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Attorneys for Defendants

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF LEMHI

THE IDAHO DEPARTMENT OF WATER RESOURCES, Plaintiff, v. FLOYD JAMES WHITTAKER and JORDAN WHITTAKER, as individuals; WHITTAKER TWO DOT RANCH, LLC, an Idaho limited liability company; and WHITTAKER TWO DOT LAND, LLC, an Idaho limited liability company, Defendants.	Case No. CV30-22-0169 **DEFENDANTS' EXPERT WITNESS DISCLOSURE**

Floyd James Whittaker, Jordan Whittaker, Whittaker Two Dot Ranch, LLC, and Whittaker Two Dot Land, LLC (collectively "Defendants"), by and through their counsel of record, Holden, Kidwell, Hahn & Crapo, P.L.L.C., make the following disclosure of expert testimony, pursuant to Idaho Rule of Civil Procedure 26(b)(4)(A)(i). The following experts are expected to testify on behalf of the Defendants at trial:

RETAINED EXPERTS:

1) **Bryce Contor, Principal Hydrologist, Rocky Mountain Environmental Associates, Inc.**

   a) **Subject Matter**: Mr. Contor will testify about the items described in a report previously submitted to IDWR (dated August 3, 2022), a copy of which is attached (subject to any minor updates/edits), concerning field reconnaissance to evaluate the status of Defendants' measurement and control structures identified in a letter from Plaintiff dated April 21, 2022, and allegations of noncompliance with applicable standards and Idaho law.

   b) **Underlying facts and data upon which the expert opinion is based**: The underlying facts and data relied upon by Mr. Contor are summarized in his report.

   c) **Supporting Exhibits**: See attached report and associated exhibits.

   d) **Qualifications of witness (including publications)**: See attached Curriculum Vitae.

   e) **Compensation**: Mr. Contor charges an hourly rate of $170 per hour for time spent on this matter. Mr. Contor charges $340 per hour for actual time spent in the witness chair at trial/hearing.

   f) **Cases in which witness has testified in trial/deposition**: See attached Curriculum Vitae.

Dated this 15th day of June 2023.

Robert L. Harris

Robert L. Harris
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

CERTIFICATE OF SERVICE

I hereby certify that on this 15th day of June, 2023, I served a true and correct copy of the following described pleading or document on the attorneys and/or individuals listed below by the method indicated.

Document Served: DEFENDANTS' EXPERT WITNESS DISCLOSURE

Attorneys and/or Individuals Served:

Garrick Baxter Lacey Rammell-O'Brien Deputy Attorneys General IDAHO DEPARTMENT OF WATER RESOURCES P. O. Box 83720 Boise, ID 83720-0098 garrick.baxter@idwr.idaho.gov lacey.rammell-obrien@idwr.idaho.gov	☐ Mail ☐ Hand Delivery ☐ Facsimile ☐ FedEx Delivery ☒ iCourt

Robert L. Harris

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Attorneys for the Defendants

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WHITTAKER MEASURING DEVICE AND DIVERSION REPORT
Prepared by Bryce Contor
August 3, 2022

Introduction

On July 25, 2022, I conducted field reconnaissance to evaluate the status of Whittaker measurement and control structures relative to an April 21, 2022 Cease and Desist letter from Rob Whitney of the Idaho Department of Water Resources (IDWR) Water Compliance Bureau, addressed to James Whittaker.

The Cease and Desist letter requires three actions:

1. *Cease diverting the waters of Stroud Creek below the authorized diversion point for water rights 74-369, 74-1136, and 74-15788, near the Ericsson corral. The Department's field observations confirm that the Stroud Creek channel exists above and below the Whittaker in-channel headgate.*

2. *Remove or modify the in-channel headgate noted in no. 1 above to allow all Stroud Creek water in excess of authorized diversions under water rights 74-369, 74-1136, and 74-15788, to flow downstream to the confluence with Lee Creek. An open-top check structure in Stroud Creek, designed to direct water through the new headgate on the existing ditch may be determined suitable.*

3. *Install suitable headgates or controlling works and measuring devices at or near both diversion points authorized by water right 74-157. The WD74Z watermaster must have the ability to deliver spring waters, tributary to Lee Creek, downstream to satisfy senior water rights.*

The standards I used to evaluate current status relative to the Cease and Desist letter are a 2018 IDWR Final Order Requiring Controlling Works and Measuring Devices on Surface and Ground Water Diversions in Administrative Basin 74 (Measurement Order) and attachments, the 1975 printing of the United States Department of the Interior Bureau of Reclamation Water Measurement Manual (WM Manual) and my nearly 25 years' experience as a practicing hydrologist, including my years of service as an IDWR Senior Water Resource Agent. In that capacity, I worked in the Water Measurement District program and in the Snake River Basin Adjudication.

The focus of this document is technical, though I necessarily will refer to advice of legal counsel where response depends on legal and policy positions implicit in the Cease and Desist letter. Observations will be presented first, from upstream to downstream. Following observations will be my assessment of the degree of compliance, or actions required to become compliant, with the requirements of the Cease and Desist letter.

Observations

In this report I primarily use my observations on July 25, 2022, supplemented by observations I made in 2020 and 2021, and material from my reports of those previous observations. My final observation uses data obtained from IDWR.

Attached Map 1 shows the locations where I made observations. Map 2 shows detail of the "Ericsson Corral" observations, Map 3 shows detail of the "Hilltop" observations, Map 4 shows detail of the "North Fence" observations, and Map 5 shows Point of Diversion (POD) data from IDWR.

Most photos were taken with a cellular telephone using an application that posts geographic information from the telephone's sensors. Experience has shown that the horizontal coordinates usually are reliable from this device but the azimuths of photo direction are not. All collected GPS points were indicated by the device to have approximate horizontal accuracy of 16 feet. GPS tracks generally should have similar horizontal accuracy. In the maps, features that don't included "GPS" in the name were set by reference to the aerial image and other GPS data.

Ericsson Corral Observations

Map 2 provides details of the area I observed in and near the Ericsson Corral.

- Line feature 1 is a channel that brings Stroud Creek from the south. Its location indicates that it must be the feature described in the Cease and Desist letter as "*the Stroud Creek channel [that] exists above... the Whittaker in-channel headgate."*
- Line feature 2 is a channel that appears to be human made (it is relatively straight, smaller than the channel upstream, and not located in the topographic low of the drainage) that conveys Stroud Creek water to the north from Point B, if not diverted at Point A. In 2020 I observed, photographed and reported head cutting occurring in this channel, suggesting that in the recent past it has at times conveyed substantially more water than historically.
- In 2020 I carefully explored the area beyond the north end of line feature 2 and confirmed that beyond that point there is no clearly defined channel. Rather, water spreads out and flows in a distributed fashion northward through heavy willow growth.
- Line feature 3 is a channel that appears human made, which conveys water from Point A over a Cipolletti weir at Point D to a pipeline inlet at Point E. Photo 1 shows the Cipolletti weir. The upstream pool was of adequate size and clean enough that the bottom suppression of the weir would be functional. It was acceptably level and the ditch configuration on the downstream was appropriate to avoid submergence and assure

adequate aeration of the nappe. Flow across the weir was 1.42 cfs, essentially the full flow of the creek on July 25.

- Line 2 and Line 3 are the only channels existing that could convey water away from locations A, B and C.

Photo 1. Cipolletti weir at Point D in Map 2. The camera was facing approximately south.

- Line feature 4 is an apparently human-made channel that conveys water to the northeast if the pipeline is not accepting water.
- At Point A I observed a green-painted steel control gate which I believe to be the *"authorized diversion point for water rights 74-369, 74-1136, and 74-15788, near the Ericsson corral,"* also described in the Cease and Desist letter as *"the new headgate on the existing ditch"* I will call it the "Green Headgate" in this report. It is shown on the right in Photo 2.
- At Point B is a steel, bottom-opening headgate set in a wood frame. It was closed and only a small amount of water was leaking past it. I believe it is the *"Whittaker in-channel headgate"* and *"in-channel headgate noted in no. 1 above"* referred to in the Cease and Desist letter. It is shown in the center in Photo 2. I am bent down pointing to a water mark on the wooden structure, about three inches above the top of the steel gate in its closed position. I refer to this as the "Check Structure" in this report.

Photo 2. Green Headgate (right) and Check Structure (center).

- Using a hand level, I confirmed that the maximum bank elevation at Point C was approximately 0.3 feet below the corresponding bank on the southeast side of the channel, and that the ground slopes up from the southeast side and down from the northeast side of the channel at Point C.
- At my request the operator closed the Green Headgate. I observed water bypass the Check Structure on the northwest side at the location labeled Point C in Map 2, as shown in Photo 3 and Photo 4. at the very right of Photo 4 the top of the steel gate can be seen, suggesting that had we waited longer, or at greater rates of flow, water also could flow over the top of the Check Structure in the closed position as well as bypass on the upstream side as observed.

Photo 3. Water bypassing the Check Structure. The camera was facing approximately east from near Point C.

Photo 4. Water bypassing the Check Structure. The camera was facing approximately west looking towards Point C on the opposite bank.

Hilltop Observations

Map 3 shows the locations of observations in the area I have called "Hilltop."

- The Line 4 feature is the same bypass ditch identified as "Line 4" in Map 2 and discussed above.
- Line 5 is a ditch from East Springs, one of the sources of Water Right 74-157. It extends farther to the southeast than I have drawn.
- Line 6 is a continuation of the ditch from East Springs that can convey its water northwest. It also conveys West Springs water to the north, along with bypass water from the Whittaker Diversion at times that the pipeline inlet is not accepting flow.
- Line 7 and Line 8 are ditches that can convey East Springs water or bypass to the northeast, which is the natural lay of the land in this vicinity. East Springs water was proceeding to the northeast via Line 7 on July 25, 2022. Line 7 is short and difficult to see, proceeding north from very near Point F.
- Line 9 is the collector ditch from the West Springs, which conveys water eastward. West Springs is the other source for Water Right 74-157. The GPS Track points show where I walked to observe the West Springs collector ditch. Though the downstream (north) side of this ditch is often described as a "berm," its top generally is 30 to 50 feet wide and it is more characteristic of the bank of a ditch that has been excavated.
- Point F is the location of a Cipolletti weir on the East Springs ditch. About 50 feet downstream the ditch had been blocked with dirt and the water in the ditch was backed up so that water would proceed northeast along Line 7. The weir was running submerged and not functional for flow-measurement purposes, as shown in Photo 5. We discussed maintenance that could make the weir functional. I was informed on August 3rd that the maintenance was successful. As seen in Photo 6, the nappe now springs free of the blade

and the weir is not submerged. On July 25 I saw that the approach pool and approach velocity were adequate and that the crest of the weir was adequately level.

- Point G is a properly-installed and functioning Cipolleti weir that can measure all water flowing north in the ditch marked as Line 6. Photo 7 shows that it is not submerged and that the nappe is fully aerated. at this location I did not see provision for water to go down the ridge to the west and enter the Stroud Creek drainage.
- Point H is the beginning (upstream end) of the West Springs collector ditch. Photo 8 is typical of the West Springs collector ditch.

Photo 5. East Springs weir, looking approximately east-southeast.

Photo 6. East Springs weir after maintenance. Photo provided by Jordan Whittaker, August 3, 2022.

Photo 7. Cipolletti weir at Point G. The camera is facing approximately east.

Photo 8. Looking approximately west, upstream along the West Springs collector ditch.

North Fence

The North Fence area is illustrated in Map 4.

- The Line 10 feature is a small channel. In 2021 I followed this channel upstream as approximately indicated by Line 10 to an area of diffuse springs at substantially greater elevation than the Stroud Creek channel and not connected to it.
- Also in 2021 I used a hand level and range pole to survey a cross section of the Stroud Creek drainage in the approximate vicinity of the southern extent of Map 4. I found that Stroud Creek unambiguously was flowing in the topographic low of the drainage and that there were no unused channels to the west that could have previously conveyed Stroud Creek on a path to the west of its current location. I did find a dry channel remnant to the east of the creek's current location.
- Line 11 marks the current location of Stroud Creek channel in the vicinity of the July 25 reconnaissance. The creek extends upstream and downstream beyond the lines indicated. In 2021 I confirmed with a hand level that Stroud Creek is in the topographic low point of the drainage at this cross section also.
- Line 12 marks the current location of Lee Creek. The part of the trace from Point L south I confirmed by walking the creek in 2021 with a GPS unit. Near the south end of the mapped part of the creek, the map does not adequately show that upstream from a distinct breakpoint location, the channel is much more sinuous as the stream comes in from the southwest. Below the breakpoint, the channel proceeds straight north and is held upslope on the side of the drainage by a berm a few feet high and a few feet wide.
- Line 13 marks the beginning of a ditch remnant that I followed north in 2021. Within the precision of georeferencing of a paper map, the 2021 GPS trace maps almost exactly along a ditch that was shown on a Lemhi Adjudication map that covers this area.

- Point J marks where a two-track road crosses the spring-fed channel mapped as Line 10. On July 25, as well as during my 2021 observations, it was conveying just enough water to have a little bit of water visible among the rocks of the crossing.
- Point K is where the two-track road crosses Stroud Creek. There used to be a culvert at this location. Photo 9 shows where I measured flow at 0.9 cfs plus or minus 25 percent using a velocity-head rod.

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Photo 9. Looking west at Stroud Creek. Water is flowing from left to right.

- Point L is a culvert where the road crosses Lee Creek. I did not measure flow in Lee Creek.

Mapping of Water-right Points of Diversion

The context of the third requirement of the Cease and Desist letter was that *"the watermaster must have the ability to deliver spring waters, tributary to Lee Creek, downstream to satisfy senior water rights."* From prior conversation with legal counsel, I was interested in a reported POD much farther north (downstream) on Lee Creek, possibly in the name of Beyeler Ranches. Using a GIS database of PODs from IDWR, Map 6 was generated using all PODs with "Lee Creek" as the source and "74" as the Basin number. Surprised at the lack of PODs farther downstream, I also queried IDWR's online Water Rights Search tool for Lee Creek rights, confirming the mapping result.

Assessment of Compliance

Each requirement is discussed in turn, in context of my field observations and consultation with legal counsel.

Requirement 1.

> *Cease diverting the waters of Stroud Creek below the authorized diversion point for water rights 74-369, 74-1136, and 74-15788, near the Ericsson corral...*

Because all the water in Stroud Creek at Point A on Map 2 was diverted through the Green Headgate, I conclude that on July 25 this condition was met.

In a general sense, only two channels exist downstream of this point; the channel marked Line 2 on Map 2, and the channel marked Line 3. Line 3 is a ditch from the Whittaker Diversion to the Whittaker Places of Use (POUs) and is authorized under the water rights listed, as delivered by the watermaster. Therefore, this requirement must refer to water that remains in the channel marked Line 2.

In a prior report I called the channel marked as Line 2 a "private ditch," and legal counsel informs me that in the appeal involving IDWR to Judge Wildman, Hearing Officer Cefalo's designation of this channel as the a private ditch system (the "Whittaker ditch system" (*Order Denying Petitions for Reconsideration* at 5)) was not pursued on appeal by Whittaker and the District Court did not otherwise reverse this determination. Accordingly, the legal designation of this channel as a private ditch is the current authoritative designation. However, it is the only feature I observed that could be what IDWR in the Cease and Desist letter now calls *"the Stroud Creek channel [that] exists... below the Whittaker in-channel headgate."*

If Line 2 is *"the Stroud Creek channel"*, as alleged in the Cease and Desist letter, then all water bypassing the Green Headgate would be compliant, in a general sense. If Line 2 is a "private ditch," then water bypassing the Green Headgate could be considered "diverted" for the few hundred feet that the channel exists, but the channel does not connect to the Whittaker ditch or pipeline system; rather, it conveys water to an area with no distinct channel where it spreads out among willows and other vegetation.

Regardless of the legal status of Line 2 as either a channel of Stroud Creek or a private ditch, I see no ability for Whittaker to divert water "below the authorized diversion point," and conclude that the current configuration is compliant with Requirement 1.

Requirement 2

> *Remove or modify the in-channel headgate noted in no. 1 above to allow all Stroud Creek water in excess of authorized diversions under water rights 74-369, 74-1136, and 74-15788, to flow downstream to the confluence with Lee Creek. An open-top check structure in Stroud Creek, designed to direct water through the new headgate on the existing ditch may be determined suitable.*

This requirement has a specific physical requirement, to *"remove or modify"* the headgate, with the refinement that *"an open-top check structure... may be determined suitable."* The feature of an open-top check structure that appears relevant in this context is that regardless of authorized flow through the Green Headgate, all excess flows in Stroud Creek at this point should bypass

into the channel marked Line 2. As confirmed by my observations when the Green Headgate was closed, the current configuration meets this requirement.

Requirement 2 is odd in its wording because it requires a result that cannot be achieved by any modification of the structures in the Ericsson Corral: *"[A]llow all [excess] Stroud Creek water... to flow downstream to the confluence with Lee Creek."* There is no physical ability to deliver Stroud Creek water from this point to Lee Creek, and it appears that this requirement combined with Requirement 3 may be intended to achieve an omitted goal which I will discuss later as "Implicit Requirement 4." I conclude that Requirement 2 as written cannot be achieved by any action at the Ericsson Corral and therefore that Whittaker is not nor can be in compliance.

Requirement 3

> *Install suitable headgates or controlling works and measuring devices at or near both diversion points authorized by water right 74-157. The WD74Z watermaster must have the ability to deliver spring waters, tributary to Lee Creek, downstream to satisfy senior water rights.*

This requirement has two parts; *"headgates or controlling works,"* and *"measuring devices."*

The measuring-device requirement is met for the West Springs Ditch; the weir I observed at Point G in Map 3 is adequate and functional to measure the sum of flows from West Springs. If the system is operated so that East Springs water reaches this location via Line 5 and Line 6 from Point F, then flows at Point F can be subtracted. This could leave unaccounted any contributions from the Green Headgate that might reach Point G via the Line 4 ditch. If it is acceptable to consider that at times, overflow from the Whittaker pipeline intake at Point E may erroneously be attributed to West Springs, then the requirement is met. If this conservative, potential over-estimate is not acceptable, a Cipolletti weir in the Line 6 ditch, somewhere downstream of the confluence with Line 4 and upstream of the West Springs contribution, would meet the requirement. If fall in this section of ditch is inadequate for a Cipolletti weir, a submerged orifice could be used. A submerged orifice has the advantage of being able to measure flow with low head loss and on low-gradient channels. Its disadvantages are: 1) Upstream and downstream readings must be taken to calculate a head difference that is small relative to precision of measurements, increasing opportunities for mistakes and errors and reducing precision; 2) The controlling structure is submerged and therefore prone to plugging and fouling with foreign matter; 3) The controlling structure is difficult to see and therefore problems can go undetected.

The Cipolletti weir on the East Springs ditch at Point F was submerged on July 25th and did not meet the requirement. As seen in Photo 6, I am informed that subsequent maintenance has made this weir functional and compliant.

I conclude that for West Springs, the measurement requirement is met or could be met, depending on the acceptability of conservative imprecision at times of bypass flows from the Whittaker pipeline system. I conclude that East Springs device is in compliance as of August 3rd, 2022.

The controlling-works requirement is more problematic.

Both springs are actually complexes of diffuse seepage into human-made collector ditches, with numerous small discrete springs also contributing flows. Infrastructure to stop the flow of a discrete spring would be difficult to conceive, and infrastructure to stop the flow of diffuse seepage would be very difficult to conceive. The remaining option then would be to provide some kind of bypass or spill that would let the water leave the collection ditch and go to some other location.

Based on walking the entire East Springs collection ditch as I have previously reported, East Springs is not topographically upgradient of Lee Creek nor could it be tributary to Lee Creek if not diverted. Physically, it would not be difficult to construct a bypass near Point F in Map 3 that would let East Springs flow exit the Whittaker ditch system and proceed east-northeast in the general vicinity of where the flows would accrue had East Springs never been developed, but these flows could not reach Lee Creek. I conclude that East Springs is not compliant, nor is it possible to be compliant, with a requirement that East Springs not be diverted but instead be allowed to be tributary to Lee Creek.

The topography is such that West Springs water could be bypassed or spilled to become tributary to Lee Creek, but infrastructure to do this does not exist. I conclude that West Springs is not compliant but physically could be with construction of a bypass structure near and upstream of the existing weir at Point G in Map 3.

Summary of Formal Requirements

To summarize my findings regarding the three formal requirements:

- Requirement 1 was met on July 25, and it generally is met by existing infrastructure. The administrative interpretation of exactly how it is met depends on the legal status of the channel marked Line 2 in Map 2.
- The first part of Requirement 2 is to modify infrastructure to achieve the functional ability for all flow not diverted by the Whittaker Diversion to pass downstream of the control works located in the Ericsson Corral. I conclude that the existing infrastructure functionally meets this part of the requirement.
- The second part of Requirement 2 is that the modification allow Stroud Creek water to flow to Lee Creek. This requirement cannot be achieved by modification of infrastructure at the Ericsson Corral.
- The first part of Requirement 3 relates to measurement devices for East Springs and West Springs. The East Springs device was not compliant on July 25 but is compliant as of August 3. The West Springs device is compliant if an occasional over-estimate of flow is acceptable. If not, an additional structure on the channel marked Line 6 in Map 3 would allow full compliance.
- The second part of Requirement 3 is for the physical ability to not divert spring water but instead deliver it to Lee Creek. The requirement is not met for East Springs nor is it physically possible. It is not met for West Springs but physically could be.

Implicit Requirement 4

It appears that an implicit goal of the Cease and Desist letter is to obviate the effect of the West Springs Ditch in its current physical configuration. Legal counsel indicates that through the Lemhi County District Court lawsuit associated with the Cease and Desist letter, IDWR mandates both Stroud Creek water not diverted at the Green Headgate and any East Springs water not delivered to Whittaker to proceed beyond or outside of this ditch to the Stroud Creek drainage to the north, where eventually it would become tributary to Lee Creek. Legal counsel informs me that the original agreement summarized in *Whittaker v. Kauer*, 78 Idaho 94, 298 P.2d 745 (1956) allows for the West Springs Ditch to "capture of all the waters of [Stroud Creek] found flowing in the Creek at the place where, pursuant to the contract respondents constructed said dam below appellants' newly designated upstream point of diversion, and such waters so captured by respondents included the water of the West Springs." *Memorandum Decision and Order* at 6. In other words, the agreement authorized capture of both West Springs water and excess Stroud Creek water not diverted at the Green Headgate. The alterations to the flow of Stroud Creek and the effects of these alterations were upheld by Judge Wildman, and that "Whittaker should not be required to restore the original flow of Stroud Creek, thereby causing significant disruption to a system that has been in place since 1932 based on the agreement of the McConnells' predecessors." *Id*. at 9. Further, Judge Wildman determined "[t]hat the McConnells' use of the Kauer Ditch ceased in 2014 was not the result of any action taken by Whittaker." *Id*. at 6-7. Based on these legal authorities, legal counsel informs me that there does not appear to be any legal requirement to spill Stroud Creek water not diverted at the Green Headgate from the West Springs Ditch to proceed down the Stroud Creek drainage.

Until 2014, the function of the West Springs Ditch operated in conjunction with the Kauer Ditch, but that ditch's functionality is no longer available without an approved transfer to restore the Kauer Ditch as an authorized point of diversion to McConnell's water rights.

The technical component of reviewing this implicit goal is to understand the administrative effect it would have in delivering water *"downstream to the confluence with Lee Creek"* to *"to satisfy senior water rights."* The administrative effect on individual PODs of changing the historical function falls into the following categories:

- Not below the West Springs Ditch: Changing the function would not benefit such PODs.
- Below the West Springs Ditch:
    - Relative to water right 74-157:
        - Junior to or subordinated to water right 74-157. Changing the function would not benefit such PODs.
        - Senior to water right 74-157 and not subordinated. Changing the function could benefit such PODs if not otherwise satisfied by Lee Creek and/or gains to Stroud Creek below the West Springs Ditch.
    - Relative to Stroud Creek PODs or its Tributaries:
        - Junior to Stroud Creek PODs that are above the West Springs Ditch: Changing the function would not benefit such PODs.

- Senior to Stroud Creek PODs above the West Springs Ditch: Changing the function could benefit such PODs if not otherwise satisfied by Lee Creek and gains to Stroud Creek below the West Springs Ditch.

For consideration of effects relative to 74-157, Table 1 summarizes the Lee Creek water rights whose PODs are shown in Map 6, and provides location, seniority and subordination status relative to the West Springs Ditch and 74-157.

Water Right	Priority	Owner	Div. Rate (cfs)	Not Subordinated to 74-157	Downstream of West Springs Ditch	Senior to 74-157
74-10554	1876-06-01	USA	0.02	x		x
74-1136	1912-06-28	F JAMES WHITTAKER	2.00	x		x
74-14451	1934-06-28	USA	0.02	x	x	
74-15200	1990-05-08	HARVEY E PETERSON	0.26	x	x	
74-15201	1990-05-08	STEVEN L JOHNSON	0.34	x	x	
74-1831	***1912-06-28***	***STEVEN L JOHNSON***	***0.24***	***x***	***x***	***x***
74-361	1883-05-12	BRUCE MC CONNELL	1.20		x	x
74-362	1906-05-01	BRUCE MC CONNELL	4.10		x	x
74-363	1883-05-12	BRUCE MC CONNELL	1.00		x	x
74-364	1900-06-01	BRUCE MC CONNELL	1.30		x	x
74-365	1883-05-12	BRUCE MC CONNELL	1.20		x	x
74-367	1883-05-12	BRUCE MC CONNELL	0.60		x	x
74-368	1909-11-05	BRUCE MC CONNELL	5.80		x	x
74-369	1883-05-12	F JAMES WHITTAKER	2.40	x		x
74-370	1883-05-12	ROSALIE ERICSSON	4.00	x		x
74-7274	1989-12-08	EDDIE R PETERSON	0.07	x		
74-949	1918-12-05	STEVEN L JOHNSON	0.04	x	x	

The subordination markings in Table 1 are tentative, based on advice from legal counsel that when the POD that has access to Stroud Creek water is approved for those rights, it most likely will include subordination to 74-157 based on Judge Wildman's *Memorandum Decision and Order*. The other determinations in Table 1 are not tentative.

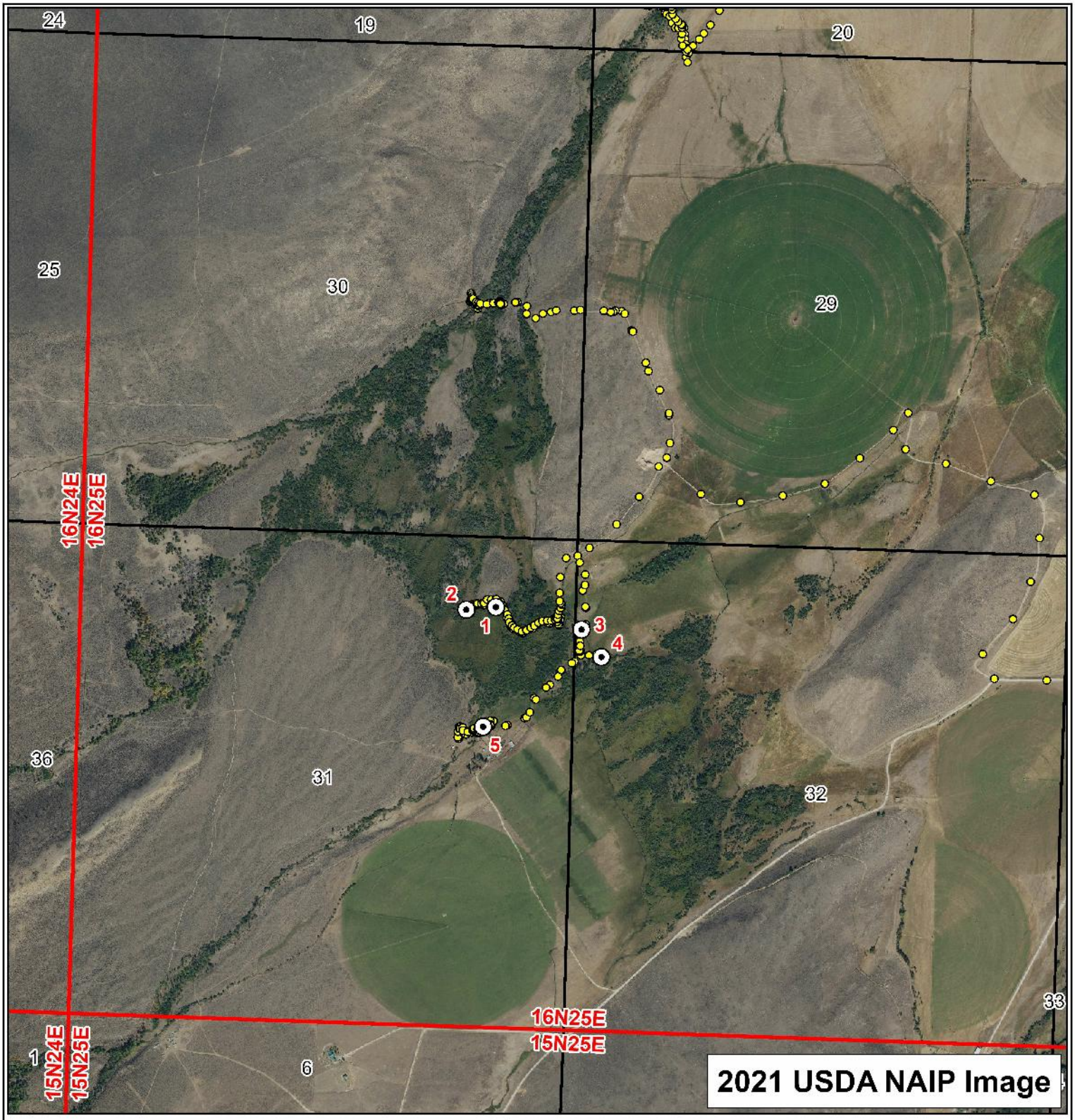
Pale highlighting marks a characteristic that by itself would suggest benefit from a change to the function of the West Springs Ditch, relative to right 74-157. To benefit from the change, a right

needs to have all three characteristics; seniority alone, for instance, would not indicate a benefit from a change if the POD were not below the West Springs Ditch. One POD (74-1831), in bold, italic font and highlighted in a bright color, meets all three criteria and theoretically would be in a position to benefit from a change in function at West Springs. However, the reach gains I observed on July 25 are nearly four times the quantity of water needed to satisfy this right at face value. Reducing my measurement by 25 percent to account for imprecision in my reconnaissance-level measurement indicates that reach gains still are more than three times the quantity needed to satisfy this right. To be clear, legal counsel indicates the historic *Whittaker v. Kauer* agreement should not be disregarded. But even if the agreement were disregarded, I conclude that relative to 74-157 or 74-1831, there is no practical need to alter the functionality of the West Springs Ditch in order to *"deliver spring waters... to satisfy senior water rights."* Though there is no need to alter the West Springs Ditch for this purpose, physically it could be done by a bypass structure that could pass water west and then north from upstream of Point G in Map 3.

I acknowledge that in addition, restoration of the function of the Kauer Ditch could benefit downstream users by giving physical access to flows of Stroud Creek and its tributaries that are not diverted in seniority above the West Springs Ditch. I am informed that Whittaker is not opposed to restoration of the Kauer Ditch functionality.

Signature

Bryce A. Contor
Principal Hydrologist



Waypoints
GPS Track
Township
Section

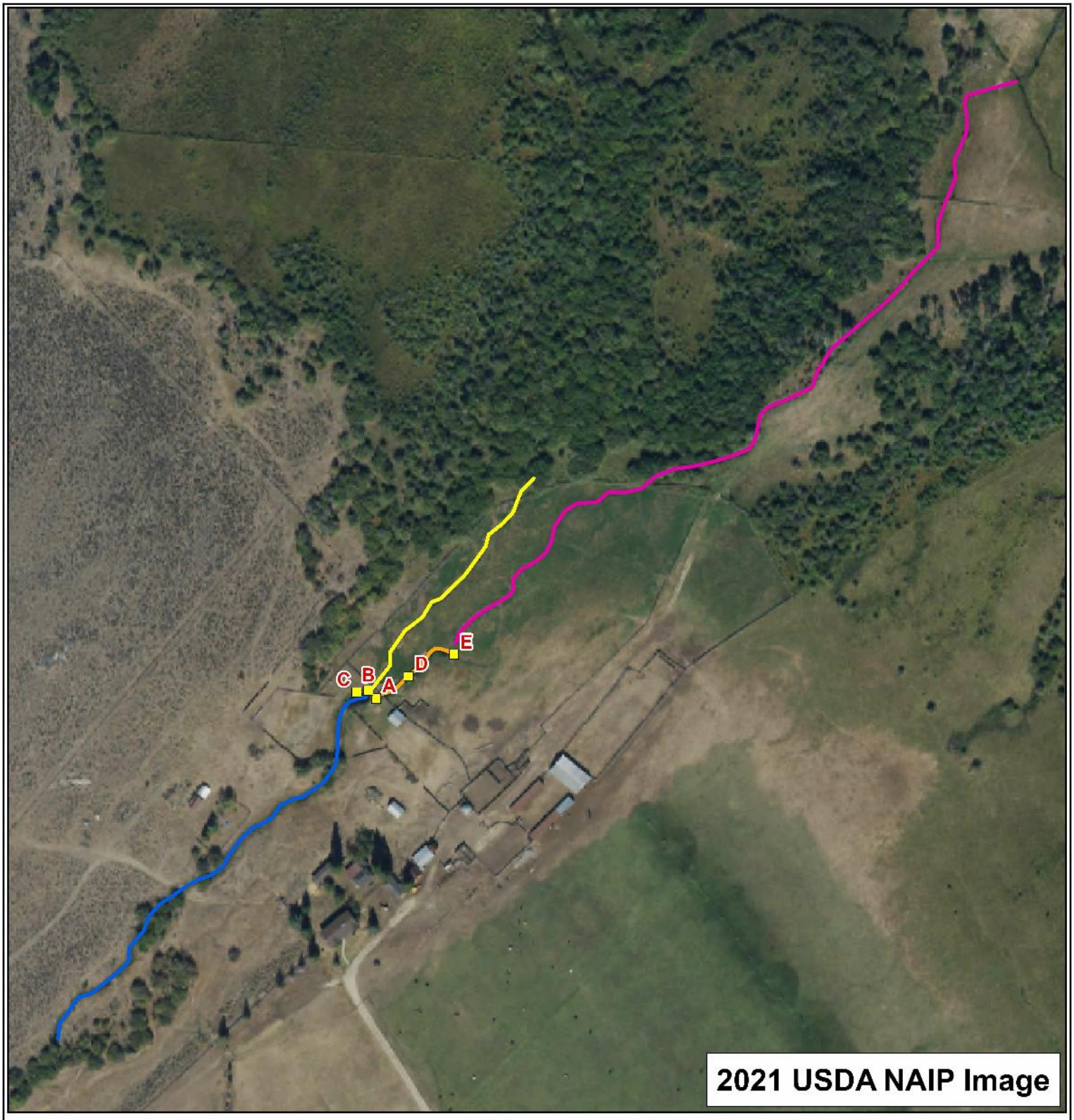
0 1 Miles

Map 1: Overview of Obs. Locations

N
W E
S

Project #: 20-0111	
Drawn by: AD	
Date: 7/29/2022	

Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.



Map 2 Points

Map 2 Lines

- 1
- 2
- 3
- 4

0 165 330 660 Feet

Map 2: Detail of Ericsson Corral Obs.

Project #: 20-0111

Drawn by: AD

Date: 7/26/2022

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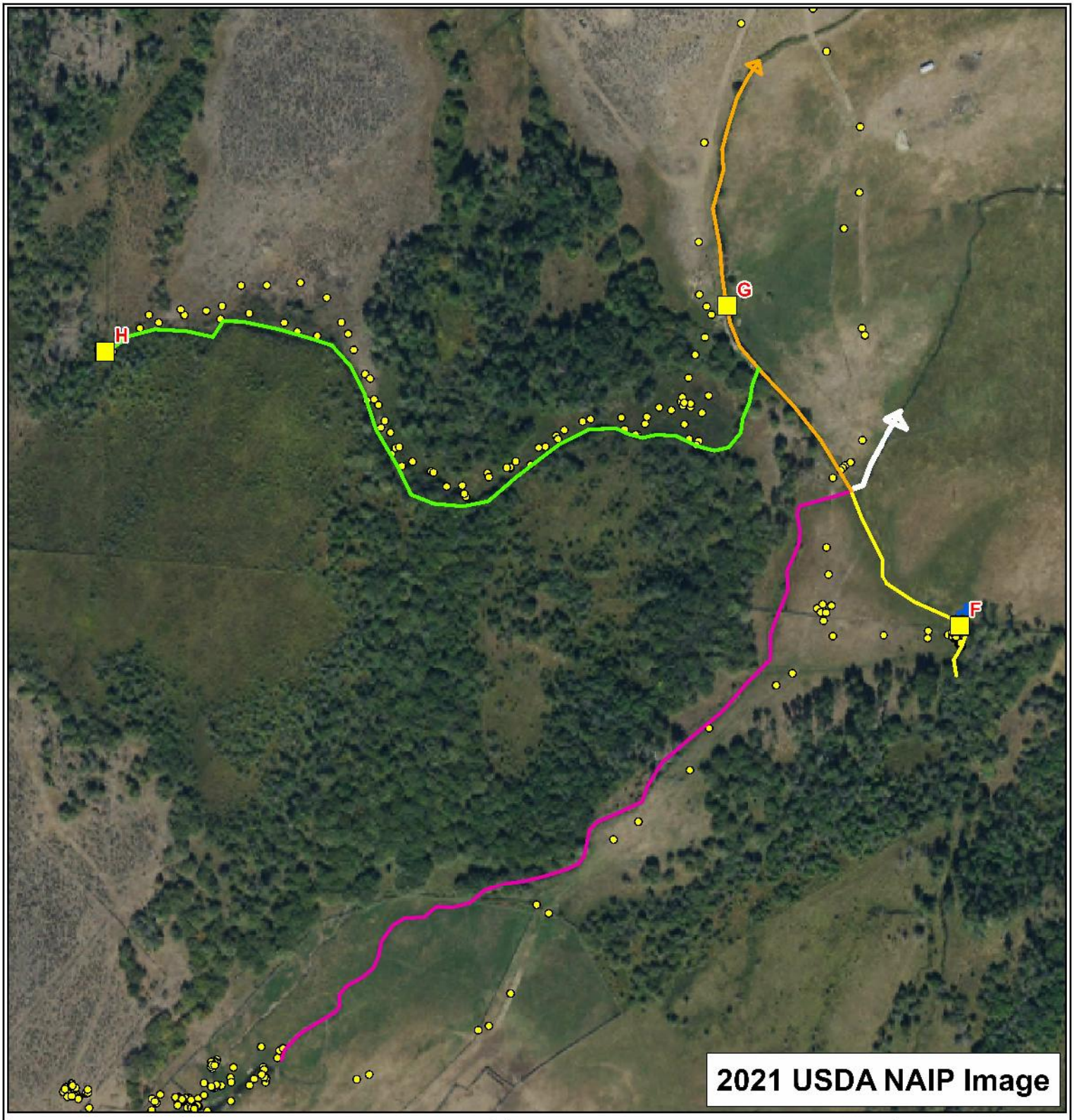


GPS Track

Map 3 Points

Map 3 Lines

- 4
- 5
- 6
- 7
- 8
- 9

N
W
E
S

0 165 330 660 Feet

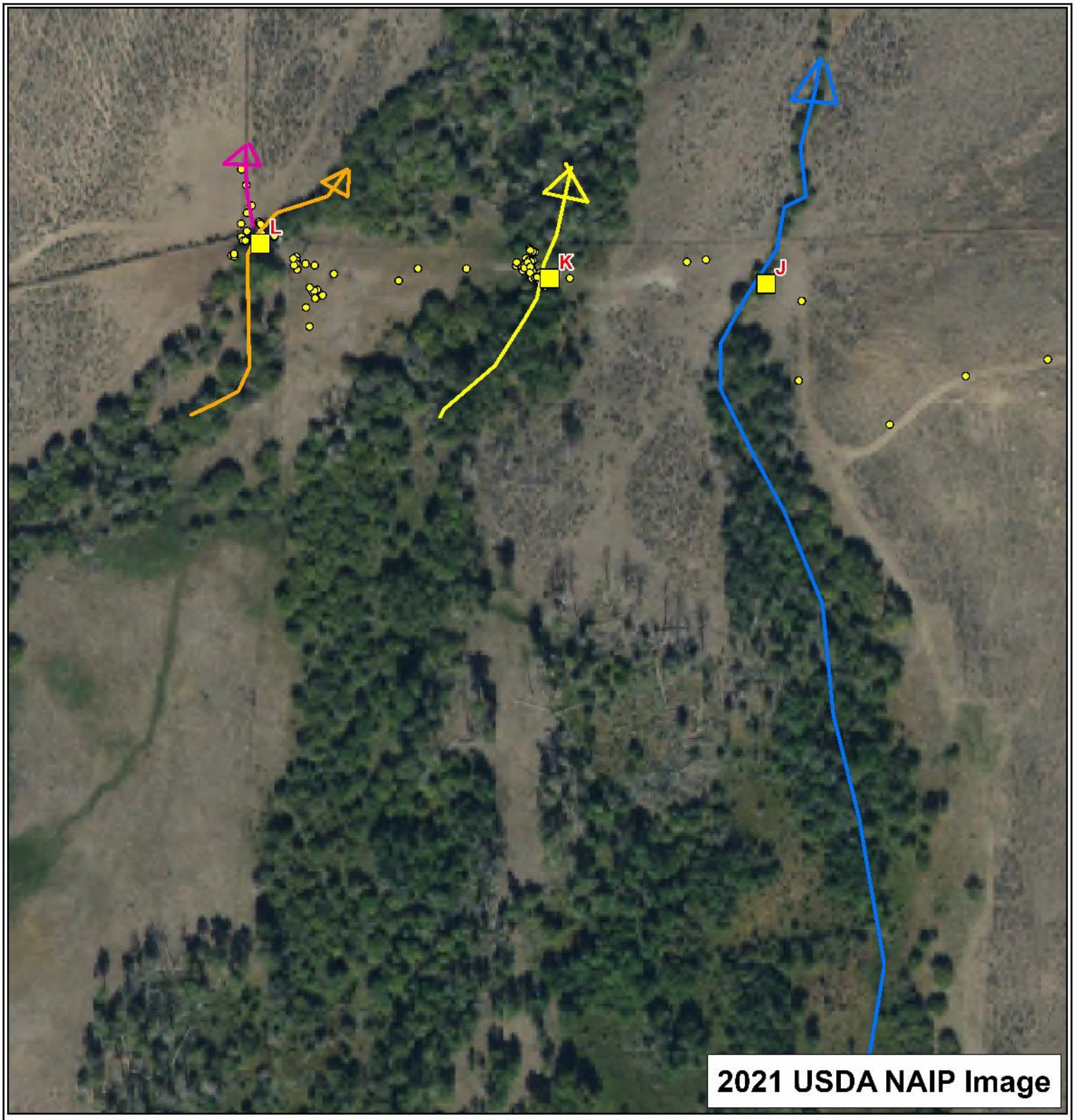
Map 3: Detail of Hilltop Obs.

Project #: 20-0111

Drawn by: AD

Date: 7/27/2022

Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.



GPS Track

Map 4 Points

Map 4 Lines

- 10
- 11
- 12
- 13

0 165 330 Feet

N W E S

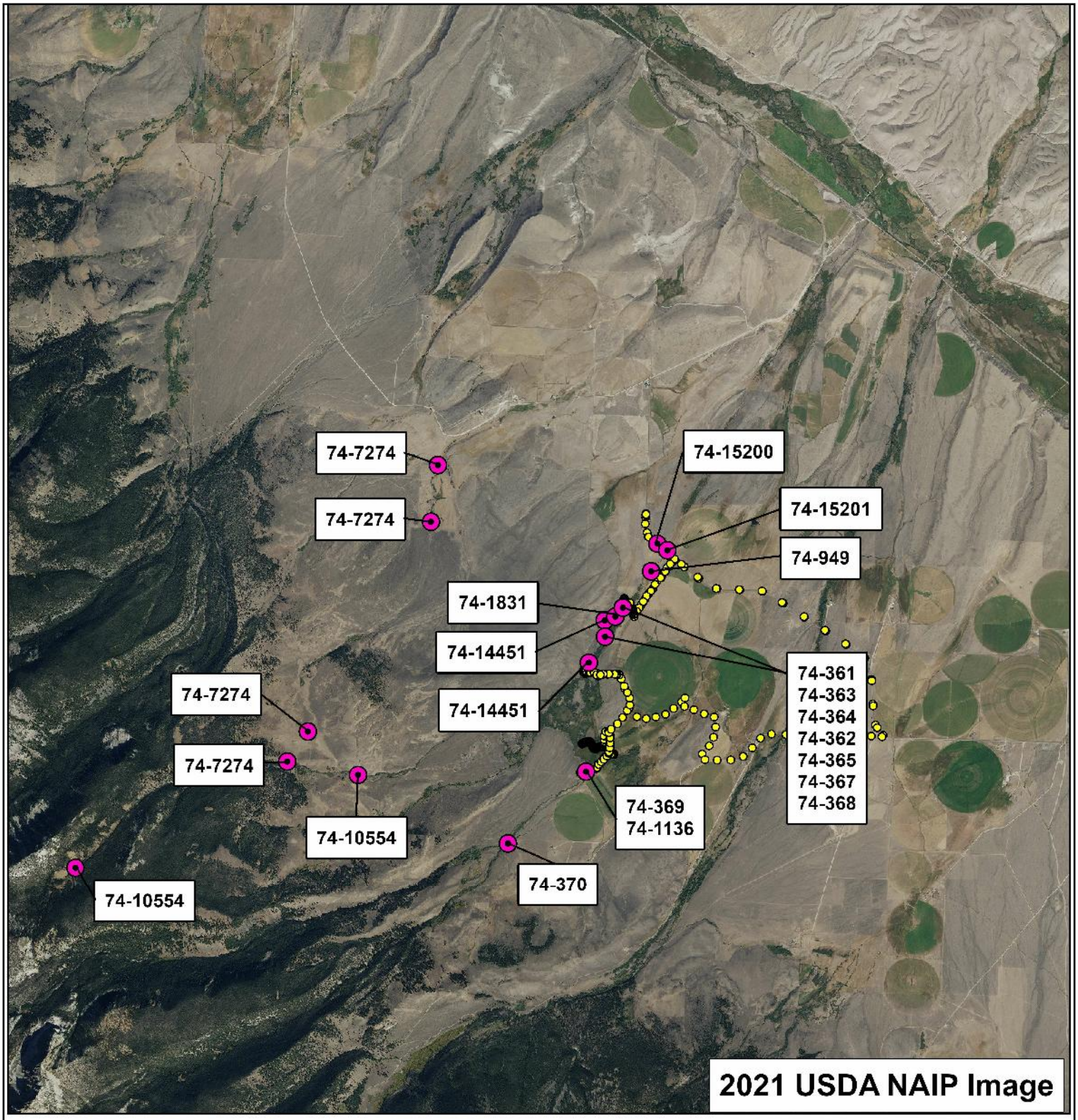
Map 4: Detail of North Fence Obs.

Project #: 20-0111

Drawn by: AD

Date: 7/26/2022

Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.



GPS Track

Lee Creek POD

0 0.5 1 2 3 4 Miles

Map 5: Lee Creek Points of Diversion

N W E S

Project #: 20-0111	
Drawn by: AD	
Date: 7/29/2022	

Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.

Curriculum Vitae

Bryce A. Contor
5223 Steele Avenue, P.O. Box 94
Iona, Idaho 83427
208-681-9100

Summary Statement

Mr. Contor has worked in the hydrology field since 1996, including ten years with the Idaho Water Resources Research Institute where he served as a research hydrologist, and five years with Idaho Department of Water Resources where he served as a Senior Water Resource Agent. Prior to that he farmed and served on the board of directors of a small canal company.

With the Institute, Mr. Contor served as principal investigator on hydrologic projects as diverse as preparing water budgets for large numerical aquifer models, investigating remote sensing of evapotranspiration on irrigated lands, developing tools to calculate the economic demand for irrigation water, and investigating managed recharge of aquifers. He has published in national peer-reviewed scientific journals and has authored numerous technical completion reports for the Idaho Water Resources Research Institute. At Idaho Department of Water Resource, Mr. Contor measured flow in pipelines and open channels, investigated water-right claims and made water-right recommendations in the Snake River Basin Adjudication.

Mr. Contor holds an M.S. Degree in hydrology from the University of Idaho. His hydrologic specialties include groundwater/surface-water interactions and MODFLOW aquifer modeling, water-budget analysis, pipeline and open-channel flow measurement, and statistics. GIS specialties include aerial land photography interpretation and manipulation of remote-sensing data. Economics specialties are water banking and economic demand for irrigation water. He has extensive experience with water-budget preparation and with collaboration as a member of the development team for Enhanced Snake Plain Aquifer Models (ESPAM) versions 1.0 through 2.1, and the Spokane Valley – Rathdrum Prairie Model. Contor has served as an expert witness in water-related matters.

Education

University of Idaho, Idaho Falls, Idaho, 2005, M.S., Hydrology
Brigham Young University, Provo, Utah, 1994, B.S., Agricultural Economics. Cum Laude.
Ricks College, Rexburg, Idaho, 1980, A.S., Farm Crops Management

Work Experience

Hydrologist at Rocky Mountain Environmental Associates, Inc., Idaho Falls, Idaho, 2010 to Present. Currently serving as Principal Hydrologist.

Position includes aquifer modeling, hydrologic field investigation, hydrologic analysis, GIS and expert-witness work in support of Idaho water-rights transactions, negotiations and proceedings. For approximately two years, Mr. Contor reduced his work at Rocky Mountain Environmental Associates while doing landowner-outreach and technical work for the Henry's Fork Foundation and Friends of the Teton River.

Research Hydrologist of Idaho Water Resources Research Institute, University of Idaho, Idaho Falls, Idaho, 2001-2010

Position included serving as a principle investigator on a ground water banking project in cooperation with U.S. Bureau of Reclamation, as principle investigator in water-budget preparation for aquifer modeling projects, and field investigation in support of managed aquifer recharge. The position included GIS analysis and supervision of hydrologists and data technicians. During this period Mr. Contor sub-contracted field exams for the Snake River Basin Adjudication for Idaho Department of Water Resources.

Senior Water Resource Agent, Idaho Department of Water Resources and North Water Measurement District, 1996-2001

Duties included field and office evaluation of water-right claims, including flow measurements and characterization of conveyance and diversion structures, making water-right recommendations in the Snake River Basin Adjudication, and the measurement of water discharge and power consumption of irrigation wells for documentation of ground water withdrawal volumes.

Worked in irrigated agriculture from 1980 through 1995 as irrigation supervisor, farm manager, tenant farmer, farm owner, seed-company field representative, and Idaho Department of Agriculture chemigation inspector. In the late 1980s through early 1990s served as a board member and then as secretary of a small canal company.

Experience Testifying/Giving Depositions

Circa 2005: Deposed in matters related to the calibration of Enhanced Snake Plain Aquifer Model Version 1.0 and 1.1. This was not in behalf of a client, but in my role as one of the model developers at Idaho Water Resources Research Institute.

Circa 2012: Deposed and testified at hearing in behalf of Fremont Madison Irrigation District and Madison Ground Water District before IDWR regarding aquifer-modeling issues related to the Rangen Aquifer Delivery Call.

2016: Testified in behalf of Gunderson, plaintiff in a civil case related to filling in of an irrigation ditch in Jefferson County.

Circa 2019: Deposed and testified at hearing in behalf of Fremont Madison Irrigation District, Henry's Fork Ground Water District and Madison Ground Water District before IDWR regarding creation of the Eastern Snake Plain Aquifer Ground Water Management Area.

2021: Testified in behalf of Whittaker, protestant at hearing before IDWR regarding change in Point of Diversion of surface-water rights.

2023: Testified in behalf of Nelson, applicant at hearing before IDWR regarding change in Point of Diversion and Place of Use of surface-water rights.

2023: Testified in behalf of Bonneville-Jefferson Ground Water District at hearing before IDWR regarding the 5th Methodology Order under the Surface-Water Coalition conjunctive-administration delivery call.

Selected Idaho Water Resources Research Institute Publications Directly Related to ESPAM Aquifer Models

S.L. Taylor and B.A. Contor. 2010. ET Adjustment and the Entity File (*.ent) for the Eastern Snake Plain Aquifer Model Version 2 AS BUILT. Idaho Water Resources Research Institute Technical Report 201009 ESPAM 2 Design Document DDW-V2-11.

B.A. Contor. 2010. Representation of Soil Type for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built Revision 1. Idaho Water Resources Research Institute Technical Report 201003 ESPAM2 Design Document DDW-V2-06 As Built Rev 1 "Soil Type".

B.A. Contor. 2010. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built, Revision 1. Idaho Water Resources Research Institute Technical Report 200907 UPDATED ESPAM2 Design Document DDW-V2-01-Rev1 As Built "Canal Recharge".

B.A. Contor. 2010. Irrigation Diversions and Returns and Surface-Water Irrigation Entities for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 201004 ESPAM2 Design Document DDW-V2-07 As Built "Diversions".

B.A. Contor. 2010. Fixed-point and Offsite-point Recharge and Discharge for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 201005 ESPAM2 Design Document DDW-V2-08 As Built "Fixed/Offsite"

B.A. Contor. 2010. Surface-water Irrigation Entities and Groundwater Polygons for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Draft for Review. Idaho

Water Resources Research Institute Technical Report 201006 ESPAM2 Design Document DDW-V2-09 As Built "Entity Geometry".

B.A. Contor. 2009. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 200907 ESPAM2 Design Document DDW-V2-01 As Built "Canal Recharge".

B.A. Contor. 2008. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200804 ESPAM2 Design Document DDW-V2-01 "Canal Recharge".

B.A. Contor and P.L. Pelot. 2008. Determination of Source of Irrigation Water for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200805 ESPAM2 Design Document DDW-V2-02 "Source of Irrigation Water".

B.A. Contor and P.L. Pelot. 2008. Effects of Changes in Crop Mix Upon Consumptive Use of Irrigation Water in the Eastern Snake Plain of Idaho. Idaho Water Resources Institute Technical Completion Report 2008-001.

B.A. Contor and P.L. Pelot. 2008. Draft 2. Determination of Source of Irrigation Water for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200805 ESPAM2 Design Document DDW-V2-02 "Source of Irrigation Water".

B.A. Contor, P.L. Pelot, G.L. Moore. 2008. The Potential Application of Additional Surface Water to Irrigated Lands Having Both Surface-water and Groundwater Irrigation Rights. IWRRI Technical completion report 200902.

B.A. Contor. 2007. Hydrologic Impacts of Current Water-Use Practices and Current Hydrologic Conditions - "Current Practices" Scenario. IWRRI Technical Completion Report 200702.

D. M. Cosgrove, B. A. Contor, G. S. Johnson. 2006. Enhanced Snake Plain Aquifer Model Final Report. Idaho Water Resources Research Institute Technical Report 06-002 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDM-019.

N. Erickson, D. Nelson, B. Contor. 2006. Non-Snake River Diversions and Perched River Seepage. Idaho Water Resources Research Institute Technical Report 06-003 Eastern Snake Plain Aquifer Model Enhancement Project Water Budget Design Document Number DDW-024 Draft As-Built.

B.A. Contor. 2004. Traditional Evapotranspiration Calculations. Idaho Water Resource Research Institute Technical Report 04-009 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DWS-010 Final As-built.

B.A. Contor. 2004. Fixed Point Pumping and Offsite Ground Water Pumping. Draft. Idaho Water Resources Research Institute Technical Report 04-027. Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDW-026. Eastern Snake Plain Aquifer Model Enhancement Project Water Budget Design Document Number DDW- As-built.

B.A. Contor. 2004. Recharge on Non-Irrigated Lands. Idaho Water Resource Research Institute Technical Report 04-006 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-00.

B.A. Contor. 2004. Percolation, Runoff, and Deficit Irrigation. Idaho Water Resource Research Institute Technical Report 04-004 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-002 Final As-Built.

B.A. Contor. 2004. Irrigation Conveyance Loss. Idaho Water Resource Research Institute Technical Report 04-008 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-020 Final As-built.

B.A. Contor. 2004. Determining Source of Irrigation Water for Recharge Calculation. Idaho Water Resource Research Institute Technical Report 04-010 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-017 Final As-built.

B.A. Contor. 2004. Delineation of Sprinkler and Gravity Application Systems. Idaho Water Resource Research Institute Technical Report 04-005 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-022.

B.A. Contor. 2003. Draft. Evapotranspiration Adjustment Factors. Eastern Snake Plain Aquifer Model Enhancement Project Design Document Number DDW-021.

B.A. Contor. 2003. Determination of Crop Mix Revision One. Idaho Water Resources Research Institute Technical Report 04-025 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDW-001.

B.A. Contor. 2002. Land Use. Idaho Water Resource Research Institute Technical Report 04-007 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-015Final As-Built.

B.A. Contor. 2002. Ground Water Irrigation Polygons for Recharge Calculation. Idaho Water Resource Research Institute. Eastern Snake Plain Aquifer Model Enhancement Project Water Budget Design Document Number DDW-009.

Other Selected Publications pre-2013

B.A. Contor. 2011. Adaptation of the Glover/Balmer/Jenkins Analytical Stream-Depletion Methods for No-Flow and Recharge Boundaries. IWRRI Technical Completion Report 201101

G. Taylor, B. Contor and J. Hamilton. 2010. *The ABC's of Apples, Bees and Connections Hydrologic.* Choices Magazine, Agricultural and Applied Economics Association. Volume 25 No. Article 144. http://www.choicesmagazine.org/magazine/article.php?article=144

B.A. Contor. 2009. *Ground-water Banking in Aquifers that Interact with Surface Water, Using Double-entry Accounting and Aquifer Response Functions.* Journal of the American Water Resources Association, Volume 45, Issue 6, pp 1465-1474.

Gary S. Johnson, Bryce A. Contor, Donna M. Cosgrove. 2008. *Efficient and Practical Approaches to Ground-water Right Transfers Under the Prior Appropriation Doctrine and Snake River Example*. Journal of the American Water Resources Association, Vol 44 Issue 1, February 2008, pp 27-36.

E. B. Rafn, B.A. Contor and D.P. Ames. 2008. *Evaluation of a Method for Estimating Irrigated Crop-Evapotranspiration Coefficients from Remotely Sensed Data in Idaho.* Journal of Irrigation and Drainage Engineering. Vol. 134, Issue 6, pp 722-729.

Paul A. Hsieh, Michael E. Barber, Bryce A. Contor, Md. Akram Hossain, Gary S. Johnson, Joseph L. Jones, and Allan H. Wylie. 2007. Ground-water Flow Model for the Spokane Valley-Rathdrum Prairie Aquifer, Spokane County, Washington, and Bonner and Kootenai Counties, Idaho. Scientific Investigations Report 2007-5044, US Geological Survey.

Publications Since 2013

B.A. Contor and R. G. Taylor. 2016. *A Framework for Assessing the Effect of Irrigation Improvements: Economic Rivalry, Irrigation Abstraction, and Partition to Fates.* Water Economics and Policy, Vol. 3, Issue 3. doi: 10.1142/S2382624X16500181

R. Garth Taylor, R.D. Schmidt, L. Stodick and B. Contor. 2014. *Modeling Conjunctive Water Use as a Reciprocal Externality.* American Journal of Agricultural Economics, Vol. 94, Issue 6, pp 753-768.
doi 10:1093/ajae/aat095

B. Contor and R. G. Taylor. 2013. *Why Improving Irrigation Efficiency Increases Total Volume of Consumptive Use.* Irrigation and Drainage, Vol. 62, Issue 3, doi 10:1002/ird. 1717