

DEPARTMENT OF
WATER RESOURCES

ORIGINAL

OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

AFFIDAVIT OF SCOTT KING, P.E.

County of Ada)

TO: THE IDAHO DEPARTMENT OF WATER RESOURCES

Scott King, having been duly sworn upon oath, deposes and states as follows:

previously set forth in my affidavit filed with the SRBA Court on September 28, 2010, and in

Exhibit A to that affidavit, which I specifically incorporate herein by reference. I am competent to make this affidavit, and I make this affidavit based upon my own personal knowledge. I make this affidavit in support of Pioneer's Statement Regarding Injury and Enlargement that is being filed contemporaneously with this affidavit (Pioneer's "Injury/Enlargement Statement").

2. Attached hereto as Exhibit A is a map that I prepared that depicts the lands that I believe were under the canal system of the Mason Creek Ditch Company ("MCDC" or "Mason") at the time of the Stewart Decree proceedings. The background of this map consists of a true and correct copy of a portion of the "Boise River Survey of 1904" map prepared by the Office of State Engineer, which I obtained in digital format from IDWR's State Office, located at 322 East Front Street, Boise, Idaho, and which IDWR representatives referred to as one of the "Stewart Decree maps." The portion included depicts the areas around the Mason Slough and the upper section of Pioneer's Caldwell Highline Canal. The areas in Sections 11 and 14 are blank because at the time of my review, IDWR was missing the particular portion of the "Boise River Survey of 1904" map that included those areas. However, I was able to calculate acreages for those missing areas using the Index Map to the Boise River Survey of 1904, also obtained from IDWR, and attached hereto as Exhibit B. An enlarged version of the Index Map that focuses upon the area in question is attached as Exhibit C. This enlarged Index Map shows that the Boise River was located along the southern boundary of Section 11 and situated in an east-west direction, thereby excluding Section 11 from the possibility of irrigation from water diverted through Mason Slough.

3. Attached hereto as Exhibit D is a true and correct copy of an enlarged version of the legend to Sheet 32 of the "Boise River Survey of 1904" map, which demonstrates that the darker-yellow shaded areas on the map depict areas irrigated from the "Caldwell Canal,"

i.e., the Caldwell Highline Canal, and blue shaded areas on the map depict areas irrigated from sloughs. Legends on other sheets of the “Boise River Survey of 1904” map depicting irrigation from the Caldwell Canal and sloughs are similar, and the irrigated areas are visible on the “Boise River Survey of 1904” map, including the portion included hereto as Exhibit A. Based upon my prior review of testimony from the Stewart Decree proceedings regarding irrigation practices in the area, there appears to be a strong correlation between the Stewart Decree testimony and the shaded areas on the “Boise River Survey of 1904” map that forms the basis for Exhibit A.

4. Pursuant to the Stewart Decree, prior to the SRBA, MCDC’s authorized point of diversion for 63-179C was in Section 16. This was a diversion into the Mason Slough, which I have depicted on Exhibit A hereto. However, at the time of the Stewart Decree proceedings, several other sloughs also provided irrigation water within this general area. For example, my affidavit of September 28, 2010 includes as Exhibit B a map depicting the Strahorn Slough, the South Slough, and the Back Slough in this general area. In other words, the fact that an area is depicted as blue in the “Boise River Survey of 1904” map does not necessarily mean it was irrigated from the Mason Slough. Instead, lands depicted in blue could have been irrigated from other sloughs in the area. Indeed, I have reviewed the Stewart Decree testimony attached as Attachment A to Pioneer’s Injury/Enlargement Statement, and that testimony demonstrates that many acres within the Mason Creek Ditch Company were also irrigated with water from sloughs apparently associated with the Franklin Ditch Company. This is also reflected in the overlapping places of use recommended in the SRBA.

5. In addition, my review of USGS topographic maps, supported by in-field inspections, indicate that some lands within MCDC’s recommended place of use are higher in elevation than the Mason Slough and, therefore, could not have been irrigated from the Mason

Slough prior to the transfer of water right 63-179C from Section 16 to the Caldwell Highline Canal. Indeed, prior to the transfer of water right 63-179C, whenever it occurred, the vast majority of MCDC's irrigation would have to have occurred north of the Mason Slough and south of the Boise River.

6. Based upon these variables, I prepared Exhibit A. On this map, I have digitized the lands that, according to the 1904 Boise River Survey map, were irrigated from sloughs at the time of the Stewart Decree, and that are also located within MCDC's recommended place of use for water right 63-179C in the SRBA. This includes approximately 75 acres that were designated in the 1904 map as irrigated from the Caldwell Highline Canal, but which appear to have been irrigated from sloughs. A map with the same data overlain on the enlarged Index Map is attached hereto as Exhibit E.

a. Irrigated lands within MCDC's place of use which are situated at higher elevations than the Mason Slough and that are therefore not irrigable from the Mason Slough are identified in Exhibit A by diagonal hatching—blue hatching indicating areas within only MCDC's recommended place of use, and green hatching indicating areas within both MCDC's and Franklin Ditch Company's recommended place of use.

b. Those portions of the irrigated area within the path of the Boise River, or lying north of the Boise River and therefore not irrigable from the Section 16 point of diversion, are hatched with vertical and horizontal black lines. This area is within both the MCDC and Franklin Ditch Company place of use recommended in the SRBA, and the area totals approximately 86 acres.

c. Once these non-irrigable acres are removed, there are approximately 1,116 irrigable acres within MCDC's recommended place of use that appear to

have been irrigated from sloughs at the time of the Stewart Decree. Of those 1,116 acres, 449 acres overlap with the place of use of the Franklin Ditch Company under water rights 63-166B and 63-167B.

7. I have reviewed the report entitled, “Return Flow and Seepage Into Boise River During the Low Water Period of 1914,” by W.G. Steward, Assistant Engineer in charge of Duty of Water Investigations, Boise Project, which is attached as Attachment B to Pioneer’s Injury/Enlargement Statement (the “1914 Steward Report”); the report entitled, “Report on Canal Deliveries from the Boise River and Different Features Affecting These Deliveries, for the Period of July 9, 1914, to September 16, 1914, Inclusive,” by A.V. Tallman, Irrigation Engineer, attached as Attachment C to Pioneer’s Injury/Enlargement Statement (the “1914 Tallman Report”); the excerpts of the report entitled, “Report on Return Flow and Seepage into Boise River During the Irrigation Season of 1915,” by W.G. Steward and D.J. Paul, which are attached as Attachment D to Pioneer’s Injury/Enlargement Statement (the “1915 Stewart Report”); the excerpts of the report entitled, “Report on Canal Deliveries from the Boise River and Different Features Affecting These Deliveries for the Period April 1st to October 15, 1916, Inclusive,” by A.V. Tallman, attached as Attachment E to Pioneer’s Injury/Enlargement Statement (the “1916 Tallman Report”); and the excerpts of the report entitled, “Report on Canal Deliveries from the Boise River and Different Features Affecting These Deliveries for the Period April 1st to September 30, 1917, Inclusive,” by A.V. Tallman, that are attached as Attachment F to Pioneer’s Injury/Enlargement Statement (the “1917 Tallman Report”).

8. According to the Stewart Report, the Mason Slough was also known at the time as the “Thomas slough” or the “Big Slough.” (1914 Stewart Report, p. 8; *see also* 1915 Stewart Report, p. 12.) In my experience, bodies of water referred to as “sloughs” are typically

natural channels which currently or historically diverge from the main channel of a river and then often rejoin the river farther downstream. This is supported by page 934 of the Stewart Decree testimony attached as Attachment A to Pioneer's Injury/Enlargement Statement, in which a witness for MCDC testified that, "[w]e have a headgate at the river," and that, "farther on down to Ten Mile is a slough, *or a part of the river.*" (Emphasis added.) Sloughs frequently are shallow at their entrance, at the point where water enters the slough from the main channel, and at its entrance a slough's channel bottom is often at a higher elevation than the associated river channel bottom. This characteristic of a shallow entrance is often the result of sediment deposition at the slough's entrance. Because of these characteristics, sloughs are typically highly sensitive to low flows in the main stem of the river. In other words, when flows in the main stem of the river drop, flows within associated sloughs typically disproportionately drop, and may even dry up entirely, unless the entrance is maintained and check structures are placed in the main stream channel to improve diversion capacity. I have visited the general area where the Mason Slough diverts from the Boise River, and based upon my observations, I would expect the Mason Slough to be consistent with this general attribute of sloughs. In other words, I would expect flows in Mason Slough to be highly sensitive to low flows in the Boise River, and check structures and regular channel maintenance to be required to maintain diversion capacity. While I have seen the references in the Stewart Decree testimony to a headgate on the Mason Slough, this by itself would not likely be sufficient to prevent sediment deposition from adversely affecting diversions into the slough. Because of this, I believe it is likely that prior to transferring its water right 63-179C into the Caldwell Highline Canal, without the benefit of regular maintenance and a check structure in the Boise River, low flows in the Boise River later

in the irrigation season could have hindered MCDC's ability to divert water from the Boise River into the Mason Slough.

9. My review of the 1914 Steward and Tallman Reports support the conclusion that MCDC would have been disproportionately affected by low Boise River flows later in the irrigation season, prior to its transfer of its Boise River right into the Caldwell Highline Canal in 1915. For example, according to pages 3-4 of the 1914 Steward Report, from August 8th to September 10th of that year, there was an average of 28.5 cfs of water available for diversion from the Boise River at the "Big Slough," *i.e.*, the Mason Slough. However, during that same time period, an average of only 5.6 cfs of water was being diverted into the Mason Slough. Similarly, according to pages 20 and 21 of the 1914 Tallman Report, on July 9, 1914, there was approximately 193 cfs of water available for diversion in the Boise River at the "Big Slough," *i.e.*, Mason Slough. However, on that day, only 11.28 cfs of water was being diverted into the Mason Slough.

10. This 11.28 cfs figure is particularly telling because that measurement was taken on July 9, 1914, which appears to be the second day of that irrigation season that the Boise River was in regulation by the watermaster. Tallman states that, "[d]uring the period of May 1 to July 7, inclusive, there was sufficient flow in the river so that there was no need to call out the water masters to assist in keeping the canals down to the quantities to which they were entitled." (1914 Tallman Report, pp. 4-5.) The "Hydrogram Showing Daily Water Deliveries" included as Chart 3 in the 1914 Tallman Report shows that water deliveries and, hence, Boise River flows, were relatively high on July 9, and steadily declined thereafter through the rest of the irrigation season through mid-September. At that point in the irrigation season (July 9), I would expect MCDC to be authorized to divert at or near its total authorized diversion rate, which I understand

to have been 37.2 cfs (1,860 inches) in 1914, prior to the 1918 “Transfer #29” that moved 1.0 cfs of water north of the river to the Canyon County Water Company canal. Instead, MCDC was diverting only 11.28 cfs—less than one third of its authorized diversion rate.

11. This conclusion is further supported by the fact that many of the canals listed in the 1914 Tallman Report appeared to be diverting near their authorized diversion rates on July 9, 1914. For example, in 1914, it is my understanding that three water rights were authorized for diversion into the Caldwell Highline Canal: 63-166, decreed as right no. 34 for 770 inches (15.4 cfs) in the Stewart Decree; 63-167, decreed as right no. 77 for 1,380 inches (27.6 cfs) in the Stewart Decree; and 63-371, decreed as right no. 90 for 2,655 inches (53.1 cfs) in the Stewart Decree. These three rights add up to 96.1 cfs. According to the Tallman Report, 85.38 cfs of water was being diverted into the Caldwell Highline Canal on July 9, 1914, which is approximately 89% of the total authorized diversion rate into that canal.

12. Instead, it appears that, even prior to the Stewart Decree proceedings, MCDC received a significant percentage of its water from Five Mile Creek, rather than the Boise River. Based upon my experience, the lower portions of Five Mile Creek as it approaches the Boise River are sometimes also referred to as Ten Mile Creek or Fifteen Mile Creek, depending upon the source and vintage of the reference. According to page 934 of the MCDC Stewart Decree testimony, attached as Attachment A to Pioneer’s Injury/Enlargement Statement, MCDC had a headgate from “Ten Mile” into the Mason Slough. And, according to page 8 of the 1914 Stewart Report, “Ten Mile Creek empties into [Mason Slough],” from which “the water may be discharged direct into the Boise [R]iver or by a system of dams and channels it may be taken through the [Mason Slough] to a point south of Middleton, where the water can be discharged to the river or diverted to a canal irrigating land below.” Moreover, the “Diversions and Tributaries

Along Boise River” map which appears in the appendices to the 1914 Tallman Report shows Ten Mile Creek terminating in Mason Slough (Big Slough). It is my understanding that this diversion from Ten Mile Creek (i.e., Five Mile Creek or Fifteen Mile Creek) into the Mason Slough is the same diversion of water represented by MCDC’s pending claim to water right 63-33392, as reflected in Exhibit F hereto, which depicts the point of diversion for 63-33392, which I prepared based upon my review of the “Boise River Survey of 1904” map, aerial imagery from 2009, and IDWR’s GIS point of diversion data for Mason Creek Ditch Company’s 63-33392 water right claim. This point of diversion from Ten Mile Creek into the Mason Slough is approximately 0.6 miles downstream of where the Mason Slough historically diverted water from the Boise River. This diversion from Five (Ten) Mile Creek into the Mason Slough is located upstream of the vast majority of the acres that could have been irrigated from the Mason Slough.

13. According to the 1914 Steward Report, Pioneer’s Caldwell Highline Canal was in “Section 1” of the Boise River, while the “Big Slough,” *i.e.*, the Mason Slough, was in “Section 2” of the Boise River. (1914 Steward Report, pp. 3, 4.) Similarly, according to the 1914 Tallman Report, Section 1 of the Boise River “includes all of that part of the river that lies between the Government diversion dam [*i.e.*, the New York Canal] and a point immediately below the Canyon County Water Company Canal,” (1914 Tallman Report, p. 6), while Section 2 “includes all of that part of the river that lies immediately below the Canyon County Water Company Canal and a point in the river immediately below the Seibenberg dam and the Farmers Cooperative dam.” (*Id.*, p. 7.) Based upon the diagram of Boise River diversions and return flows and the related tables provided with the 1914 Steward Reports, we know that the Canyon County Water Company Canal, *i.e.*, the last diversion in Section 1 at that time, was located just

downstream of Pioneer's Caldwell Highline Canal, and upstream of the "Big Slough" (*i.e.*, Mason Slough) diversion off of the Boise River. (Steward Report, Fig. 2.) Starting in 1915, the Caldwell Highline Canal became the last diversion in Section 1, due to an upstream transfer by the Canyon County Water Company. (1915 Steward Report, p. 5; 1916 Tallman Report, p. 11.) Regardless, according to all of these reports, Pioneer's Caldwell Highline Canal was in "Section 1" of the Boise River, while the Mason Slough was in "Section 2" of the river.

14. The "Future Transfers" section of the 1914 Tallman Report states that, "[t]o emphasize the status of these transfers from Sections 2, 3, and 4 to Section 1, the following statement hold[s] true: A sale of decreed rights diverting water in Sections 2, 3, and 4, and changing their point of diversion to Section 1 is equivalent to selling the rights of Section 1 to a third party, giving them priorities over rights in Section 1, and Sections 2, 3, and 4, still having the same available water supply as before the sale was made." (1914 Tallman Report, pp. 30-32 (emphasis in original).) This is nearly identical to language which also appears on page 24 of the 1916 Tallman Report and page 13 of the 1917 Tallman Report. Conclusion 8 on page 22 of the 1917 Tallman Report also states that, "the transfer or exchange of any right from a lower section to a section above is injurious to the rights already existing in the section above," and page 14 describes a transfer from Section 2 to Section 1 as "disastrous." Similarly, Conclusion 8 on page 27 of the 1914 Steward Report states that, "[a]ny right transferred from below Canyon County Water Company to a point above is equivalent to giving a new water right at the later point with a prior date and takes that much water from later rights in the upper section." In addition, two transfers, known as the "Hillcrest Transfer" and the "Wise Transfer," moved water from Section 2 to Section 1 of the Boise River. Tallman states that, "[d]ue to the agitation caused by the loss to canal rights in Section 1 during the years 1914 and 1915 practically all the

rights transferred from Section 2 to Section 1 were transferred back to their original owners in Section 2 prior to the low water period of 1916.” (1916 Tallman Report, p. 22.)

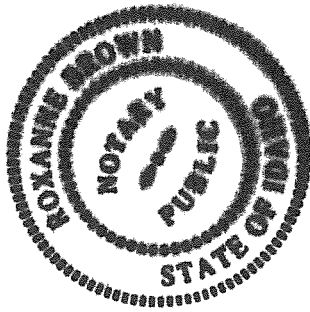
15. I interpret these passages regarding upstream transfers as follows: During times of limited water supply, Section 1 of the Boise River is fully appropriated by existing water rights. All water entering Section 1 is diverted from the river within Section 1. Much of this diverted water becomes return flows tributary to the Boise River below the downstream end of Section 1, and this return flow, along with other tributary contributions, is sufficient to satisfy all diversions below Section 1, *i.e.*, diversions in Sections 2, 3 and 4. Allowing water to pass through Section 1 to downstream sections of the river is not only unnecessary, but considered waste, owing to the fact that all rights diverted in Sections 2, 3 and 4 can be satisfied with tributary return flows. Transferring the point of diversion of a water right from Sections 2, 3 or 4 to a point upstream in Section 1 would injure upstream water rights with priority dates junior to the transferred right, because it would place a new burden on the supply within Section 1, thereby depriving existing Section 1 users of their full water supply.

16. MCDC’s transfer of its point of diversion upstream from the Mason Slough to the Caldwell Highline Canal is exactly the type of injurious transfer cautioned by Steward and Tallman. To deliver the full quantity of MCDC’s Boise River right in priority at the Caldwell Highline Canal headgate would effectively injure upstream water rights with priorities junior to that MCDC right.

Further your affiant sayeth naught.

Scott King
Scott King

SUBSCRIBED AND SWORN to before me this 18TH day of August, 2011.



Roxanne Brown
NOTARY PUBLIC FOR IDAHO
Residing at Bux, ID
My Commission Expires 5/16/2014

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 19th day of August, 2011, I caused a true and correct copy of the foregoing **AFFIDAVIT OF SCOTT KING, P.E.** to be served by the method indicated below, and addressed to the following:

Mason Creek Ditch Company

Represented by:

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Shelley M. Davis

BARKER ROSHOLT & SIMPSON LLP

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Boise, ID 83701-2139

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☐ Overnight Mail

☐ Facsimile

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Director

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IDAHO DEPARTMENT OF WATER RESOURCES

Western Regional Office

Attn: Jan Shurte

2735 Airport Way

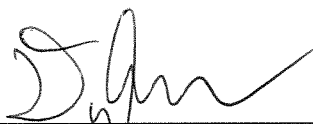
Boise, ID 83705-5082

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☒ Hand Delivered

☐ Overnight Mail

☐ Facsimile



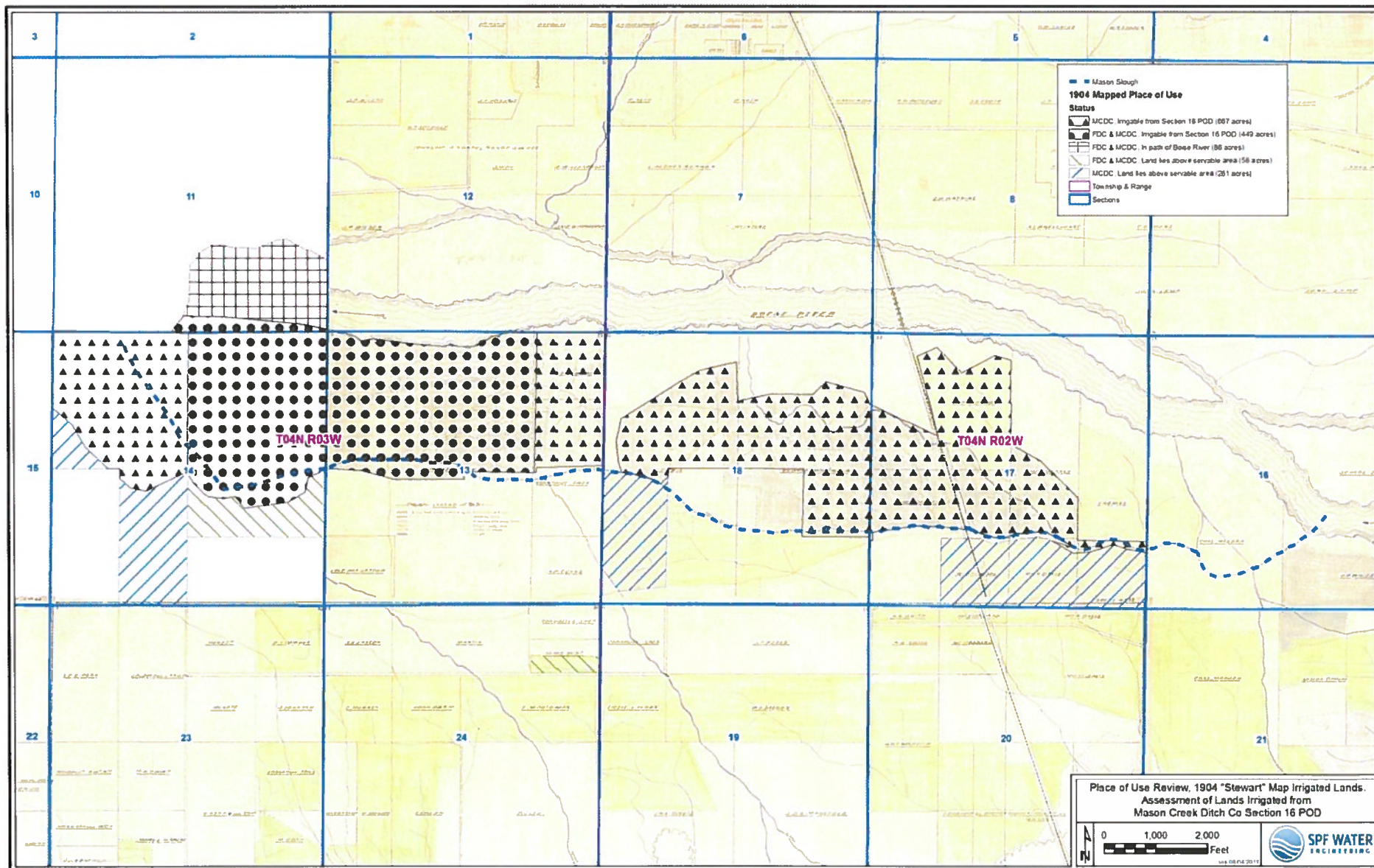
Dylan B. Lawrence

In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT A

to

Affidavit of Scott King, P.E.



In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT B

to

Affidavit of Scott King, P.E.

WAPETTE-BOISE
Project

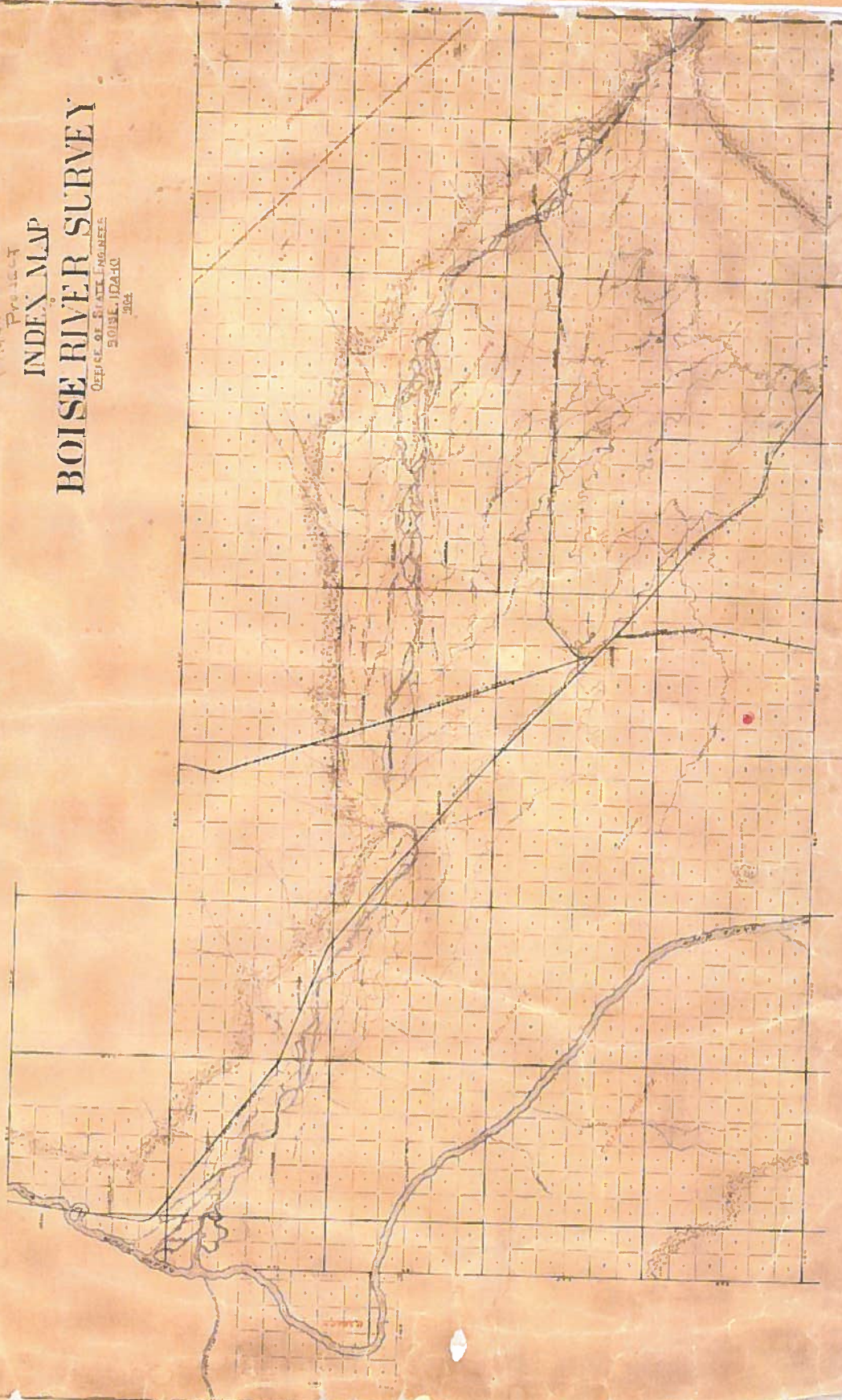
INDEX MAP

BOISE RIVER SURVEY

OFFICE OF STATE ENGINEER

BOISE, IDAHO

1924

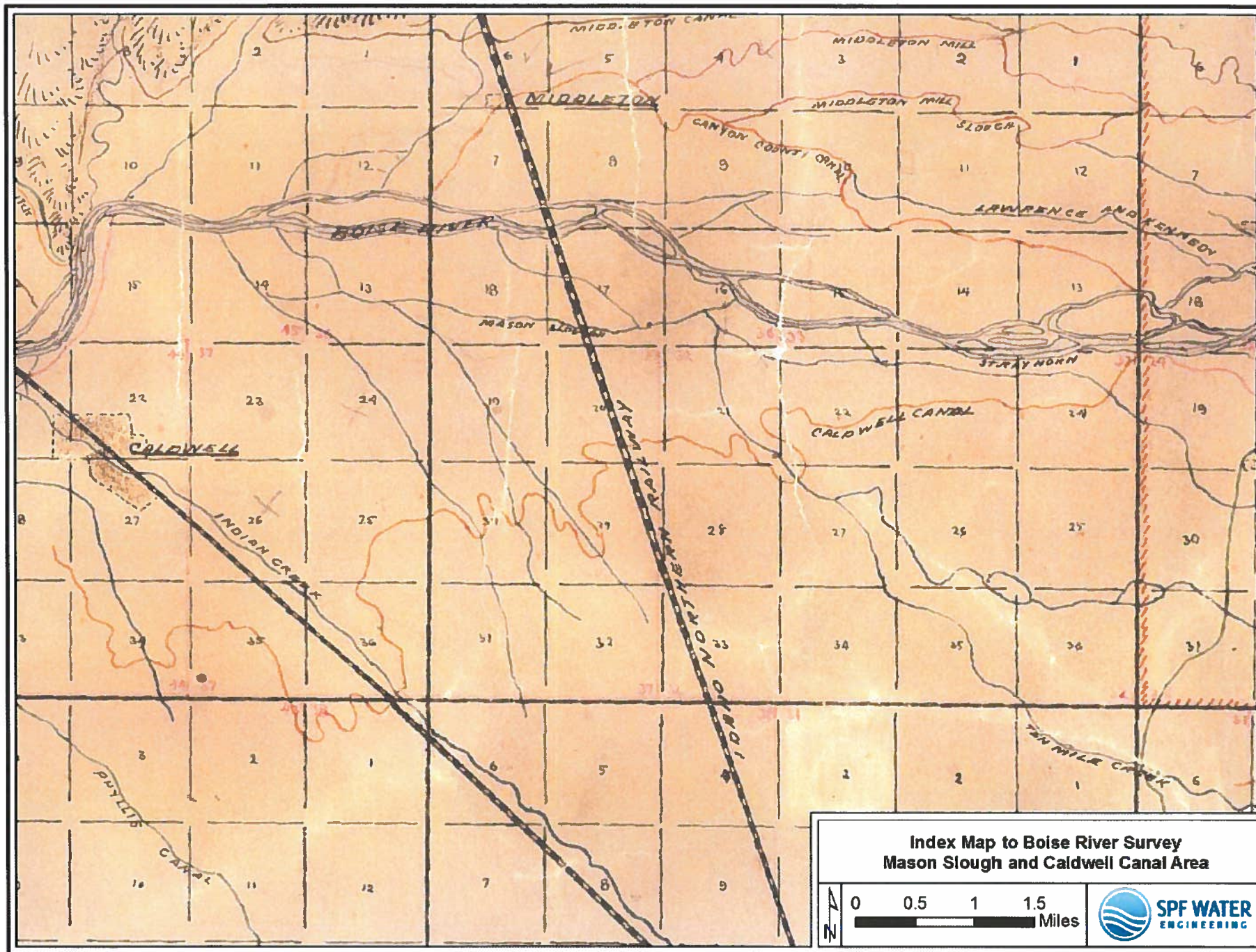


In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT C

to

Affidavit of Scott King, P.E.



In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT D

to

Affidavit of Scott King, P.E.

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 = Canal and Land watered by the Caldwell Canal
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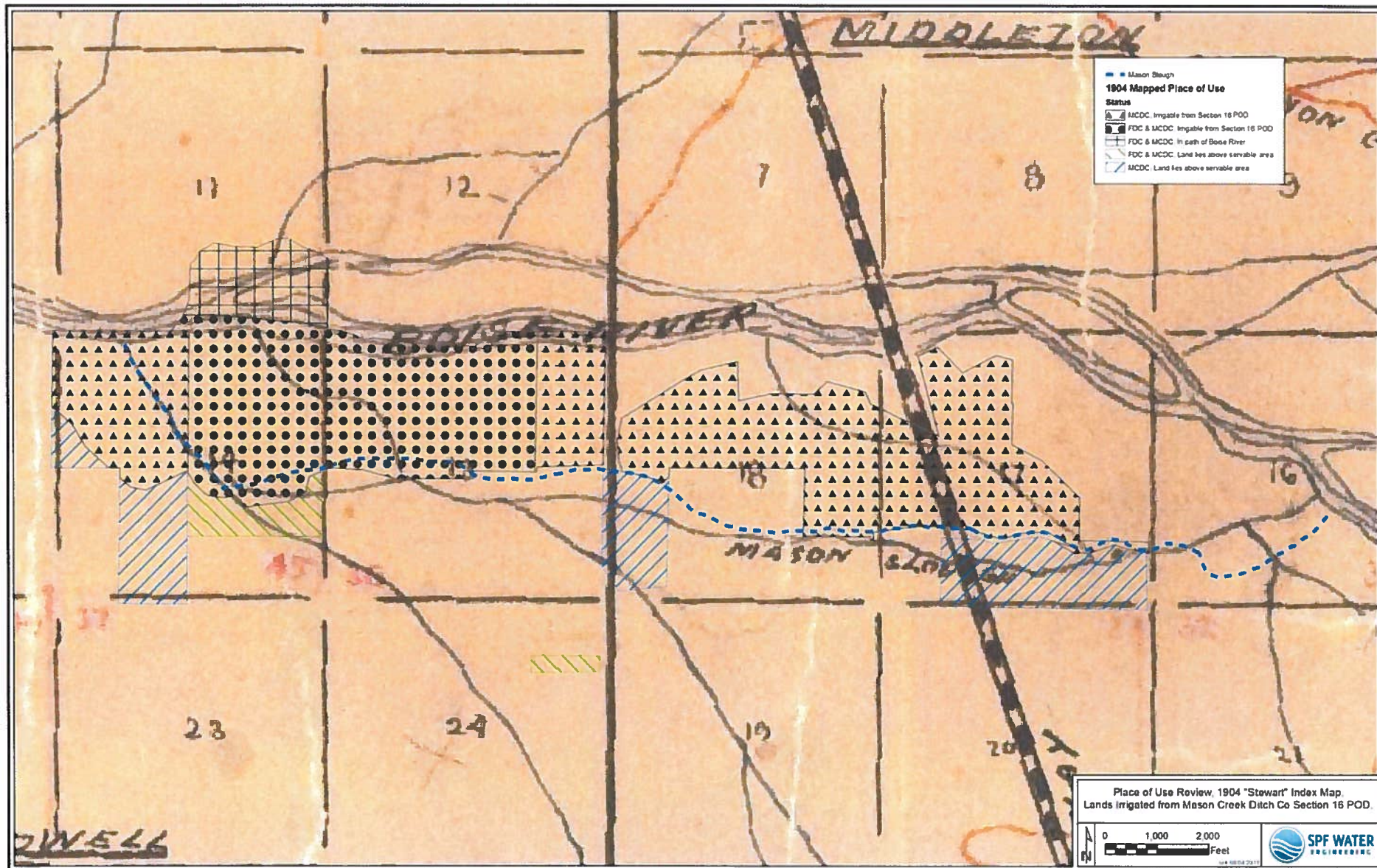
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In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT E

to

Affidavit of Scott King, P.E.



In re SRBA Subcase Nos. 63-00179C and 63-32580

EXHIBIT F

to

Affidavit of Scott King, P.E.

