COLORADO
Division of Water Resources
Department of Natural Resources

August 11, 2023

Paul Weiss, P.E.
Williams and Weiss Consulting, LLC
5255 Ronald Reagan Blvd, Ste 220
Johnstown CO 80534

Re: Derr Pit Substitute Water Supply Plan (WDID 0302547, Plan ID 5240)
DRMS Permit No. M-2008-017 (WDID 0303035)
S½ NE¼ Section 4, T5N, R65W, 6th P.M.
Water Division 1, Water District 3, Weld County

Approval Period: August 1, 2023 through July 31, 2024
Contact information for Mr. Weiss: 970-221-5159; pswwater@msn.com

Dear Mr. Weiss:

We have reviewed your letter dated July 14, 2023 requesting approval of a substitute water supply plan ("SWSP") on behalf of IHC Scott, Inc. ("IHC Soott" or "Applicant") in accordance with section 37-90-137(11), C.R.S., to replace depletions caused by an existing gravel pit operation known as the Derr Pit (M-2008-017). IHC Scott recently purchased the Derr Pit from Broken Arrow Investments, LLC ("Broken Arrow"), the previous operator. A SWSP for this site was originally approved on November 12, 2010 and was most recently renewed in a letter dated August 8, 2022 to cover operations through July 31, 2023. The required renewal fee of $257 has been received (receipt no. 10030463).

SWSP Operations

The Derr Pit (WDID 0303035, well permit no. 82868-F) is a gravel pit operation located in the NE¼ of Section 4, Township 5 North, Range 65 West of the 6th P.M., in Weld County (see attached Exhibit 2). Mining operations at the Derr Pit ceased after December 31, 2012, but recommenced in the spring of 2019. In 2018, Broken Arrow obtained an amendment (AM01) to their reclamation permit to add 105.8 acres to permit M-2008-017 and to revise the mining and reclamation plans. According to information provided by Broken Arrow, operations at the site did not expose any groundwater until late April 2019. The slurry wall liner for Phases 1-4 of the Derr Pit was granted provisional approval by the State Engineer's Office on February 9, 2022 (Derr Pit Reservoir, WDID 0303513). The provisional approval does not classify the structure as a reservoir capable of water storage; however, water within the liner boundary is classified as trapped native groundwater that may be removed from within the lined area and returned to the stream system without the need for replacement so long as it is not put to beneficial use. All native trapped groundwater that is put to beneficial use, except for water removed with the mined product, must be replaced by the operator. A second slurry wall is proposed to be constructed around Phases 5-7 prior to the exposure of groundwater in those cells, approximately 3 to 4 years from now. During the term of this SWSP,

consumptive uses at the Derr Pit site will consist of evaporative losses from exposed groundwater, water used for dust control purposes, and water lost in the mined product. The replacement sources proposed to be utilized in this SWSP are water leased from the Central Colorado Water Conservancy District and lagged accretions from past deliveries of replacement water from the Loloff Pit.

Depletions

There is 1.0 acre of groundwater surface area exposed within the slurry wall liner. Net evaporative depletions were calculated to total 2.92 acre-feet per year based on a gross annual evaporation of 45 inches from the exposed water surface, and a credit of 9.97 inches for effective precipitation (see attached Table 1). No credit was claimed for anticipated ice-covered periods. The estimated monthly depletions due to evaporation during the term of this SWSP are shown on the attached Table 1.

IHC Scott estimates that they will mine a total of 700,000 tons of sand and gravel during the term of this SWSP. All of the material will be mined below the groundwater table, but in a dewatered state. Of this amount, approximately 20% (140,000 tons) will be washed. The water retained by the washed sand and gravel is considered to be 4% of the mined material by weight, all of which is considered to be a groundwater diversion, resulting in a groundwater loss of 4.12 acre-feet. The other 80% (560,000 tons) will not be washed. The water retained by the unwashed sand and gravel is considered to be 2% of the mined material by weight, resulting in a groundwater loss of 8.24 acre-feet. The total amount of water expected to be lost with the mined material is 12.36 acre-feet. Replacements are not required to be made for water removed with material mined within the lined portion of the site.

The Applicant has estimated that a total of 6.10 acre-feet of water will be used for dust control purposes at the site during this plan period, based on a projected daily usage of 2,000 to 9,000 gallons per day. A water truck will be utilized to apply water for dust control purposes. Water used for dust control purposes is considered to be 100% consumed.

A monthly breakdown of operational and evaporative consumptive use at the site is shown in the attached Table 2. Evaporative and operational consumptive use will total 21.38 acre-feet during this plan period.

The Alluvial Water Accounting System (“AWAS”), which utilizes the Glover method, was used with the alluvial aquifer boundary condition to determine the lagged depletions to the Cache la Poudre River from past and projected evaporation and operational losses at the site. The following parameters were used in the model: a distance (X) of 2,126 feet from the exposed groundwater surface to the river; a distance (W) of 22,900 feet from the stream to the impermeable boundary; a harmonic transmissivity (T) of 76,056 gallons per day per foot; and a specific yield (S) of 0.2.

The estimated lagged stream depletions due to projected operations at the Derr Pit will total 18.27 acre-feet during this plan period, as shown on the attached Table 2. The point of depletion for the Derr Pit is assumed to be on the Cache la Poudre River perpendicular to the pit, just downstream of the headgate of the Ogilvy Ditch (WDID 0300937).

Dewatering

Dewatering at the Derr Pit began in late April of 2019 and the site was continuously dewatered up until final slurry wall construction. No dewatering has occurred at the site after September 2021. Dewatering water was delivered to two recharge sites located within the Derr Pit. Derr Pit Recharge Area 1 (WDID 0302068) is located on the west side of the site, and Derr Pit Recharge Area 2 (WDID 0302069) is located on the east side of the site (see attached Exhibit 6). Because the recharge sites are located within the Derr Pit and are closer to the river than the mined area, the timing of dewatering depletions was considered to approximately match the timing of dewatering accretions, with accretions returning to the stream slightly ahead of depletions. As long as the mine site was continuously dewatered, the water returned to the stream system was considered to be adequate to offset the depletions attributable to dewatering operations. However, once dewatering of the site ceased, all remaining post-pumping depletions not offset by recharge accretions must be replaced.

Depletions from dewatering of the Derr Pit were lagged to the stream using the same aquifer parameters as given above. Accretions from the Recharge Areas were lagged to the stream using a distance (X) of 1,126 feet from the recharge ponds to the river. Evaporation from the Recharge Areas was accounted for in calculating the amount of water recharged to the aquifer. The District 3 water commissioner performed a site visit on October 17, 2019 and found the dewatering of the Derr Pit was producing more water than the Recharge Areas can handle, and that the excess water was flowing into the Ogilvy Ditch. Between October 2019 and January 2020, 24.6 acre-feet of water was spilled from the recharge ponds. No spillages from the recharge ponds have occurred since January 2020. It was assumed that 50% of the amount spilled, or 12.3 acre-feet, was consumed and did not infiltrate into the ground or return to the river without use. Depletions resulting from the 12.3 acre-feet spilled from the ponds and assumed to be consumed were lagged to the river using the same aquifer parameters as for the Derr Pit. Of the remaining amount, 50%, or 6.15 acre-feet, were assumed to infiltrate into the ground and were lagged to the stream as accretions using the same aquifer parameters as for the Recharge Areas, and the remaining 50% was assumed to return to the river as surface flow.

After accounting for excess replacement water delivered to the river each month and the percentage of the month under call, there were a total of 27.7 acre-feet of unreplaced lagged dewatering depletions that impacted the river between the time dewatering ceased at the site and the beginning of the previous plan period (October 2021-July 2022), along with 26.3 acre-feet of lagged dewatering depletions that impacted the river during that plan period (August 2022-July 2023), which were combined and replaced under the previous SWSP. A total of 17.09 acre-feet of lagged dewatering depletions will impact the river during this plan period (August 2023-July 2024) and will be replaced under this SWSP.

The total amount of depletions to be replaced under this SWSP is therefore 35.36 acre-feet.

Replacements

IHC Scott entered into a water lease agreement with the Central Colorado Water Conservancy District ("CCWCD") on July 31, 2023 for 27.43 acre-feet of augmentation water for the period of August 2023 through July 2024. A copy of the agreement showing the monthly replacement schedule is attached. Replacement water will be provided from storage and direct flow water rights CCWCD

has in the Cache la Poudre basin. Replacement water may be provided downstream of the point of depletion but must be provided upstream of the calling water right. A transit loss may be assessed by the water commissioner for the delivery of replacement water from an upstream source to the point of depletion. The Applicant must notify the District 3 water commissioner at least 48 hours prior to making replacement deliveries. The Applicant is required to obtain the water commissioner's approval prior to the release of replacement water from a storage structure on a daily basis or as otherwise required by the water commissioner.

Under previous SWSPs, depletions associated with the Derr Pit were replaced via release of water from Loloff Reservoir (WDID 0303483), which is located due west of the Derr Pit in the SE¼ of the NW¼ of Section 4, Township 5 North, Range 65 West of the 6th P.M. Metered pumping from Loloff Reservoir was discharged into the unnamed natural seep located south of the property, from where it worked its way back to the Cache la Poudre River just below the Derr Pit and the Ogilvy Ditch. Of the amount of water discharged to the seep, 50% was deemed to enter the river system as surface water, while the other 50% was lagged back to the river system as subsurface flow using the following AWAS parameters: a distance (X) of 2,775 feet from the seep to the river; a distance (W) of 11,490 feet from the river to the impermeable boundary; a harmonic transmissivity (T) of 76,056 gallons per day per foot; and a specific yield (S) of 0.2. Past pumping from Loloff Reservoir for the replacement of depletions at the Derr Pit returning to the river as subsurface flows will result in an additional 8.31 acre-feet of accretions at the river during this plan period, for a total of 35.74 acre-feet of replacement water.

The monthly projected depletions and replacement requirements are found on the attached Table 2. As shown on Table 3, total replacements are projected to exceed total lagged depletions for each month of this plan period.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. In accordance with approach number 3, a total bond amount of $2,161,816, which included the cost of installing a slurry wall around Phase 1-4 of the original permit area, was set. After receiving provisional approval of the slurry wall liner for Phases 1-4, DRMS granted a surety reduction to $753,487 based on a reduction to 20% of the cost of the slurry wall cost. Prior to opening each new phase the operator is required to submit an increased financial warranty so as to hold enough bond at any given time to construct a slurry wall around the actively mined phases. Prior to exposing groundwater or disturbing additional surface areas, the Applicant is required to notify DRMS so that the reclamation bond may be adjusted appropriately. Proof that such a bond has been obtained and the requirements of the April 30, 2010 letter from DRMS have been satisfied must be provided to this office (the Division of Water Resources). In January 2023, the operator requested to revise their existing DRMS permit to add surface mining of Phase 7a. The bond amount was increased to $1,972,000 in May of 2023 to cover the costs of reclamation for Phases 1-4 and Phases 5a, 6a, and 7a.

Conditions of Approval

I hereby approve the proposed SWSP in accordance with section 37-90-137(11), C.R.S., subject to the following conditions:

1. This SWSP shall be valid for the period of August 1, 2023 through July 31, 2024, unless otherwise revoked or superseded by decree. If a court-decreed plan for augmentation is not obtained for the proposed uses by the SWSP expiration date, a renewal request must be submitted to this office with the statutory fee of $257 **no later than June 1, 2024**. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP, in which case a $1,593 filing fee will apply.
2. The Applicant must replace all lagged depletions resulting from operation under this SWSP, including those lagged depletions that occur to the stream after the expiration date of this SWSP.
3. Well permit no. 82868-F was obtained for the current use and exposed pond surface area of the gravel pit in accordance with sections 37-90-137(2) and (11), C.R.S.
4. The total surface area of the groundwater exposed at the Derr Pit must not exceed 1.0 acre, which results in an annual net evaporative loss of 2.92 acre-feet.
5. The annual amount of water used for operational purposes at the Derr Pit shall not exceed 18.46 acre-feet, estimated as 6.10 acre-feet for dust suppression and 12.36 acre-feet lost with the production of 700,000 tons of mined product (140,000 tons washed and 560,000 tons not washed).
6. Total consumption at the Derr Pit must not exceed these aforementioned amounts unless an amendment is made to this SWSP.
7. Approval of this SWSP is for the purposes as stated herein. Any additional uses for which the water may be used will be allowed only if a new SWSP is approved for those additional uses.
8. Releases of replacement water must be sufficient to cover all out-of-priority depletions in time, place, and amount and must be made under the direction and/or the approval of the water commissioner. Notice must be provided and approval made by the water commissioner at least 48 hours prior to the release of replacement water, or as required by the water commissioner.
9. The release of replacement water may be aggregated at the discretion of the division engineer and/or water commissioner. The water commissioner and/or the division engineer shall determine the rate and timing of any aggregated release.
10. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity during the term of this SWSP.
11. As part of any renewal of this SWSP the Applicant must specify the proposed replacement source that will be used to replace all lagged depletions that result from operation under the SWSP, including those that extend beyond the approval period of the SWSP. If the intent is to obtain a short-term lease for such future replacement water, an executed lease for depletions that extend beyond the SWSP approval period is not required; however, the Applicant must demonstrate that there is a reasonable likelihood that such a lease could be obtained.

12. All diversions and discharges shall be measured in a manner acceptable to the division engineer. The Applicant shall install and maintain such measuring devices as required by the division engineer for operation of this SWSP.

13. Conveyance loss for delivery of augmentation water is subject to assessment and modification as determined by the division engineer.

14. The Applicant shall provide daily accounting (including, but not limited to diversions, depletions, replacement sources, and river calls) on a monthly basis. The accounting must be uploaded to the CDSS Online Reporting Tool within 30 days of the end of the month for which the accounting applies (https://dwr.state.co.us/Tools/reporting). Instructions for using the tool are available on the Division of Water Resources website on the "Services" → "Data & Information" page under the heading of Online Data Submittal. Accounting and reporting procedures are subject to approval and modification by the division engineer. Accounting forms need to identify the WDID number for each structure operating under this SWSP. Additional information regarding accounting requirements can be found in the attached Augmentation Plan Accounting Protocol. **NOTE:** Monthly accounting, even during the winter non-irrigation season, is required.

    The Applicant shall verify that the entity providing replacement water for this plan, in this case the Central Colorado Water Conservancy District, has included such use on their accounting submitted to the Division Engineer.

15. No dewatering is proposed to occur at the site during this plan period. Should dewatering commence during this plan period, as long as the pit is continuously dewatered, the water returned to the stream system should be adequate to offset the depletions, thus dewatering is required to continue during the term of this plan. Once dewatering at the site ceases, the delayed depletions must be addressed, including depletions resulting from the gradual refilling of the pit if it is not lined. The monthly volume of water pumped for dewatering operations must be recorded through a totalizing flow meter and shown on the submitted accounting.

16. To assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, which would lead to the abandonment of the pit, the Applicant has obtained a bond in the amount of $1,972,000 through the DRMS to cover the costs of reclamation at the site.

17. The approved final reclamation plan for the Derr Pit is a lined water storage reservoir. If a lined pond results after reclamation, replacement of lagged depletions, including lagged dewatering depletions, is required to continue until there is no longer an effect on stream flow. If reclamation of the mine site produces a permanent water surface exposing groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses. Granting of this plan does not imply approval by this office of any such court application(s).

18. The state engineer may revoke this SWSP or add additional restrictions to its operation if at any time the state engineer determines that injury to other vested water rights has occurred or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all

excavation of product from below the water table outside of the lined portion of the site, and all other use of water at the pit, must cease immediately.

19. In accordance with amendments to section 25-8-202(7), C.R.S. and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the State Engineer shall determine if the substitute supply is of a quality to meet requirements of use to which the senior appropriation receiving the substitute supply has normally been put. As such, water quality data or analyses may be requested at any time to determine if the requirement of use of the senior appropriator is met.

20. The decision of the state engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any water court case or any other legal action that may be initiated concerning this SWSP. This decision shall not bind the state engineer to act in a similar manner in any other applications involving other SWSPs or in any proposed renewal of this SWSP, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

If you have any questions concerning this approval, please contact Sarah Brucker in Denver at (303) 866-3581 ext. 8249 or Michael Hein in Greeley at (970) 352-8712.

Sincerely,

for Jeff Deatherage, P.E.,
Chief of Water Supply

Attachments: Exhibit 2 - Derr Pit Site Map
Tables 1-3
CCWCD Lease Agreement
Letter from DRMS dated April 30, 2010
Augmentation Plan Accounting Protocol

Cc: Michael Hein, Lead Assistant Division Engineer, Michael.Hein@state.co.us
1809 56th Avenue, Greeley, CO 80634; 970-352-8712

Louis Flink, Tabulation/Diversion Records Coordinator, Louis.Flink@state.co.us

Mark Simpson, Water Commissioner, District 3, Mark.Simpson@state.co.us

Dawn Ewing, Accounting Coordinator, Dawn.Ewing@state.co.us

Eric C. Scott, Division of Reclamation Mining and Safety, Eric.Scott@state.co.us

Exhibit 2. Derr Pit Site Map

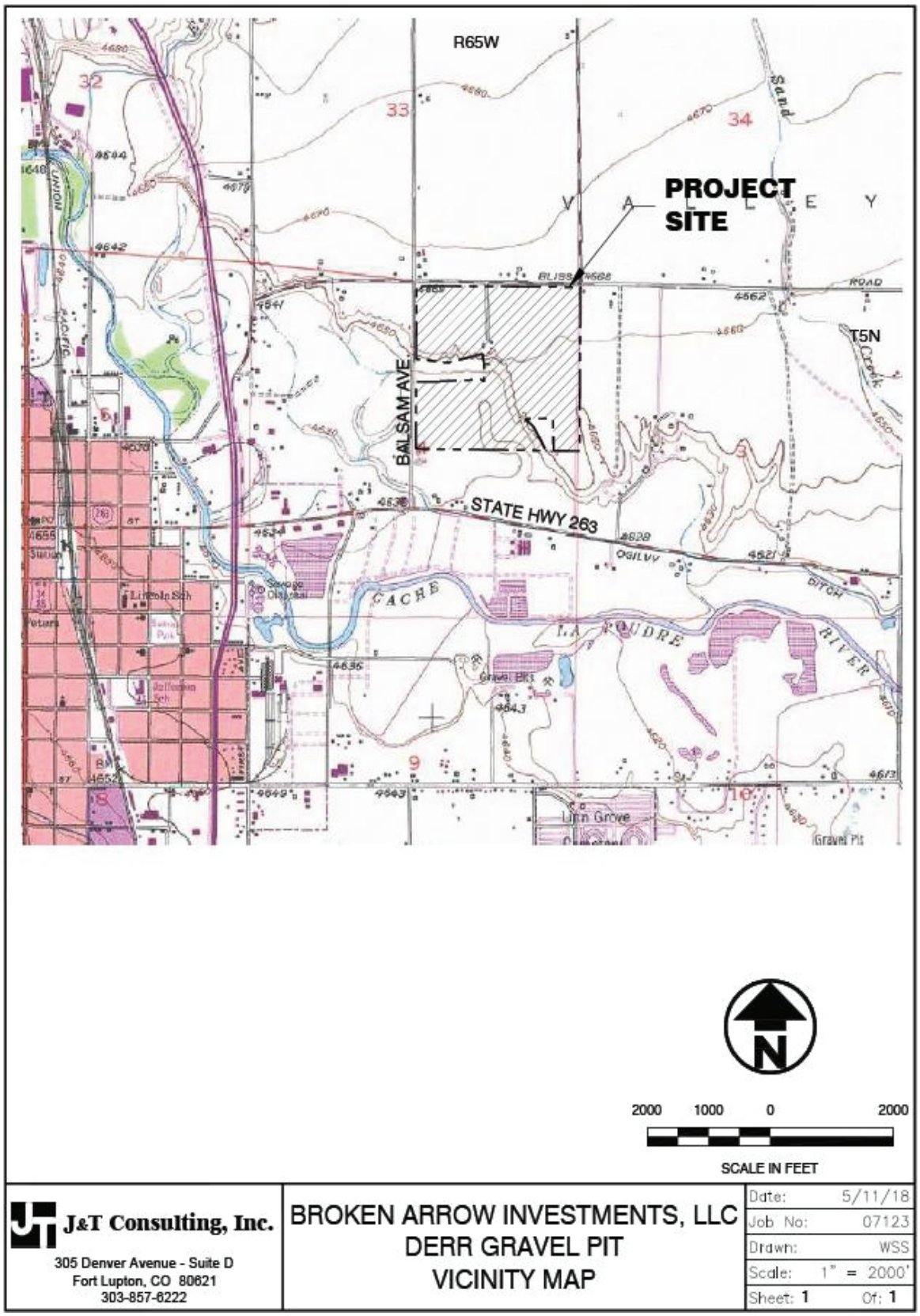


Exhibit 3 Table1, Table2, Table3. Operational Losses, Lagged Depletions, and Water Balance

Derr Pit
Evaporation Losses
Table 1

Williams and Weiss Consulting LLC

Submitted by:
Paul Weiss, P.E.
5255 Ronald Reagan Boulevard, Suite 220
Johnstown, CO 80534

Total Exposed Water Surface Area 1 acres

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	TOTAL
Distribution of Annual Evaporation[2]	0.135	0.100	0.070	0.040	0.030	0.030	0.035	0.055	0.090	0.120	0.145	0.150	1.000
Net Free Water Surface Evaporation (feet)[3]	0.394	0.292	0.204	0.117	0.088	0.088	0.102	0.160	0.263	0.350	0.423	0.438	2.917
Net Evaporation at Loloff Pit (ac-ft)	0.394	0.292	0.204	0.117	0.088	0.088	0.102	0.160	0.263	0.350	0.423	0.438	2.917

Notes:

[2] Distribution of annual evaporation per DWR Guidelines for gravel pits at elevations below 6,500 feet.

[3] Annual gross evaporation rate of 45 inches taken from NOAA Technical Report NWS 33.
Consistent with previously approved Loloff SWSP, a credit of 9.97 inches of effective precipitation results in approximately 35 inches net evaporation.

Operations Water Balance: Derr Pit Substitute Water Supply Plan
Table 2.

Williams and Weiss Consulting, LLC

Submitted by:
Paul Weiss, P.E.
5255 Ronald Reagan Boulevard, Suite 220
Johnstown, CO 80534

	Depletions											Replacements		
Month	Monthly Net Evap (ft)	Exposed Water Surface Area (acres)	Evaporative Losses (ac-ft)	Mining Production (tons)	Water Retained in Material (ac-ft)	Water Used For Dust Control (ac-ft)	Total CU (ac-ft)	Lagged Depletions (ac-ft)	Post Dewatering Depletions (ac-ft)	Percent of Month Under Call (%)	Net Augmentation Requirement (ac-ft)	CCWCD Lease (ac-ft)	Loloff Lagged Return (ac-ft)	Intermediate Water Balance (ac-ft)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
Aug-23	0.39	1.00	0.39	75,000	1.32	0.85	2.57	-1.67	-1.70	100%	-3.37	2.03	1.37	0.03
Sep-23	0.29	1.00	0.29	70,000	1.24	0.75	2.28	-1.79	-1.59	100%	-3.38	2.30	1.11	0.03
Oct-23	0.20	1.00	0.20	60,000	1.06	0.50	1.76	-1.76	-1.59	100%	-3.35	2.44	0.94	0.03
Nov-23	0.12	1.00	0.12	50,000	0.88	0.40	1.40	-1.63	-1.50	100%	-3.13	2.36	0.81	0.04
Dec-23	0.09	1.00	0.09	50,000	0.88	0.20	1.17	-1.48	-1.50	100%	-2.98	2.31	0.71	0.04
Jan-24	0.09	1.00	0.09	50,000	0.88	0.20	1.17	-1.37	-1.45	100%	-2.82	2.22	0.63	0.03
Feb-24	0.10	1.00	0.10	50,000	0.88	0.20	1.19	-1.30	-1.32	100%	-2.62	2.09	0.56	0.03
Mar-24	0.16	1.00	0.16	50,000	0.88	0.40	1.44	-1.28	-1.37	100%	-2.65	2.17	0.51	0.03
Apr-24	0.26	1.00	0.26	50,000	0.88	0.50	1.65	-1.33	-1.30	100%	-2.63	2.19	0.47	0.03
May-24	0.35	1.00	0.35	60,000	1.06	0.60	2.01	-1.42	-1.30	100%	-2.72	2.32	0.43	0.03
Jun-24	0.42	1.00	0.42	60,000	1.06	0.75	2.23	-1.55	-1.23	100%	-2.78	2.41	0.40	0.03
Jul-24	0.44	1.00	0.44	75,000	1.32	0.75	2.51	-1.69	-1.24	100%	-2.93	2.59	0.37	0.03
TOTAL	2.92		2.92	700,000	12.36	6.10	21.38	-18.27	-17.09		-35.36	27.43	8.31	0.38

Notes:
(A) Monthly evaporation
(B) Exposed water surface
(C) Monthly evaporation = (C) x (B)
(D) Estimated Production
(E) Water Retained in Material
(F) Estimated Water Use for Dust Control
(G) Total Consumptive Use = (C) + (E) + (F)
(H) Lagged Depletions computed with AWAS
(I) Post dewatering lagged depletions
(J) Percent of Month under Call Affecting Recharge Reach
(K) Net Augmentation Requirement = (H) x (I)
(L) Leased water from Central Colorado Water Conservancy District
(M) Loloff lagged returns from Deliveries Prior to this 2023 Plan Year
(N) Intermediate balance = (K) + (L) + (M)

Recharge Pond Water Balance: Derr Pit Substitute Water Supply Plan
Table 3.

Williams and Weiss Consulting, LLC

Submitted by:
Paul Weiss, P.E.
5255 Ronald Reagan Boulevard, Suite 220
Johnstown, CO 80534

	Depletions								Replacements		
Month	Dewatering (ac-ft)	Dewatering Overflow (ac-ft)	Dewatering Infiltration (ac-ft)	Dewatering Lagged Depletions (ac-ft)	Dewatering Lagged Accretions (ac-ft)	Net Effect (ac-ft)	Percent of Month Under Call (%)	Net Augmentation Requirement (ac-ft)	Credits from Operations Water Balance (ac-ft)	Supplemental Water Supply (ac-ft)	Water Balance (ac-ft)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
Aug-23	0.00	0.00	0.00	-0.04	0.01	-0.03	100%	-0.03	0.03	0.00	0.00
Sep-23	0.00	0.00	0.00	-0.04	0.01	-0.03	100%	-0.03	0.03	0.00	0.00
Oct-23	0.00	0.00	0.00	-0.04	0.01	-0.03	100%	-0.03	0.03	0.00	0.00
Nov-23	0.00	0.00	0.00	-0.04	0.00	-0.04	100%	-0.04	0.04	0.00	0.00
Dec-23	0.00	0.00	0.00	-0.04	0.00	-0.04	100%	-0.04	0.04	0.00	0.00
Jan-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
Feb-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
Mar-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
Apr-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
May-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
Jun-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
Jul-24	0.00	0.00	0.00	-0.03	0.00	-0.03	100%	-0.03	0.03	0.00	0.00
TOTAL	0.00	0.00	0.00	-0.41	0.03	-0.38		-0.38	0.38	0.00	0.00

Notes:
(A) Dewatering from Derr Pit
(B) Dewatering Overflow from Recharge Ponds
(C) 25% Infiltration in drainage ditch and Ogilvy Canal
(D) Column B value lagged using AWAS: T=79056 gpd/ft, S=0.2, W = 22900 ft, X = 2126 ft
(E) Column C value lagged using AWAS: T=79056 gpd/ft, S=0.2, W = 22900 ft, X = 1126 ft
(F) Col D + Col E
(G) Percent of Month under Call Affecting Recharge Reach
(H) Net Augmentation Requirement = (H) x (I)
(I) Worksheet2 Col O
(J) Supplemental Water Supply
(K) Col J + Col K + Col L

WATER LEASE AGREEMENT
DERR Mine

THIS AGREEMENT made and entered into this 31st day of July, 2023, by and between the Groundwater Management Subdistrict (GMS) of the Central Colorado Water Conservancy District, hereinafter referred to as "Lessor", and IHC Scott, Inc., hereinafter referred to as "Lessee"

WITNESSETH:

WHEREAS, Lessor has storage and direct flow water rights in the Cache la Poudre basin. Lessee has a Substitute Water Supply Plan (SWSP) filed with the State Engineer pursuant to 37-92-308(4) C.R.S.

WHEREAS, Lessor desires to lease to Lessee **27.43** acre feet and Lessee desires to lease the same.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the parties hereto, it is agreed as follows:

1. Lessor shall lease **27.43** acre feet to Lessee for use in Lessee's SWSP.
2. The parties agree that the volume of water to be leased under this agreement totals **27.43** acre-feet for delivery August 2023 through July 2024. Parties agree to the monthly delivery schedule as follows:

Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Total
2.03	2.30	2.44	2.36	2.31	2.22	2.09	2.17	2.19	2.32	2.41	2.59	27.43

3. Lessee shall pay lessor a total of **$21,944.00 ($800/AF· 27.43 AF)** due upon signing.
4. Parties agree that this Agreement is for the water delivery of **27.43** acre-feet from August 2023 through July 2024 and shall immediately terminate July 31st, 2024.
5. This Agreement represents the complete agreement of the parties and no oral modification shall be recognized. Any amendments or additions to the Agreement shall be made in writing and shall be signed by the parties hereto.
6. This agreement is binding upon the parties.
7. IHC Scott, Inc. may not assign or transfer this agreement to another party.

WITNESS WHEREOF, Lessor and Lessee have caused this Water Lease Agreement to be executed.

Dated the day and year first executed above.

Randy W. Ray, CCWCD Executive Director

IHC Scott, Inc.

COLORADO
Division of Water Resources
Department of Natural Resources

Augmentation Plan Accounting Protocol
June 2022

Accounting is an administrative tool to confirm water use is in accordance with a decree or other approval including that any required replacement is made to the stream system at the correct time, location, and amount. This guideline is subordinate to any decree language or Division Engineer specific accounting requirements. It describes basic augmentation plan accounting scenarios. Accounting for more complex scenarios can build on the fundamentals described herein.

Contents

1. Background and definitions

A thorough description of augmentation plans for well pumping is available in the Beginners Guide to Augmentation Plans for Wells. The following terms are used in this document:

- **Diversions** are withdrawals from a well, stream, or pond/reservoir.
- **Depletions** are the volume of reduced streamflow caused by a diversion. Lagged depletions are those that occur at a later time than when water is diverted by well pumping or groundwater pond evaporation due to the timing of water movement through the subsurface between the well/groundwater pond and the stream.
- **Hydrobase** is DWR's database of water information.
- **Colorado's Decision Support Systems ("CDSS")** is a State of Colorado website (https://cdss.colorado.gov/) providing access to water data and tools.
- **Replacement water** is a volume of water provided to the stream system to replace depletions and satisfy the unmet needs of senior water rights. Replacement water is typically provided from a reservoir release or another source that has been contracted for the purpose of replacing depletions. Replacement water may also be provided in the form of historic consumptive use ("HCU") credits derived from a change of water right where the use of a water right was changed to augmentation.
- **Transit loss** is the diminishment of the amount of water in a stream as water travels from upstream to the downstream location.
- **Priority Admin Number** indicates the seniority of a water right; equal to the number of days between a water right's priority date and the earliest decreed priority, December 31, 1849. For example, the Priority Admin Number for a water right with a priority date of May 5, 1950 is 36650.00000. The lower the Priority Admin Number, the more senior the water right. The five digits to the right of the period are used when the postponement doctrine applies to a water right due to a delay in decreeing the water right in the court (read more about this in the Administrative Call Standard, Appendix A).
- **Administrative Call** is a term that indicates there are unfulfilled downstream water rights "calling" for curtailment of upstream junior water rights to fulfill their need. In accounting, when the downstream Administrative Call is from a senior water right (with a lower Priority Admin Number), diversions/depletions are out-of-priority and replacement water must be provided.
- **Balance** is the amount of replacement water minus the depletions and obligations, not considering the Administrative Call. The balance may be negative when the diversions resulting in the depletions are in priority.
- **Net Effect** is the amount of replacement water minus the depletions and obligations, considering the Administrative Call. When the net effect is zero or positive, it shows that the Augmentation Plan prevented injury by replacing all out-of-priority diversions/depletions.

2. Methods to submit accounting

a. Accounting and Reporting Uploader (preferred)

The preferred method to submit accounting is through the use of the CDSS Accounting and Reporting Uploader tool. To set up an online account, call or email the Division contacts for the appropriate Water Division as shown in Table 1. Additional information is available on DWR's website under Data and Information/Online Data Submittal.

b. Email

Submit via email to the Water Commissioner and the Division Accounting email shown in Table 1. File names for accounting sheets should include the 7 digit Augmentation Plan WDID assigned by the Division Engineer's office.

3. Timing of accounting submittal

Accounting must be submitted as specified by your decree, DWR administrative approval (SWSP, Replacement Plan, etc.), or as requested by the Division Engineer or designated representative(s). If timing is not specified, submit accounting with the timing shown in Table 1.[1]

Table 1. Accounting Submittal Emails and Phone Number by Division

Division	Accounting Question & Submittal Email	Contact Phone Number	Standard Submittal Timing
1 - South Platte	Div1Accounting@state.co.us	970-352-8712	30 days after the end of the reporting month
2 - Arkansas	water.reporting@state.co.us	719-542-3368	10 days after the end of the reporting month*
3 - Rio Grande	kevin.boyle@state.co.us	719-589-6683	10 days after the end of the reporting month
4 - Gunnison	gregory.powers@state.co.us	970-249-6622	10 days after the end of the reporting month
5 - Colorado	dnr_div5acct@state.co.us	970-945-5665	10 days after the end of the reporting month
6 - Yampa/White	brian.romig@state.co.us	970-846-0036	Annually by November 15 or as needed upon request
7 - San Juan/ Dolores	dnr_div7acct@state.co.us	970-247-1845	10 days after the end of the reporting month**
Designated Ground Water Basins	chris.grimes@state.co.us	303-866-3851 ext. 8253	Annually by February 15 for the prior year

*for approvals deemed critical for administration; all others (including simple subdivisions) bi-annual readings before and after the irrigation season

**for approvals deemed critical for administration; annual submittals for others

[1] For proper administration, Water Commissioners may request regular and direct submission of water data in addition to accounting submittals described herein.

4. Overall organization of accounting spreadsheet and required information per tab

a. Overall organization

The following are typical spreadsheet tab names in accounting. See the example and screenshots section for an overview of what this might look like:

i. Contact/Plan Information tab
ii. Input tab(s)
iii. Depletions & Obligations tab
iv. Replacement tab
v. Summary tab
vi. DWR tab
vii. DWR Meters tab
viii. Version/Notes tab

Fewer or additional tabs as necessary for more simple or complex accounting, subject to approval by the Division Engineer

b. Contact/Plan Information Tab

The accounting must provide the contact information including name and email address for:

i. The party(s) responsible for submitting the accounting
ii. The plan administrator and/or the plan attorney
iii. Water court case number (format of YYCWXXXX), SWSP name and 4-digit Plan ID, or Ground Water Commission Order represented in the accounting.
iv. The 7-digit overall WDID(s) associated with the augmentation plan (not the individual structure WDIDs).[2]

c. Input Tab(s)

When possible, all cells showing diversion of water (well pumping and stream diversions) should be located on one or multiple input tabs as shown below. Cells with regular input, such as meter readings and reservoir releases, should be shaded a specifically identified color to distinguish them from cells that use formulas to convert or summarize the input.

Depending on the specific operation, the following may be included on Input tabs:

i. Estimated water use or evaporation:

When meters or measurement structures are not required, water consumption is estimated based on counts (number of homes, number of domestic animals, acreage of pond surface area, etc.) multiplied by a factor. Include a column or row for each of the following that are relevant to the augmentation plan:

1. Type of use: single family dwellings, domestic animals, area of lawn and garden (include units - square feet or acres), area of pond evaporation (include units - square feet or acres), etc.
2. Count or area input value for each type: the number of homes or domestic animals or the area (square footage or acres of home lawn and garden irrigation or pond surface evaporation). [this is the "Input" that could change regularly]

[2] Colorado Decision Support System Tools (https://dwr.state.co.us/Tools) can be used to find WDIDs (see Structures), court case numbers (see Water Rights), and other supporting information.

3. Factor to convert input to consumption in acre-feet.
4. Acre-feet of consumption.

ii. Well diversion data using flow meters:

Enter raw readings or measurements (e.g., from totalizing flow meters) and how those raw readings or measurements are converted to volumes of water. There should be one row or column for each well with a meter as described below. Once the spreadsheet formulas have been established, generally only the meter reading is entered with every submittal. The well and meter information may be located in a separate well & meter information tab (see example and screenshots section).

1. Well WDID
2. Well Permit Number
3. Priority Admin Number
4. Flow Meter Serial Number
5. Reading Date
6. Reading[3] [this is the "Input" that will change regularly]
   Enter reading exactly as shown on the face of the meter as a non-negative integer.
7. Comment
   a. When a meter rolls over (such as from 999 to 000), is replaced or reset[4] , add a comment stating the old meter serial number, the maximum number before the rollover or replacement and then enter the number on the face of the meter at the end of the reporting period. Update the meter information section with the new meter's serial number.
8. Meter information:
   a. Make
   b. Model
   c. The units represented by the digits on the meter (such as gallons or acre-feet)
   d. Multiplier for meter reading (if applicable)
      i. Residential well meters typically have a multiplier of 1.0 with units of gallons. Readings should generally report all numbers on the face of the meter (including non-rotating digits) with a multiplier of 1.0.
      ii. Larger agricultural or commercial wells typically read in acre-feet and typically have a decimal multiplier. For instance, with a multiplier of 0.001, a meter reading of 123456 represents 123.456 acre-feet.
   e. Correction factor
      i. This is a multiplier used when a meter test shows a need to correct the installed meter to an accurate reading. This will be 1.0 when there is not a test showing a need for correction.
9. Acre-feet pumped
   Use a formula to convert from the meter reading to acre-feet using the multiplier and correction factor. To convert meter readings in gallons to acre-feet, divide by 325,851.

iii. Well diversion data using Electricity Consumption

For wells approved to use power records and a Power Conversion Coefficient (PCC) to estimate water pumped, the accounting information is similar to well diversion data using flow meters (section 4.c.ii) above with the following replacements (instead of 6. "Reading" and 8. "Meter information):

[3] A comment on the Meter Reading cell is used to note "Actual, Estimated, Corrected, or Calculated" for all wells subject to measurement rules when the entry is not based on a reading taken on the actual date specified.
[4] Resetting a meter may be prohibited by local well measurement rules.

6. Power meter reading [this is the “Input” that will change regularly]
8. Power Meter Information
    a. PCC

iv. Surface diversion data

Include a column or row for each surface diversion with the following information:

1. Diversion structure name or a.k.a.
2. Structure WDID
3. Measured flow through the measurement structure and units
    a. If more than one water right is diverted through the structure, there should be adjacent columns for each. Each source should have a designated column or row and labeling should include the measuring structure WDID and the source of the water (e.g. case number).
    b. If there is a multiplier that adjusts the standard measurement-flow relationship to reflect the actual measurement-flow relationship of the specific structure (“shift”), the adjusted value should be reflected in a separate column.
4. Priority Admin Number
5. Storage and release

If the diversion is to storage, which will be followed by a release of water, follow the instructions in the Reservoir Accounting Guideline.

v. Administrative Call (are diversions in-priority?)

In portions of Colorado, there may be times when depletions are in-priority, and do not require replacement. Depletions are in-priority when water rights on the stream system that are senior to the diversion have enough water and are not “calling” for more water.

1. **Simplified (percent of month administrative call)**
   For certain basic accounting, such as subdivision well depletions, the Division Engineer may allow or apply an estimate of the days of expected administrative call each month. Typically, replacement water is provided based on projected call days, which is later compared to actual administrative call data to ensure that adequate replacement was provided. In this case, the accounting should have an input field either for the number of call days or the percentage of days in the month with a call.
2. **Daily record of administrative call**
   Provide a column that shows whether depletions are either “IN” or “OUT” of priority each day.
    - Locations with minimal call variation: In areas with minimal variation in the call, the Division Office may not require a formula comparing Priority Admin Numbers, but will accept manual entries of “IN” or “OUT” of priority each day.
    - All other locations: “IN” or “OUT” of priority is determined daily using formulas comparing the Priority Admin Number of depletions to the Priority Admin Number of the calling water right in each depleted stream reach. Include a column for each of the following:
        - The Priority Admin Number of the calling water right. Calling structure information can be obtained programmatically from:
            - CDSS REST services - insert a link that pulls the required information directly from DWR’s database.
            - CDSS Administrative Calls tool.

          DWR accounting staff can provide guidance on incorporating this information within an accounting spreadsheet.

- The Name of the calling water right
- "In" or "Out"-of-priority either for all structures covered by the accounting or for each structure in its own column. Use a formula to compare the Priority Admin Number of the calling structure to the Priority Admin Number of the structure(s) in the accounting.

d. Depletion & Obligation tab

Used to (1) convert well pumping (and groundwater pond evaporation) to lagged depletions impacting the stream and (2) show lagged depletions that are out-of-priority, and (3) include any additional water obligations of the plan for augmentation.

i. Calculate lagged depletions - Although well pumping and modeling may use a monthly step function to determine the depletions from pumping, the monthly result may, if requested by the Division Office or required by decree, then be divided by the number of days in the month in order to calculate a daily impact for daily water administration.
   1. Well Pumping (or groundwater pond evaporation) - Reference back to the Input tab for the acre-feet of water pumped or evaporated.
   2. Consumption factor (%) - If the decree or approval describes that a percentage of the water pumped is consumed and only the consumed amount is replaced.
   3. Acre-feet consumed - Multiply the acre-feet pumped by the consumption factor.
   4. Delay Factors - show factors that convert pumping in one month to depletions in future months. These may be percentages per month, that total 100 percent over an extended period of time.
   5. Depletions - a formula that combines previous months and present month pumping with the delay factors to determine depletions impacting the stream this month and in future months.

ii. Out-of-priority depletions are combined into one column for each reach considering the administrative call information included on the Input tab.

iii. Return flow obligations (if applicable): Replacement water sources changed from a historical irrigation use usually have a return flow obligation that must also be tracked in accounting. Return flow obligations are similar to depletions because they must be replaced in time, place, and amount. Depending on decree language and preference, return flow obligations may be included under the replacement tab in section 4.e. below. For each replacement source with return flow obligations, include the following:
   - the basis and volume of the return flow obligation,
   - the location of the return flow obligation,
   - replacement of the return flow obligation.

e. Replacement tab

List each structure providing replacement water, transit loss information, and volumes released:

i. Structure providing replacement water: name of reservoir, ditch, well, leased or other replacement water, its WDID, and the water court decree allowing its use for augmentation or replacement. For instructions on accounting for replacement using recharge accretions, refer to specific recharge guidance.

ii. Replacement water travel distance (miles)
the distance from the point of release to the location of the out-of-priority depletion where replacement is owed

iii. Transit loss percent per mile (%)

iv. Total transit loss (%)
v. Volume released (acre-feet)
vi. Transit loss volume (acre-feet)
vii. Volume delivered (acre-feet) - equal to volume released minus transit loss volume
viii. Return flow obligations (acre-feet): Depending on decree language as described above, these may be included here instead of in the depletion tab. See description under section 4.d. above.

f. Summary Tab

The Summary Tab is used to calculate the Net Effect of the Plan on each impacted stream reach. The summary should reference back to information and formulas in the other spreadsheet tabs. The summary tab compares obligations, replacements and that replacements equal or exceed obligations in time, place, and amount. The Summary tab should only summarize data and calculations located in other tabs of the accounting. It should not contain manual entries, input data, or make calculations that are used in other tabs.

The Summary Tab should contain the following for each impacted stream reach (typically on a daily basis or as required by the division office):

i. Total depletions and obligations
ii. Total replacement
iii. Balance - Total replacement minus total depletions and obligations, which may be negative when the diversions resulting in the depletions are in priority.
iv. Net Effect - Total replacement minus out-of-priority depletions and obligations. If the net effect is negative, the Plan resulted in injury.

g. DWR tab for Diversion Record Data Import

A tab titled **"DWR"** can be used to convert data input or numbers calculated in other tabs into rows that represent diversion record water classes, which DWR staff can upload to create official diversion records. When appropriate, DWR staff will develop this tab or work with plan owners to develop this tab, ensure it follows DWR's standard format and utilizes water classes according to the Diversion Records Standard. This format is necessary to allow the records to be imported directly into Hydrobase.

h. DWR Meters tab for Meter Reading Data Import

A tab titled **"DWR Meters"** can be included for use in bulk uploading meter readings. This calculates pumping totals in compliance with well rules or to meet other Division-specific requirements. In order for this tab to be bulk uploaded into Hydrobase, the columns in this tab must be formatted as shown in the "User Guide - How to Bulk Upload Meter Readings".

i. Version/Notes tab

A tab to document changes in accounting formulas and the date of those changes.

5. Requirements and recommendations for all tabs

a. Accounting should show how raw input data is manipulated using formulas to determine the resulting impact on the river. Accounting must therefore include a functional spreadsheet (ie no pdfs) showing all operations, formulas, etc. to clearly show calculations.

b. The use of a water year of November 1 through October 31 is required unless specifically decreed otherwise. When a different water year is required by decree, DWR may request additional months of data in the accounting to include the November 1 through October 31

time period, resulting in more than 12 months of data being reported.

c. For all tabs other than the Summary tab, include running accounting for the entire water year without monthly subtotals. Monthly subtotals commonly result in errors in the spreadsheet. The Summary tab can be used as a place to show monthly totals.

d. Date fields should be complete dates (month, day, and year, recognized as a date value by the spreadsheet software) but may be formatted to display as desired.

e. Use consistent cell color shading to clearly identify the different types of information, such as manual input cells and formula cells (provide a legend for data types, see example below)

f. Enter "0" in cells to document no diversion or use, rather than blanks, hyphens, or another character.

g. When a formula is overwritten with a manual entry, the cell should be highlighted and a comment added for the reasoning.

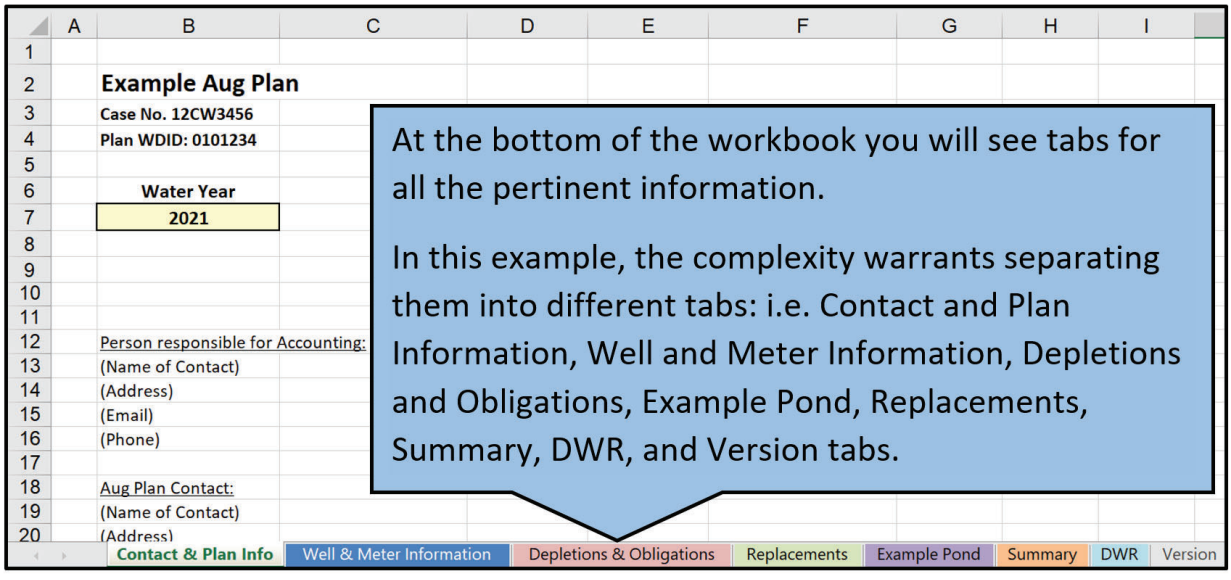
h. When there are multiple stream reaches involved, organize accounting from upstream to downstream.

i. Footnotes should be utilized, as necessary, to describe the basis for formulas, calculations imposed on the raw input data, and column descriptions.

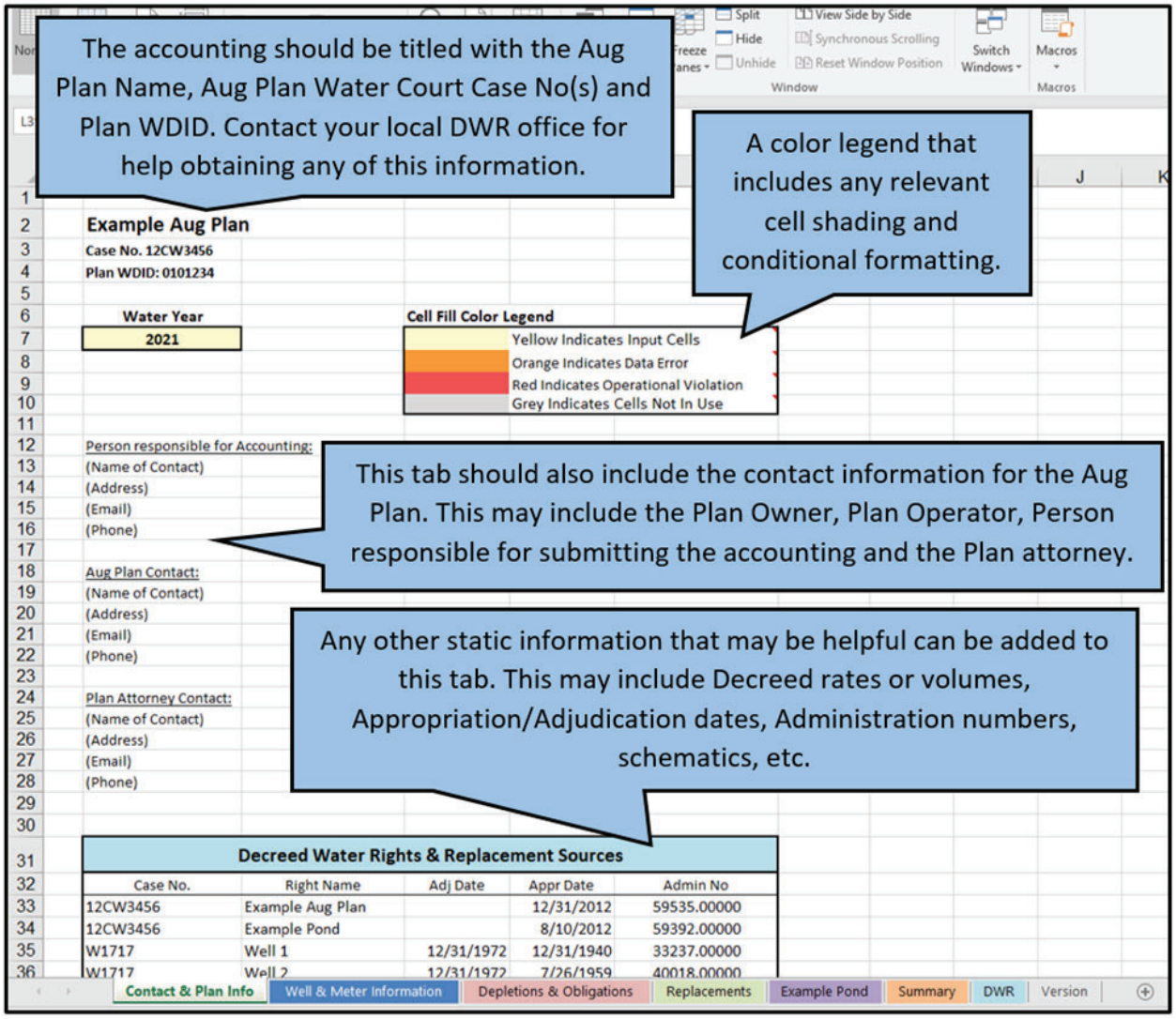
6. Example, Screenshots, and Spreadsheet Templates

Water users may request spreadsheet templates from their local division office for use as examples of how accounting may be assembled, but are responsible for developing their own functional accounting customized for their own Plan requirements. Note that example and actual accounting may have slightly different organization than what is described above.

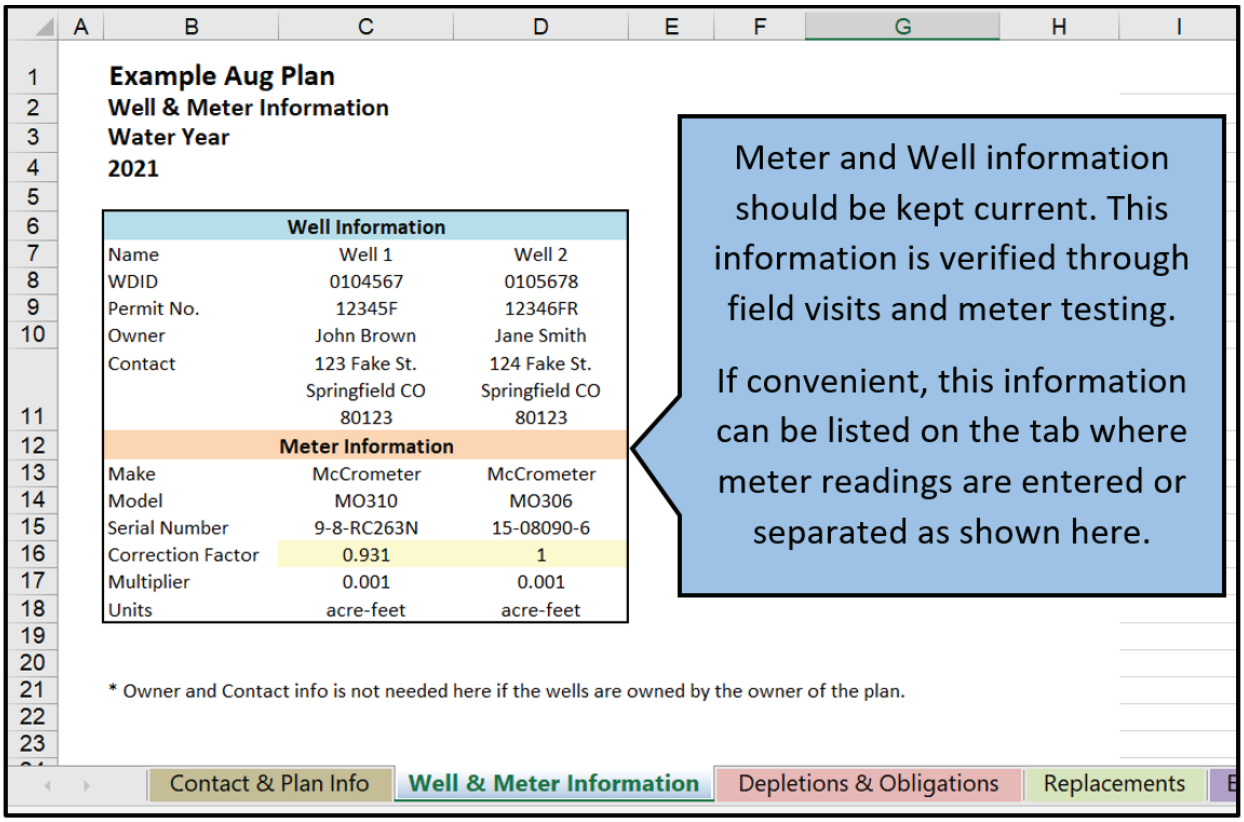
a. (List of relevant tabs)



b. (Contact & Plan Information)



c. (Well & Meter Information)



Example Aug Plan
Well & Meter Information
Water Year
2021

Well Information		
Name	Well 1	Well 2
WDID	0104567	0105678
Permit No.	12345F	12346FR
Owner	John Brown	Jane Smith
Contact	123 Fake St. Springfield CO 80123	124 Fake St. Springfield CO 80123
Meter Information		
Make	McCrometer	McCrometer
Model	MO310	MO306
Serial Number	9-8-RC263N	15-08090-6
Correction Factor	0.931	1
Multiplier	0.001	0.001
Units	acre-feet	acre-feet

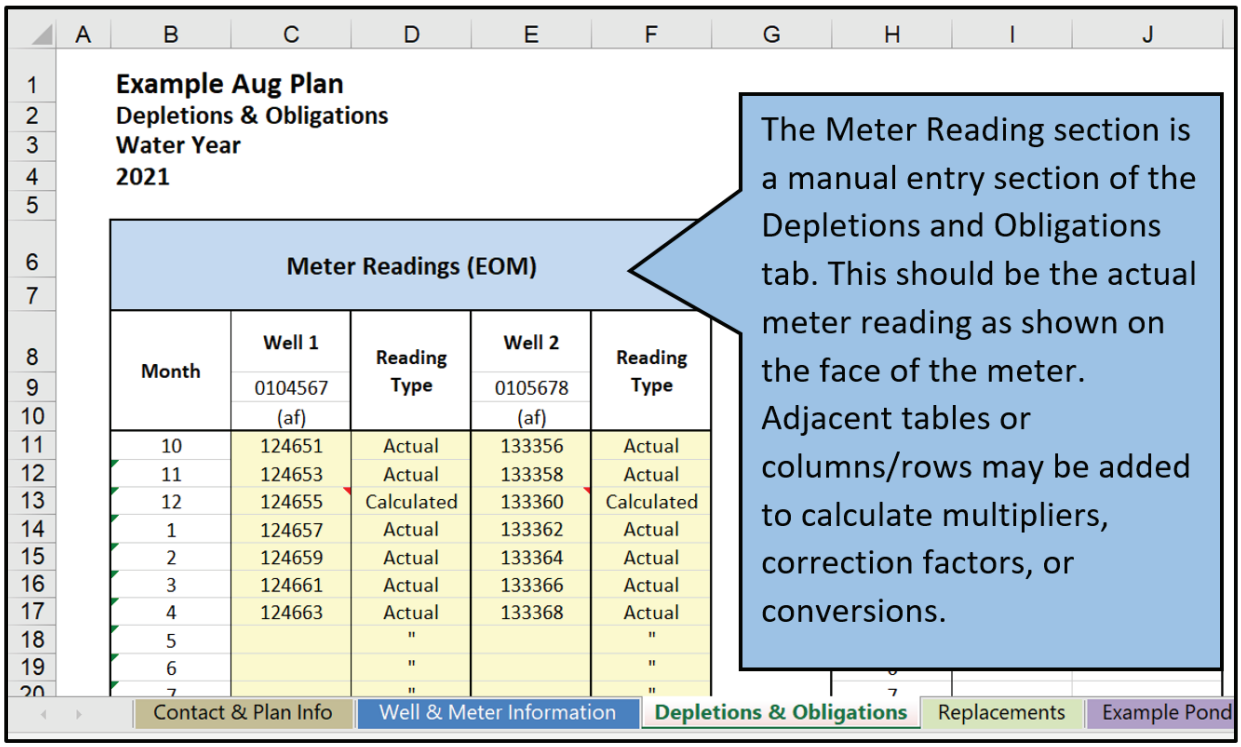
Meter and Well information should be kept current. This information is verified through field visits and meter testing.

If convenient, this information can be listed on the tab where meter readings are entered or separated as shown here.

* Owner and Contact info is not needed here if the wells are owned by the owner of the plan.

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements

d. (Depletions & Obligations) - in this example, the Depletions & Obligations tab includes cells for entering meter readings, calculating well pumping over the period, and converting that to lagged depetions.



Example Aug Plan
Depletions & Obligations
Water Year
2021

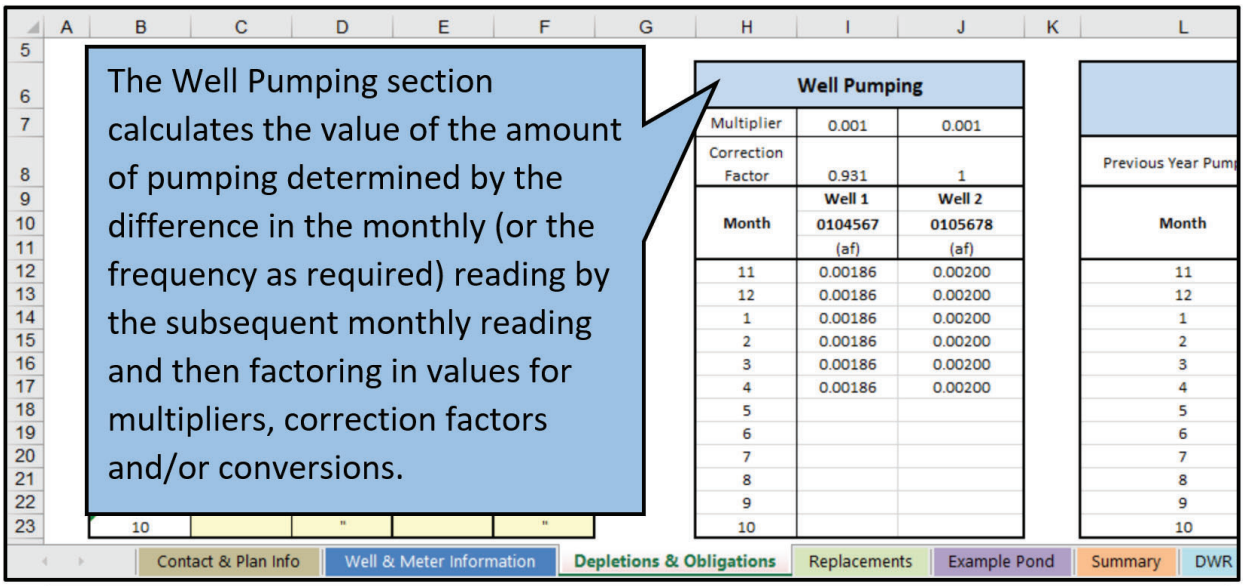
Meter Readings (EOM)

Month	Well 1 0104567 (af)	Reading Type	Well 2 0105678 (af)	Reading Type
10	124651	Actual	133356	Actual
11	124653	Actual	133358	Actual
12	124655	Calculated	133360	Calculated
1	124657	Actual	133362	Actual
2	124659	Actual	133364	Actual
3	124661	Actual	133366	Actual
4	124663	Actual	133368	Actual
5		"		"
6		"		"

The Meter Reading section is a manual entry section of the Depletions and Obligations tab. This should be the actual meter reading as shown on the face of the meter. Adjacent tables or columns/rows may be added to calculate multipliers, correction factors, or conversions.

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond

e. (Depletions & Obligations)



The Well Pumping section calculates the value of the amount of pumping determined by the difference in the monthly (or the frequency as required) reading by the subsequent monthly reading and then factoring in values for multipliers, correction factors and/or conversions.

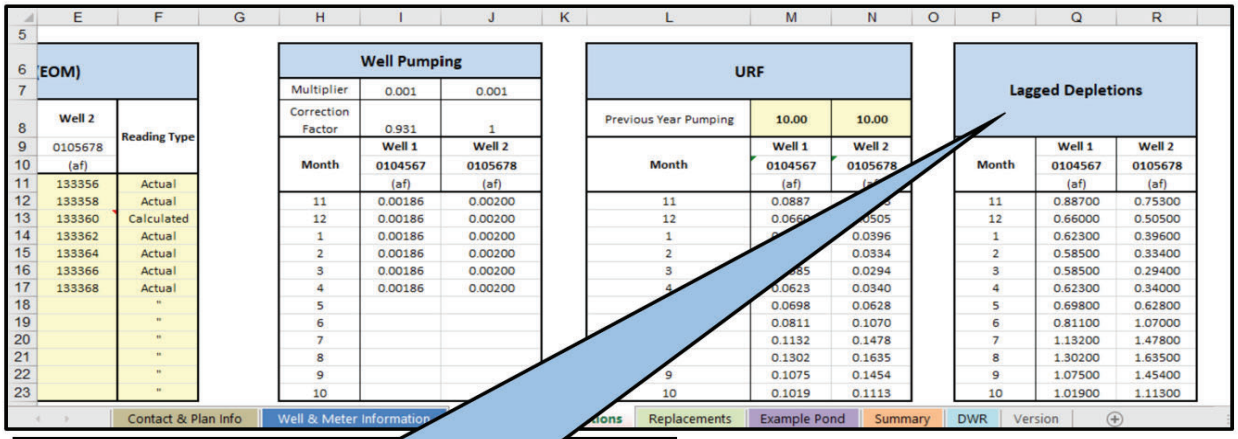
Well Pumping

Multiplier	0.001	0.001
Correction Factor	0.931	1
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.00186	0.00200
12	0.00186	0.00200
1	0.00186	0.00200
2	0.00186	0.00200
3	0.00186	0.00200
4	0.00186	0.00200
5		
6		
7		
8		
9		
10		

Previous Year Pump
Month
11
12
1
2
3
4
5
6
7
8
9
10

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

f. (Depletions & Obligations) - calculate lagged depletions for the month



(EOM)	
Well 2 0105678 (af)	Reading Type
133356	Actual
133358	Actual
133360	Calculated
133362	Actual
133364	Actual
133366	Actual
133368	Actual
	"
	"
	"
	"
	"
	"

Well Pumping		
Multiplier	0.001	0.001
Correction Factor	0.931	1
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.00186	0.00200
12	0.00186	0.00200
1	0.00186	0.00200
2	0.00186	0.00200
3	0.00186	0.00200
4	0.00186	0.00200
5		
6		
7		
8		
9		
10		

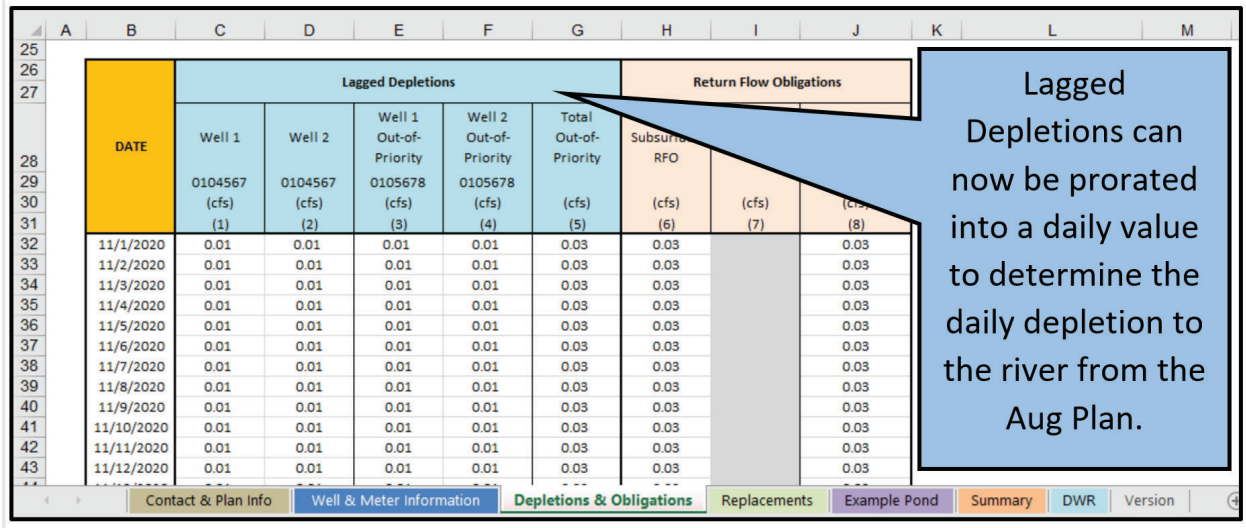
URF		
Previous Year Pumping	10.00	10.00
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.0887	
12	0.0669	0505
1		0.0396
2		0.0334
3	585	0.0294
4	0.0623	0.0340
5	0.0698	0.0628
6	0.0811	0.1070
7	0.1132	0.1478
8	0.1302	0.1635
9	0.1075	0.1454
10	0.1019	0.1113

Lagged Depletions		
Month	Well 1 0104567 (af)	Well 2 0105678 (af)
11	0.88700	0.75300
12	0.66000	0.50500
1	0.62300	0.39600
2	0.58500	0.33400
3	0.58500	0.29400
4	0.62300	0.34000
5	0.69800	0.62800
6	0.81100	1.07000
7	1.13200	1.47800
8	1.30200	1.63500
9	1.07500	1.45400
10	1.01900	1.11300

Contact & Plan Info | Well & Meter Information | ...ions | Replacements | Example Pond | Summary | DWR | Version

Lagged Depletions should be calculated utilizing the Well Pumping data and the lagging method established by the relevant decree or SWSP (Stream depletion Factors or Glover Parameters).

g. (Depletions & Obligations) - convert monthly lagged depletions to daily

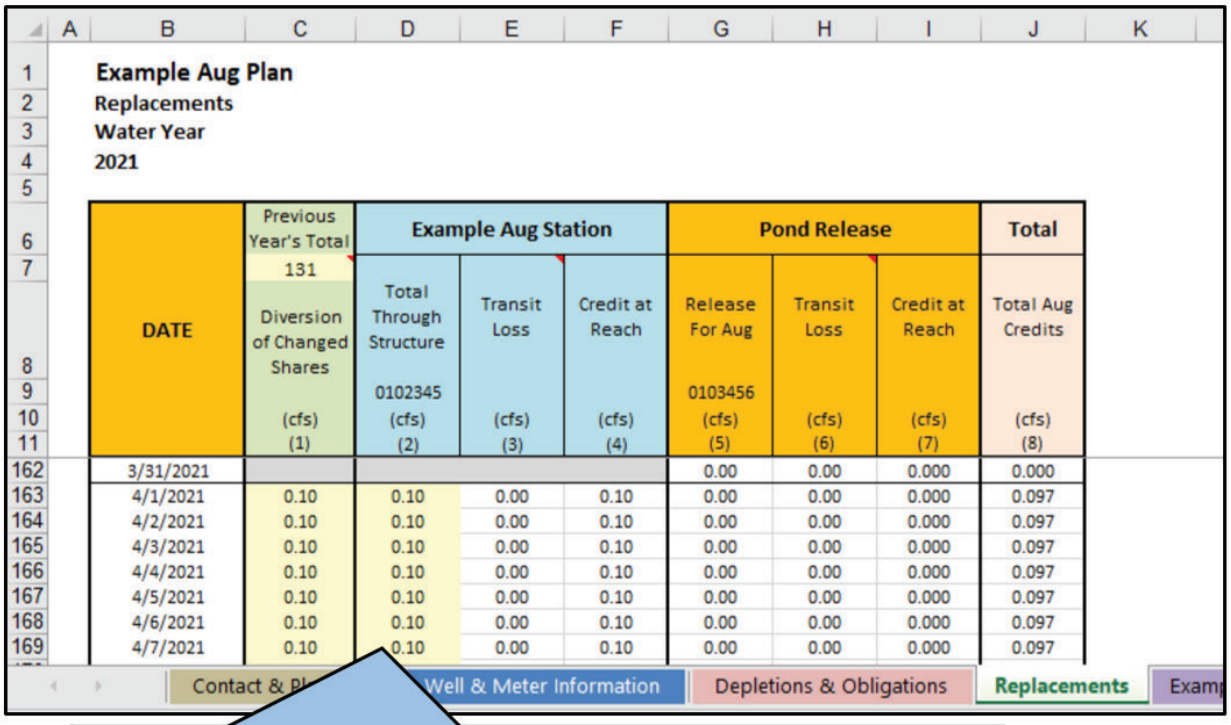


	Lagged Depletions					Return Flow Obligations		
DATE	Well 1 0104567 (cfs) (1)	Well 2 0104567 (cfs) (2)	Well 1 Out-of-Priority 0105678 (cfs) (3)	Well 2 Out-of-Priority 0105678 (cfs) (4)	Total Out-of-Priority (cfs) (5)	Subsum... RFO (cfs) (6)	(cfs) (7)	(cfs) (8)
11/1/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/2/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/3/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/4/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/5/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/6/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/7/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/8/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/9/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/10/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/11/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03
11/12/2020	0.01	0.01	0.01	0.01	0.03	0.03		0.03

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR | Version

Lagged Depletions can now be prorated into a daily value to determine the daily depletion to the river from the Aug Plan.

h. (Replacements)



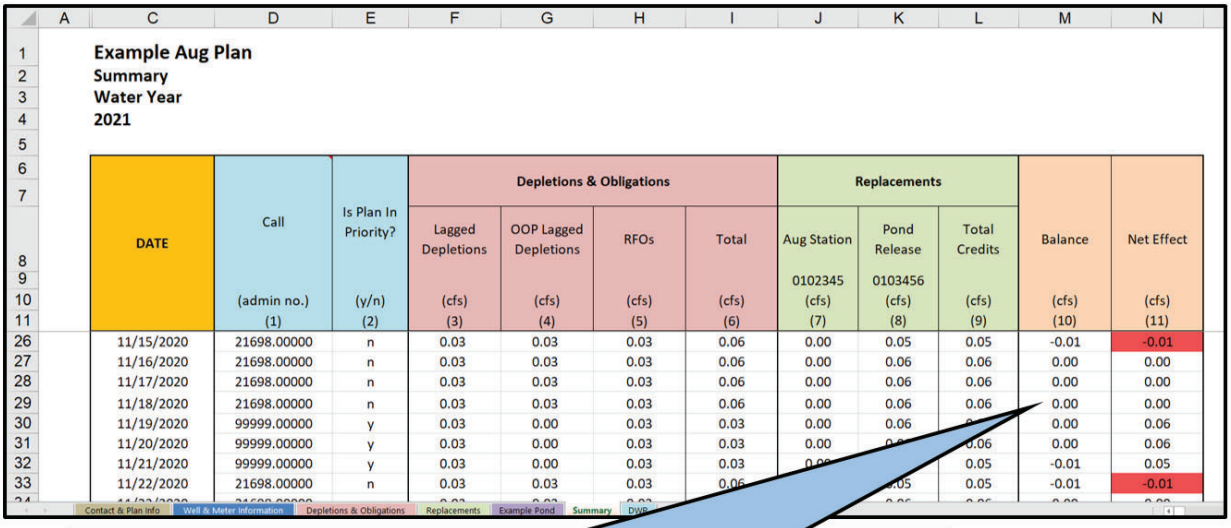
Example Aug Plan
Replacements
Water Year
2021

DATE	Previous Year's Total	Example Aug Station			Pond Release			Total
	131							
	Diversion of Changed Shares	Total Through Structure 0102345	Transit Loss	Credit at Reach	Release For Aug 0103456	Transit Loss	Credit at Reach	Total Aug Credits
	(cfs) (1)	(cfs) (2)	(cfs) (3)	(cfs) (4)	(cfs) (5)	(cfs) (6)	(cfs) (7)	(cfs) (8)
3/31/2021					0.00	0.00	0.000	0.000
4/1/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/2/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/3/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/4/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/5/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/6/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097
4/7/2021	0.10	0.10	0.00	0.10	0.00	0.00	0.000	0.097

Contact & Pl... | Well & Meter Information | Depletions & Obligations | Replacements | Examp...

Input information should be shaded differently than the calculated (cells with formulas) cells. Please provide a legend with the color/shading scheme.

i. (Summary) - daily



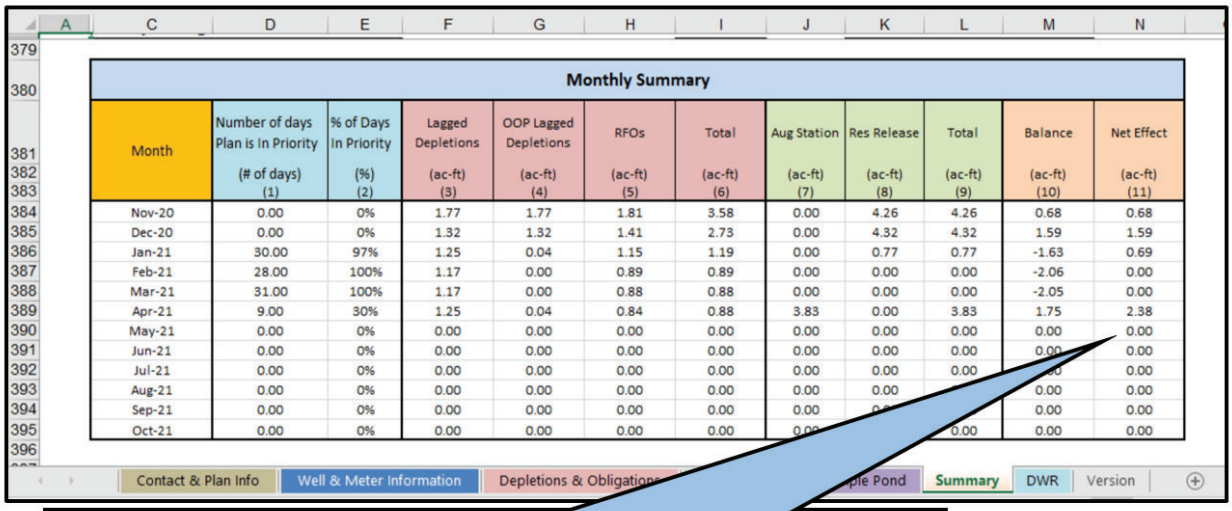
Example Aug Plan
Summary
Water Year
2021

DATE	Call (admin no.) (1)	Is Plan In Priority? (y/n) (2)	Depletions & Obligations: Lagged Depletions (cfs) (3)	Depletions & Obligations: OOP Lagged Depletions (cfs) (4)	Depletions & Obligations: RFOs (cfs) (5)	Depletions & Obligations: Total (cfs) (6)	Replacements: Aug Station 0102345 (cfs) (7)	Replacements: Pond Release 0103456 (cfs) (8)	Replacements: Total Credits (cfs) (9)	Balance (cfs) (10)	Net Effect (cfs) (11)
11/15/2020	21698.00000	n	0.03	0.03	0.03	0.06	0.00	0.05	0.05	-0.01	-0.01
11/16/2020	21698.00000	n	0.03	0.03	0.03	0.06	0.00	0.06	0.06	0.00	0.00
11/17/2020	21698.00000	n	0.03	0.03	0.03	0.06	0.00	0.06	0.06	0.00	0.00
11/18/2020	21698.00000	n	0.03	0.03	0.03	0.06	0.00	0.06	0.06	0.00	0.00
11/19/2020	99999.00000	y	0.03	0.00	0.03	0.03	0.00	0.06		0.00	0.06
11/20/2020	99999.00000	y	0.03	0.00	0.03	0.03	0.00		0.06	0.00	0.06
11/21/2020	99999.00000	y	0.03	0.00	0.03	0.03			0.05	-0.01	0.05
11/22/2020	21698.00000	n	0.03	0.03	0.03	0.06		0.05	0.05	-0.01	-0.01

Contact & Plan Info | Well & Meter Information | Depletions & Obligations | Replacements | Example Pond | Summary | DWR

The Balance column is the balance of Replacements and actual Depletions/Obligations regardless of whether the plan is in or out of priority. It is calculated by subtracting Depletions and Obligations from Replacements.

j. (Summary) - a monthly summary table may be added at the bottom of the Summary tab below the daily summary



Monthly Summary

Month	Number of days Plan is In Priority (# of days) (1)	% of Days In Priority (%) (2)	Lagged Depletions (ac-ft) (3)	OOP Lagged Depletions (ac-ft) (4)	RFOs (ac-ft) (5)	Total (ac-ft) (6)	Aug Station (ac-ft) (7)	Res Release (ac-ft) (8)	Total (ac-ft) (9)	Balance (ac-ft) (10)	Net Effect (ac-ft) (11)
Nov-20	0.00	0%	1.77	1.77	1.81	3.58	0.00	4.26	4.26	0.68	0.68
Dec-20	0.00	0%	1.32	1.32	1.41	2.73	0.00	4.32	4.32	1.59	1.59
Jan-21	30.00	97%	1.25	0.04	1.15	1.19	0.00	0.77	0.77	-1.63	0.69
Feb-21	28.00	100%	1.17	0.00	0.89	0.89	0.00	0.00	0.00	-2.06	0.00
Mar-21	31.00	100%	1.17	0.00	0.88	0.88	0.00	0.00	0.00	-2.05	0.00
Apr-21	9.00	30%	1.25	0.04	0.84	0.88	3.83	0.00	3.83	1.75	2.38
May-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jun-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug-21	0.00	0%	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Sep-21	0.00	0%	0.00	0.00	0.00	0.00	0.00			0.00	0.00
Oct-21	0.00	0%	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00

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Net Effect is the Balance or Net Impact value with the priority of the plan included. Plans considered in priority may not be required to replace depletions. This column represents whether the Aug plan shows injury to the river or has sufficiently replaced its uses.

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

M-2008-017

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

April 30, 2010

Broken Arrow Investments, LLC
699 N. First Avenue
Greeley, CO 806310000

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

The Division of Reclamation Mining and Safety is responsible for ensuring that Sand and Gravel mining operators comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Act) and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (Rules). Among these requirements are provisions for the protection of water resources. The Act requires that reclamation plans must ensure minimization of disturbances to the prevailing hydrologic balance, including disturbances to the quantity of water in the area affected by mining and in the surrounding areas. § 34-32.5-116(4)(h). Rule 3.1.6(1)(a) requires compliance with Colorado water laws and regulations governing injury to existing water rights both during and after mining. Permits must specify how the permittee will comply with applicable Colorado water laws and regulations governing injury to existing water right rights. Rule 6.3.3(j); Rule 6.4.5(2)(c). After an extensive review, the Division determined that several operators may not have appropriate permit conditions to address certain reclamation liabilities arising from impacts to water resources.

In September 2009 the Division of Water Resources (DWR) updated its Guidelines for Sand and Gravel Pits. These guidelines provide guidance on achieving compliance with state law regarding replacement of depletions from sand and gravel mining, thus the guidelines provide a benchmark for the protection of hydrologic balance required under the Act and Rules. As noted in the Guidelines, sand and gravel operations which expose groundwater without complying with state law create a reclamation liability by impacting available groundwater.

State law requires that any person exposing ground water must obtain a well permit from the SEO pursuant to § 37-90-137(11). Because exposed groundwater results in out-of-priority water depletions, operations which expose ground water must also eventually obtain a water-court approved augmentation plan. Currently, several operators do not have either an augmentation plan or bonding to provide an alternative method to mitigate injurious stream depletions that result from mining-related exposure of ground water. The Division has a statutory duty to ensure that lands affected by mining are reclaimed in a manner that complies with state law and to ensure that operators have sufficient bonding to achieve reclamation. In order to assist operators in achieving compliance with these requirements, the Division proposes that, by April 30, 2011, operators should contact the Division and agree upon a plan for achieving compliance.

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,

2. Obtain a court approved augmentation plan prior to exposing ground water or,

3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,

4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

The Division will work with operators on an individual basis as they move to implement one of these plans. It is likely that options 1 and 3 will require the submittal of a technical revision or an amendment to the existing permit depending on the nature of the current mining and reclamation plan and the proposed changes. Increased financial warranties, as a result of these modifications, may be posted in a phased manner not to exceed three years. Amendments or revisions currently under review will be required to be approved by April 30, 2011 and may use the phased financial warranty approach described above. New applications going forward or presently under review by the Division will be required to meet the requirements of one of the options 1-4 at the time of application approval. Failure of affected operators to initiate contact with the Division and gain compliance as described above could result in an enforcement action being issued by the Division.

If you have any questions, please contact Tony Waldron at 303-866-3567, extension 8150.

cc: M2008017 Derr Pit