boise to increase use to 355 million gallons per year for Water Year 2020.

Stewart Gulch Area (Water District 63-S)

9. IDWR formed Water District 63-S to administer LTG ground water rights in the Stewart Gulch area. IDWR reviews geothermal monitoring data, including well head pressure

(in flowing wells) and depth (distance) from top of well casing to the water surface within the well (in non flowing wells), from the following wells in Water District 63- S: the Edwards well; the TTCI 36th Street Silkey (shed), Tiegs (triangle), and Office (house) wells; Quail Hollow Upper (Tee Ltd.) and Lower (Nibbler) wells; the Terteling Ranch "windsock" and "pool" wells, and the Stralow (Niznik) well. In *Watermaster's Report Water District 63-S (Stewart Gulch) October 1, 2017 to September 10, 2018* prepared by Michael McVay, Water District 63-S Water Master, concludes that withdrawals increased 13% from Water Year 2017 to Water Year 2018. Since Water Year 2014, withdrawals have generally increased from a low of 170 million gallons to 202 million gallons. The overall trend in combined withdrawals for Water District 63-S indicates withdrawals in the district have not consistently increased or decreased since Water Year 2003.

10. Ground water levels decreased slightly from Water Year 2013 to Water Year 2018 in Water District 63-S in several of the wells. Withdrawals decreased sharply from Water Year 2015 to 2016, remained fairly constant through Water Year 2017, and then increased sharply from Water Year 2017 to 2018. Withdrawals have decreased at Quail Hollow from Water Year 2015 to 2018, with water levels declining in both the Upper and Lower Quail Hollow wells. Regardless of the reduction in Quail Hollow withdrawals, the Quail Hollow Wells appear to responding to the increased combined Water District 63-S withdrawals. Water levels declined in the Edwards and Tiegs wells from Water Year 2015 to 2018. Despite the lack of an increasing trend in the combined withdrawal volume, the minimum water levels in the Tiegs well, the Edward Greenhouse well, and the Quail Hollow Upper well exhibit a downward trend from Water Year 2003 to 2018. These observations demonstrate that aquifer pressures/water levels in Water District 63-S respond quickly to changes in withdrawal. Continued monitoring and self-regulation of withdrawals by the district water users is very important to confirm and maintain stability of the LTG resource in this area.

Harris Ranch Area

11. The *Review of Boise Front Low Temperature Geothermal Monitoring Data for Water Year 2018* concludes that water surface elevations in the Harris Ranch West and East wells showed slight decreasing trends in Water Year 2018. Peak water levels from Water Year 2003 through Water Year 2018 in the Harris Ranch (west) well exhibited a statistically significant increasing water-level elevation trend of 0.6 feet/year. Overall, water surface elevations in both wells have been steadily increasing since 2003.

12. The *Investigation of Hydrogeologic Conditions and Ground Water Flow in the Boise Front Geothermal Aquifer (Executive Summary)*, prepared by the Idaho Water Resources Research Institute in October of 2003, concluded that LTG water in the Downtown Boise-East Boise area and the Harris Ranch area are hydraulically connected. The conclusion implies that trends in water surface elevations in the Harris Ranch area likely reflect the pumping and recharge activity in the Downtown Boise-East Boise area.

13. Water level data collected from Water Year 2012 to 2018 at the Harris Ranch wells have distinctly different water level signatures than the Downtown Boise-East Boise wells. There is an offset of up to several months in the maximum and minimum values between the two areas.

Domestic Wells

14. IDWR has issued drilling permits for domestic uses, as defined by Idaho Code § 42-111, within the Boise Front GWMA. LTG water may be diverted from some of the wells constructed under these domestic drilling permits.

15. On April 14, 2009, the Director of IDWR issued the *Final Order Extending Moratorium,* to be effective on May 5, 2009. The extension prohibited appropriation of LTG ground water, including the appropriation of LTG ground water for domestic purposes under Idaho Code § 42-111. The extension also provided that IDWR shall process and consider, and may approve, applications to appropriate water for domestic use of LTG ground water underlying the Boise Front GWMA from owners of existing domestic wells whose use satisfied the limitations of Idaho Code § 42-111, if the well was constructed and used prior to the date of the extension.

CONCLUSIONS OF LAW

1. Idaho Code § 42-233 states, in part:

> (1) The right to the use of low temperature geothermal resources of this state shall be acquired by appropriation, except as provided in subsection (2) of this section. The appropriation may be perfected by means of the application, permit and license procedure as provided in this chapter for ground water, provided that low temperature geothermal resources shall be utilized primarily for heat value and secondarily for the value as water. Usage of a low temperature geothermal resource primarily for reasons other than heat value is not a beneficial use of the resource, unless the director of the department of water resources exempts the proposed use. The director may exempt a proposed use if the director finds that the proposed use satisfies the following criteria: (i) there is no feasible alternative use of the resource; (ii) there is no economically viable source of water having a bottom hole temperature of eighty-five (85) degrees or less in a well available; and (iii) the exemption is in the public interest.

2. Idaho Code § 42-226 states, in part:

> Prior appropriators of underground water shall be protected in the maintenance of reasonable ground water pumping levels as may be established by the director of the department of water resources as herein provided. In determining a reasonable ground water pumping level or levels, the director of the department of water resources shall consider and protect the thermal and/or artesian pressure values for low temperature geothermal resources and for geothermal resources to the extent that he determines such protection is in the public interest.

3. Idaho Code § 42-1805(7) authorizes the Director to suspend the issuance or further action on permits or applications to appropriate water as necessary to protect existing water rights.

4. IDAPA Rule 37.03.08.055 (Water Appropriation Rule 55) authorizes the Director

to cease approvals of applications and undeveloped permits in a designated geographical area upon finding a need to protect existing water rights.

5. Without the full allowable stress to the aquifer system having yet occurred in the Downtown Boise-East Boise area, it is unknown how this resource, and the likely hydraulically connected Harris Ranch area, will respond to the maximum potential diversion withdrawal of 355 million gallons per year by the City of Boise. It is in the public interest to protect the LTG resource in both of these areas and to continue to monitor the effects of increased withdrawals.

6. The direct response of well head pressures and water levels to changes in withdrawals is well documented in the Stewart Gulch area, where increases in withdrawal rates leads to an almost immediate decline in well head pressures or water levels within monitored flowing and non-flowing wells. It is in the public interest to protect the LTG resource in this area.

7. The legislature has instructed the Director, when determining reasonable pumping levels, to protect artesian pressures of LTG aquifers if protection is found to be in the public interest.

8. It is in the public interest to protect the existing LTG aquifer pressures.

9. Extension of the moratorium is appropriate.

The Effect of the Moratorium on Domestic Uses

10. Idaho Code § 42-233 separately and specifically requires a prospective appropriator to file an application for and obtain a water right prior to beneficially using LTG water in the state of Idaho.

11. Idaho Code § 42-227 does not exempt prospective appropriators of LTG water for domestic uses, as defined by Idaho Code § 42-111, from the application and water right requirements of Idaho Code § 42-233.

12. A domestic ground water right from LTG water cannot be perfected by beneficial use, but must be established by the filing of an application with IDWR and subsequent approval by IDWR as a water right.

13. Idaho Code § 42-1805(7) authorizes the Director to suspend the issuance of permits or actions on applications to appropriate water as necessary to protect existing water rights. LTG ground water rights must be established by an approved permit, and the Director has the authority to suspend action on applications to appropriate LTG water for domestic use.

14. Idaho Code § 42-235 states in part:

> Prior to beginning construction of any well, or changing the construction of any well, the driller or well owner shall obtain a permit from the director of the

department of water resources to protect the public health, safety and welfare and the environment... .

15. Idaho Code § 42-231 states, in part:

It shall likewise be the duty of the director of the department of water resources to control the appropriation and use of the ground water of this state as in this act provided and to do all things reasonably necessary or appropriate to protect the people of the state from depletion of ground water resources contrary to the public policy expressed in this act.

16. To protect the artesian pressures of the LTG aquifer underlying the Boise Front GWMA, the Director should not approve drilling permits for any purpose in the Boise Front GWMA, including domestic use, unless the applicant for a drilling permit holds a water right authorizing diversion of LTG water from a point of diversion at the proposed well site.

17. Owners of domestic wells diverting water from the LTG aquifer that were constructed prior to May 5, 2009 without a water right should be entitled to seek a water right for the existing domestic use as defined by Idaho Code § 42-111.

ORDER

IT IS HEREBY ORDERED, pursuant to Idaho Code § 42-1805(7) and IDAPA Rule 37.03.08.055 (Water Appropriation Rule 55), that the order dated June 10, 1988, establishing a moratorium on further development, and additional use of the LTG water resource in the Boise Front GWMA is extended for five (5) years, from May 5, 2019, unless rescinded or modified by order of the Director or a court of competent jurisdiction.

IT IS FURTHER ORDERED that the moratorium prohibits appropriation of LTG water, including the appropriation of LTG ground water for domestic purposes as defined in Idaho Code § 42-111.

IT IS FURTHER ORDERED that IDWR shall not issue drilling permits for domestic purposes as defined by Idaho Code § 42-111, or for any other purpose, to construct or modify a well proposing, or resulting in, a production zone within the LTG aquifer underlying the Boise Front GWMA unless the proposed construction is for a well described as a point of diversion by a valid water right or water right permit authorizing the appropriation of LTG ground water.

IT IS FURTHER ORDERED that further development of additional use pursuant to undeveloped or partially developed permits is prohibited until the permit holder shows to the satisfaction of the Director that further development or additional use: a) will not increase depletions from the aquifer; b) will not increase pumping lift or decrease pressure or existing prior users; and c) will not reduce temperature to existing users causing systems operating at reasonable efficiency to no longer operate.[2]

---

[2] This prohibition does not apply to City of Boise permit 63-34326. The City of Boise may continue to develop permit 63-34326 consistent with the *Stipulated Agreement* approved by

IT IS FURTHER ORDERED that pending and future applications will be rejected unless information is provided to demonstrate the use: a) will not increase depletions from the aquifer; b) will not increase pumping lift or decrease pressure or existing prior users; and c) will not reduce temperature to existing users causing systems operating at reasonable efficiency to no longer operate.[3]

IT IS FURTHER ORDERED that IDWR shall process and consider, and may approve, application to appropriate water for domestic use of LTG ground water underlying the Boise Front GWMA from owners of existing domestic wells whose use satisfies the limitations of Idaho Code § 42-111 if the well was constructed and used prior to May 5, 2009.

IT IS FURTHER ORDERED that IDWR shall serve a copy of this order by certified mail upon holders of applications and undeveloped permits proposing appropriation in the Boise Front GWMA and shall publish notice of this order for three consecutive weeks as required by IDAPA Rule 37.03.08.055 (Water Appropriation Rule 55).

IT IS FURTHER ORDERED that this order shall be effective on May 5, 2019.

IT IS FURTHER ORDERED that unless the right to a hearing before the Director is otherwise provided by statute, any person who is aggrieved by the action of the Director, and who has not previously been afforded an opportunity for a hearing on the matter, shall be entitled to a hearing before the Director to contest the action. The person shall file with the Director, within fifteen (15) days after receipt of written notice of the action issued by the director, or receipt of actual notice, a written petition stating the grounds for contesting the action by the Director and requesting a hearing. *See* Idaho Code § 42-1701A(3).

Dated this 3rd day of May 2019.

Gary Spackman

GARY SPACKMAN
Director

IDWR. *Order Accepting Settlement*, In the Matter of Application to Appropriate Water No. 63-34326 in the Name of the City of Boise (Oct. 16, 2017).

[3] Pursuant to the June 1988 *Management Policy for the Boise Front Ground Water Management Area*, Section V, Part G, IDWR may also "Require a drilling prospectus to be submitted for review and approval with each drilling permit proposing to construct a well into the low temperature geothermal aquifer or which exceeds a 300 ft. depth."

Attachment A

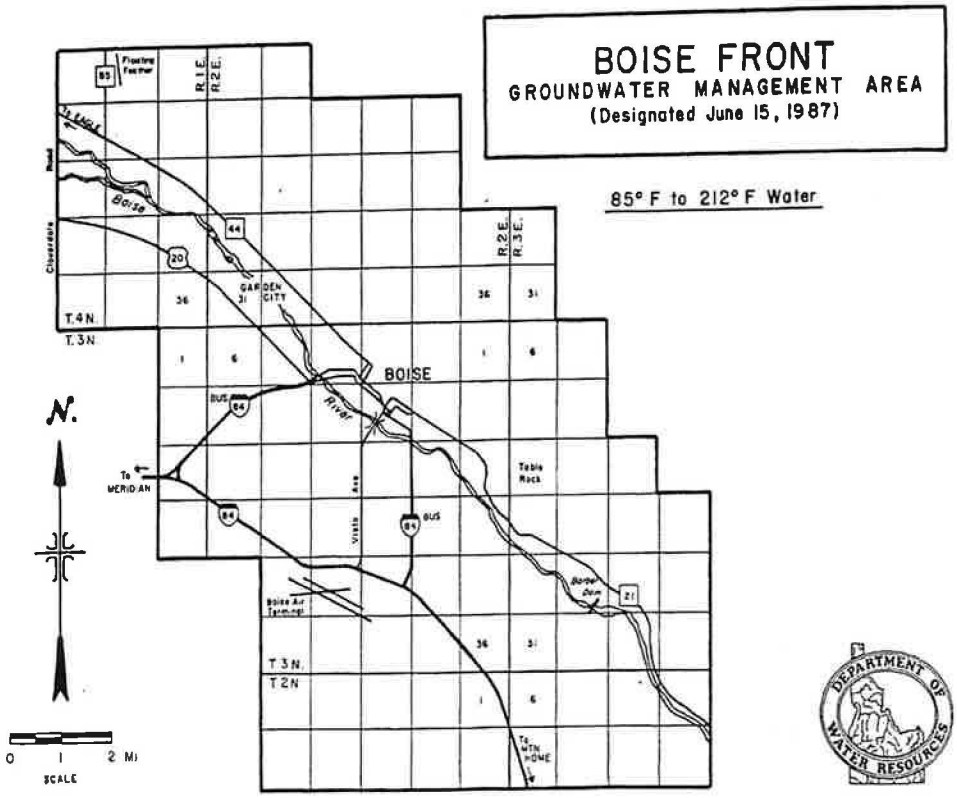


Exhibit J APPROVED TRANSFER NO. 72036 (WATER RIGHT NO. 63-12363)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

TRANSFER OF WATER RIGHT

TRANSFER NO. 72036

This is to certify that: UNITED WATER IDAHO INC
8248 W VICTORY RD
PO BOX 190420
BOISE ID 83719-0420
(208)362-7358

has requested a change to the water right(s) listed below. This change in water right(s) is authorized pursuant to the provisions of Section 42-222, Idaho Code. A summary of the changes is also listed below. The authorized change for each affected water right, including conditions of approval, is shown on the following pages of this document.

Summary of Water Rights Before the Proposed Change

Right	Origin/Basis	Priority	Rate	Volume	Acre Limit	Total Acres	Source
63-12363	WR/License	09/09/1996	4.5 cfs	N/A	N/A	N/A	GROUND WATER

Associated Water Rights Also Included in Transfer Approval (Conditions Updated)

63-11558	WR/License	06/24/1991	2.67 cfs	N/A	N/A	N/A	GROUND WATER

Purpose of Transfer (Changes Proposed)

Current Number	Split	POD	POU	Add POD	Period of Use	Nature of Use
63-12363	NO	NO	NO	YES	NO	NO

Summary of Water Rights After the Approved Change

Existing Right	New No. (changed portion)	Transfer Rate	Transfer Volume	Acre Limit	Total Acres	New No. (remaining portion)	Remaining Rate	Remaining Volume	Remaining Acre Limit	Remaining Total Acres
63-12363	**63-12363**	4.5 cfs	N/A	N/A	N/A		N/A	N/A	N/A	N/A
COMBINED TOTALS		**4.5 cfs**	**N/A**	**N/A**	**N/A**		N/A	N/A	N/A	N/A

Detailed Water Right Description(s) attached

Dated this 17th day of September, 20 10

John Westra

John Westra, Western Regional Manager

WATER RIGHT NO. 63-12363
As Modified by Transfer No. 72036

In accordance with the approval of Transfer No. 72036, Water Right No. 63-12363 is now described as follows.

Right Holder: UNITED WATER IDAHO INC
8248 W VICTORY RD
PO BOX 190420
BOISE ID 83719-0420

Priority Date: September 09, 1996

Source: GROUND WATER

BENEFICIAL USE	From	To	Diversion Rate
MUNICIPAL	01/01	to 12/31	4.50 CFS
			4.50 CFS

LOCATION OF POINTS OF DIVERSION:

GROUND WATER	SWSESE	Sec. 6	Twp 03N	Rge 02E	ADA County
GROUND WATER	NENESE	Sec. 16	Twp 03N	Rge 02E	ADA County

CONDITIONS OF APPROVAL

1. Place of use is within the service area of United Water Idaho as provided for under Idaho law. The place of use is generally described as within the city limits of Boise and the surrounding service area.
2. A map depicting the place of use boundary for this water right at the time of this approval is attached to this document for illustrative purposes.
3. The right holder shall accomplish the change authorized by this transfer within one year of the date of this approval.
4. Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
5. Prior to diversion of water under this approval, the right holder shall provide a means of measurement acceptable to the Department from all authorized points of diversion which will allow determination of the total rate of diversion.
6. The total instantaneous diversion of water from all points of diversion under Right 63-12363 shall not exceed 4.50 cfs.
7. After specific notification by the Department, the right holder shall record the quantity of water diverted or shall enter into an agreement with the Department to determine the amount of water diverted from power records and shall annually report the information to the Department.
8. Rights 63-11558 and 63-12363 when combined shall not exceed a total diversion rate of 5.50 cfs from the Fisk well located in the SWSESE, S6, T3N, R2E.

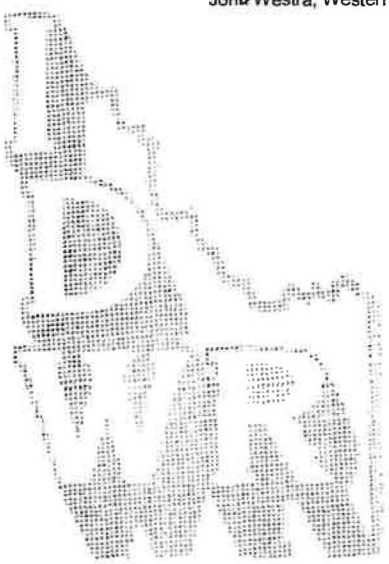
WATER RIGHT NO. 63-12363
As Modified by Transfer No. 72036

9. Points of diversion are locally known as Cassia #2 Supply Well and the Fisk Well.

This water right is subject to all prior water rights and shall be administered in accordance with Idaho law and applicable rules of the Department of Water Resources.

Dated this 17th day of September, 2010

John Westra, Western Regional Manager



WATER RIGHT NO. 63-11558
As Modified by Transfer No. 72036

In accordance with the approval of Transfer No. 72036, Water Right No. 63-11558 is now described as follows.

Right Holder: UNITED WATER IDAHO INC
8248 W VICTORY RD
PO BOX 190420
BOISE ID 83719-0420

Priority Date: June 24, 1991

Source: GROUND WATER

BENEFICIAL USE	From	To	Diversion Rate
MUNICIPAL	1/01	12/31	2.67 CFS
			2.67 CFS

LOCATION OF POINT OF DIVERSION:
GROUND WATER SESE Sec. 6 Twp 03N Rge 02E ADA County

CONDITIONS OF APPROVAL

1. Rights 63-11558 and 63-12363 when combined shall not exceed a total diversion rate of 5.50 cfs from the Fisk well located in the SWSESE, S6, T3N, R2E.
2. After specific notification by the department, the right holder shall install a suitable measuring device or shall enter into an agreement with the department to determine the amount of water diverted from power records and shall annually report the information to the department.
3. Place of use within city limits of Boise and surrounding service area.

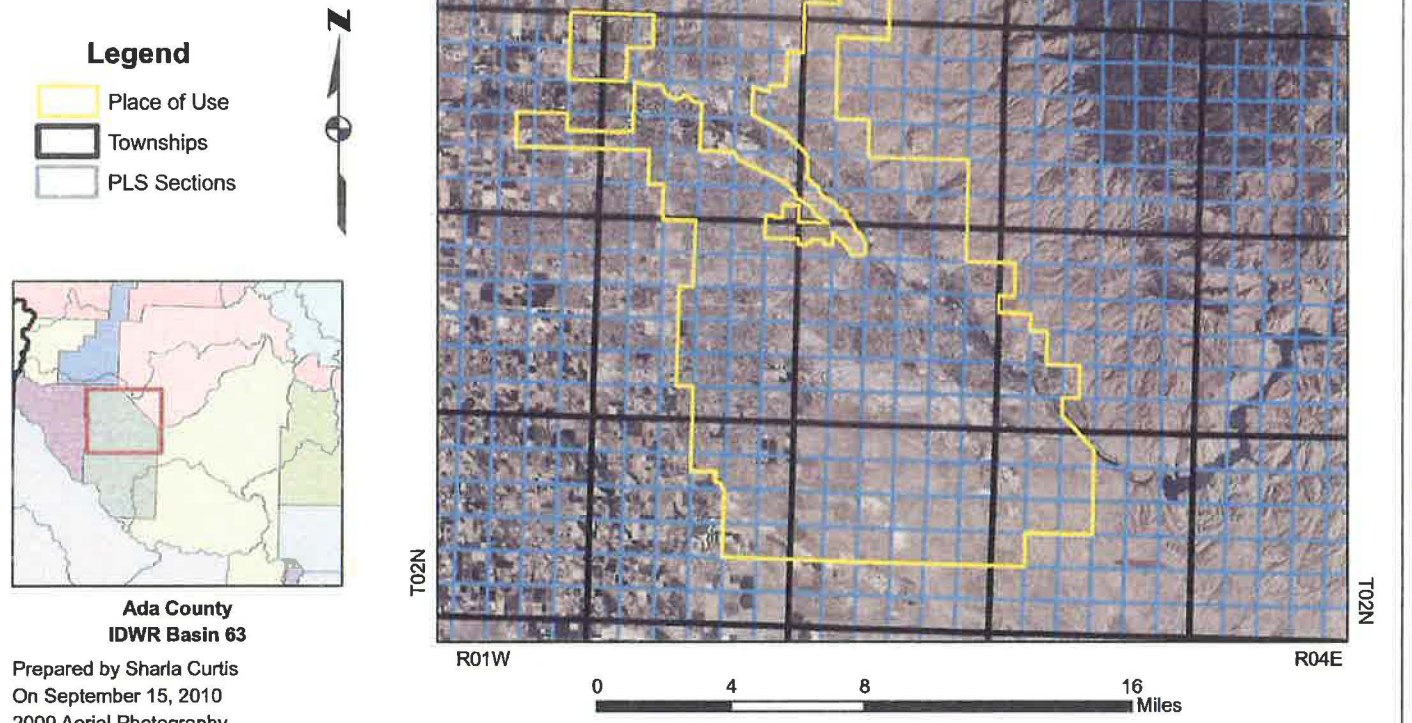
This water right is subject to all prior water rights and shall be administered in accordance with Idaho law and applicable rules of the Department of Water Resources.

Dated this 17th day of September, 2010

John Westra, Western Regional Manager

Idaho Department of Water Resources

Water Right
63-12363
(MUNICIPAL)



Legend

- Place of Use
- Townships
- PLS Sections

Ada County
IDWR Basin 63

Prepared by Sharla Curtis
On September 15, 2010
2009 Aerial Photography

[Blank page inserted to facilitate double-sided printing and tabbing of exhibits.]

Exhibit K FOXTAIL WELL DOCUMENTS

Form 238-7
3/95

C

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

66619

Tag: D0001038

Office Use Only
Inspected by _____
Twp ___ Rge ___ Sec ___
___1/4 ___1/4 ___1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63 - 96 - W - 0737 - 000
Other IDWR No. 63-12362

2. OWNER:
Name GRAY D. LASHER
Address PO BOX 967
City CALDWELL State ID Zip 83606

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4N North ☐ or South ☐
Rge. 1W East ☐ or West ☐
Sec. 24 SW 1/4 (10 acres) SE 1/4 (40 acres) 1/4 (160 acres)
Gov't Lot ____ County ADA
Lat: : : Long: : :
Address of Well Site
800 W. CHINDEN BLVD City MERIDIAN
(Give at least name of road + Distance to Road or Landmark)
Lt. 3 Blk. 1 Sub. Name FOXTAIL

4. USE: FIRE PROTECTION
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other

5. TYPE OF WORK check all that apply NEW WELL (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD REVERSE CERULATION
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	100	17500#	POURED

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) NO
Was drive shoe seal tested? ☐ Y ☒ N How? X

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
16"	+2'	243	250	STEEL	☐	☐	☒	☐
16"	283	293	250	STEEL	☐	☐	☒	☐
					☐	☐	☒	☐

Length of Headpipe ____ Length of Tailpipe 10

9. PERFORATIONS/SCREENS
☐ Perforations Method
☒ Screens Screen Type HOUSTON

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
243	283	35		16"	MILD STE	☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
31 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: 2" X2" Pipe With Cap Weld at 22' to case

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Pumping Level	Time
N/A GPM	N/A	N/A FT	N/A HR.

Water Temp. COLD Bottom hole temp. COLD
Water Quality test or comments: CLEAR, GOOD, NO SMELL
Depth first Water Encountered ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	3	TOPSOIL		X
	3	07	HARD DRY CLAY		X
	07	40	RIVER ROCK	X	
	40	49	BRN CLAY		X
	49	60	SAND GRAVEL W/CLAY STRICKS	X	
	60	65	FINE WHITE SAND	X	
	65	70	BRN CLAY		X
	70	74	SAND	X	
	74	82	BRN CLAY		X
	82	92	FINE SHARP SAND	X	
	92	100	VERY FINE BRN SAND	X	
	100	102	BRN CLAY		X
	102	118	SAND GRAVEL	X	
	118	127	BRN CLAY		X
	127	134	VERY FINE SAND	X	
	134	141	BRN CLAY		X
	141	149	CRSE SAND	X	
	149	154	BRN CLAY		X
	154	158	SAND	X	
	158	172	BRN CLAY		X
	172	183	SAND	X	
	183	188	BRN CLAY		X
	188	195	MED SAND	X	
	195	196	CLAY		X
	196	201	SAND	X	
	201	230	BRN CLAY		X
	230	233	SAND	X	
	233	243	SANDY BRN CLAY	X	
	243	249	CRSE SAND	X	
	249	250	SANDY CLAY	X	
	250	292	CRSE TO MED SAND	X	
	292	300	BLUE CLAY	X	
	300	304	BRN CLAY		X

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Completed Depth 293 FT. (Measurable)
Date: Started 6/17/97 Completed 7/2/97

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING CO., INC. Firm No. 213
Firm Official Ann Cope Date 8-4-97
and
Supervisor or Operator J.M. Wyman Date 8-4-97
(Sign once if Firm Official & Operator)

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

913376-862005

1. WELL TAG NO. D 0060072
Drilling Permit No. 913376-862005
Water right or injection well # 63-12334, 63-12362, 63-12516

2. OWNER
Name: United Water Idaho Inc.
Address: 8248 W. Victory Road
City: Boise State: ID Zip: 83709

3. WELL LOCATION:
Twp. 4 North ☒ or South ☐ Rge. 1 East ☐ or West ☒
Sec. 24 SE 1/4 (10 acres) SW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot: County: Ada
Lat. 43 ° 39.833 (Deg. and Decimal minutes)
Long. 116 ° 24.021 (Deg. and Decimal minutes)
Address of Well Site: 593 1/2 Gray Fox Court
City: Meridian
Lot 3 Blk. 1 Sub. Name: Foxtail

4. USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☒ Other: Fire Protection

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other: #63-96-W-0737-000

6. DRILL METHOD:
☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bent. Chips	0	41'	143 Bags	Poured
Bent/Cement	0	390'	19 Yds.	Pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
24"	+1'	41'	.250	Steel	☒	☐	☐	☒
18"	+2'	390	.375	Steel	☒	☐	☐	☒
10"	374	395	.365	Steel	☒	☐	☐	☒

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type: Stainless Steel
Method of installation: Set

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
395'	450'	.030		10"	SS	

Length of Headpipe: 21 ft. Length of Tailpipe: 0
Packer ☒ Y ☐ N Type: K Packer @ 375 ft.

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8/#12 Sand	377'	459'	5000 lbs.	Poured

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG):
Describe control device:

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12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 43 ft. Static water level (ft) 20 ft.
Water temp. (°F) 58 degrees F Bottom hole temp. (°F)
Describe access port: Steel Plate

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
57 ft.	1000 gpm	1440 min.	☒	☐	☐	☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
30"	0	8'	Top Soil		X
30"	8'	39'	Gravel		X
30"	39'	41'	Brown Clay		X
23"	41'	43'	Brown Clay		X
23"	43'	80'	Sand & Clay Strips	X	
23"	80'	93'	Sand	X	
23"	93'	96'	Tan Clay		X
23"	96'	120	Sand	X	
23"	120	140	Brown Clay		X
23"	140	150	Sand	X	
23"	150	153	Brown Clay		X
23"	153	158	Sand	X	
23"	158	172	Brown Clay		X
23"	172	183	Sand	X	
23"	183	187	Brown Clay		X
23"	187	202	Sand	X	
23"	202	213	Brown Clay		X
23"	213	263	Brown Sand with Clay Layers	X	
23"	263	266	Brown Clay		X
23"	266	290	Brown Sand	X	
23"	290	298	Blue Clay		X
23"	298	348	Brown Sand	X	
23"	348	365	Blue Sand	X	
23"	365	390	Blue Clay		X
23"	390	395	Blue Clay		X
17"	395	430	Blue Sand	X	
17"	430	458	Blue Sand - Cemented	X	
17"	458	459	Blue Clay		

Completed Depth: (Measurable) 450 ft.
Date: Started 10/14/2011 Completed 11/16/2011

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name: Treasure Valley Drilling Co. No. 560
*Principal Driller: George Post Date 11/22/2011
*Driller: Date
*Operator II: Date
Operator I: Greg Mitchell Date 11/22/2011
* Signature of Principal Driller and rig operator are required.

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