COLORADO
Division of Water Resources
Department of Natural Resources

May 9, 2024

Andy Rodriguez, P.E
Civil Resources, LLC
8308 Colorado Blvd Suite 200
Firestone, CO 80504

Re: Inouye Pit, Substitute Water Supply Plan (WDID 0202668)
DRMS File No. M-2018-037 (WDID 0210533)
Part of the SW ¼ Sec. 31, T2N, R66W & part of the SE ¼ Sec. 36, T2N, R67W, 6th P.M.
Water Division 1, Water District 2, Weld County
Plan ID: 6100

Approval Period: April 1, 2024 through March 31, 2025
Contact Information for Andy Rodriguez: 303-833-1416 x202 and andy@civilresources.com

Dear Andy Rodriguez:

This letter is in response to your February 5, 2024, renewal request for a substitute water supply plan ("SWSP") for a sand and gravel pit operated by BURNCO Colorado, LLC ("BURNCO" or "Applicant") in accordance with section 37-90-137(11), C.R.S., for the Inouye Gravel Pit, Division of Reclamation Mining and Safety ("DRMS") File No. M-2018-037. The required fee of $257.00 for an SWSP renewal has been submitted (receipt no. 10034086). The Applicant shall be responsible for compliance with this SWSP, but the State Engineer's Office ("SEO") may also pursue the landowner for eventual compliance.

SWSP Operations

The Inouye Pit is located near the northwest edge of Fort Lupton in the N½ of the SW¼ of Section 31, Township 2 North, Range 66 West, 6th P.M. and the E½ of the SE 1/4, Section 36, Township 2 North, Range 67 West, 6th P.M. This SWSP renewal seeks to replace depletions resulting from the mining operation following the first two years of operation, including evaporation from exposed groundwater, dust suppression, past dewatering, water lost with the mined product, and water used for slurry construction. Approximately 750,000 tons are to be excavated from the pit each year. The proposed reclamation of the site is a lined reservoir through the construction of a slurry wall around the mining area. The proposed replacement of depletions for this site during the period of this SWSP will be leased water from the City of Aurora ("Aurora").

In accordance with the letter dated April 30, 2010 (copy attached) 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. The DRMS letter identifies four approaches to satisfy this requirement.

In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for $3,082,695.00 through the DRMS for lining of this site to assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the abandonment of the Pit.

Depletions

The projected depletions for the period of this SWSP consist of net evaporation from exposed groundwater surface area, water removed in the mined product, dust suppression and past dewatering.

Evaporation

The Applicant proposes to replace evaporation from exposed groundwater at the site based upon evaporation atlases in NOAA Technical Report NWS 33 and the SEO monthly distribution factors for sites below 6,500 feet. Gross annual evaporation at the gravel pit location is estimated to be 44.00 inches per year. Net evaporation is defined as gross evaporation less the consumptive use of water by vegetation that naturally occurred at the site prior to construction of the pit. The historical consumptive use was assumed to be equal to the effective precipitation (8.4 inches), which was estimated based on the data from the Ft. Lupton and Brighton NOAA weather stations (period of record 1950-2018). The operation will expose 12.99 acres of groundwater associated with the silt storage pond and freshwater pond in the southwest part of the site and 1.9 acres of exposed from the dewatering trench and large sump area in the west part of the site, for a total exposed area of 14.89 acres. An additional 0.5 acres are exposed in the east portion of the site, within the East Cell slurry wall provisional liner approval from January 13, 2023. Assuming that there are no evaporative losses in the months of January and December due to ice cover based on the mean temperatures below 32°F from the Fort Lupton and Brighton Weather Stations temperature data (period of 1950-2018), the net evaporation from the exposed water surface is estimated at **41.5 acre-feet** for the 14.89 acres and 1.4 acre-feet for the 0.5 acres in the east pit, as shown in revised Table 1 (attached).

However, for the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area that may occur during the assumed ice-covered period (the months of January and December) for any time that the pit is not completely covered by ice. Computation of the net evaporation during any time that the pit is not completely covered by ice shall be determined as the pro-rata amount of the monthly gross evaporation rate distribution amount identified in the State Engineer's *General Guidelines for Substitute Supply Plans for Sand and Gravel Pits*, subtracting the pro-rata amount of the effective precipitation for that period.

Dust Suppression

The estimated water used for dust suppression monthly is 0.24 acre-feet and annually is **2.9 acre-feet**, as shown in Table 2.

Water Lost with Mined Product

Mining operation at the site occurs within the approved liner of a slurry wall. The slurry wall for the East cell was provisionally approved on January 13, 2023. With the approved slurry wall, it is assumed no water is lost with mined product removed from the east pit.

The slurry wall for the west mining pit has been completed as of April 2024, with provisional approval of the slurry wall estimated to occur in August 2024. The Applicant projected that they will produce a total of 750,000 tons of gravel per year during the SWSP period. Gravel mined from the west pit will be in a dewatered state and will be washed therefore the groundwater lost with the mined product during this period is estimated at 4 percent by weight. The water lost with the mined product from the west pit is projected to total **22.1 acre-feet** for the SWSP period as shown in Table 2a (attached).

Slurry Wall Construction

The completion of the west pit slurry wall construction has occurred as of April, 2024; therefore, there are no depletions for the slurry wall construction during this SWSP period. Because the Applicant has been completed prior to this SWSP period, no dewatering is anticipated to occur during the SWSP period.

Total Consumptive Use

The total consumptive use from evaporation is 42.9 acre-feet and the total operational consumptive use is 25 acre-feet. The total consumptive use at this site from evaporation, dust suppression and water lost in mined product is estimated at **67.9 acre-feet** for the SWSP period.

Lagged Depletions

The IDS AWAS stream depletion model was used to determine the lagged depletions from dewatering, evaporation and operational losses to the South Platte River. The aquifer characteristics used in the model for the gravel pit are:

- Transmissivity (T) = 140,000 gallons per day per foot,
- Specific yield (SY) = 0.2,
- The location of the parallel impermeable boundary (W) = 5,001 feet from the stream,
- The distance from the centroid of the gravel pit site to the stream (X) =
    - 3,582 feet for evaporation,
    - 2,450 feet for the West Mining Area, and
    - 3,582 feet for operational losses.

The total lagged depletions are equal to 42.5 acre-feet for evaporation and 24.2 acre-feet for operational losses, or **66.6 acre-feet total** for the SWSP period, as shown in Table 4 (attached). Depletions from this operation will accrue to the South Platte River in the SW ¼ of Section 31, Township 2 North, Range 66 West, 6th P.M.

Dewatering and Recharge Depletions/Accretions

With construction of the slurry wall anticipating being completed, no dewatering depletions will occur during the SWSP period. Previously, the mining operation was continuously dewatered to the South Platte River as shown in Table 3 (attached). Additionally, depletions due to evaporation from and credits due to the recharge pond were accounted for in the previous SWSP; however recharge has since ceased and therefore only lagged dewatering depletions and recharge accretions from the previous SWSP period are considered in this renewal. The quantity of water pumped at the site for dewatering and recharge purposes was lagged to the South Platte River using the IDS AWAS stream depletion model using the Glover analysis and the following aquifer parameters:

- The distance to the river (X) = 3,582 feet for dewatering and (X) = 2,587 feet for recharge,
- The aquifer width (W) = 5,001 feet,
- Transmissivity (T) = 140,000 gpd/ft, and
- Specific yield (S) = 0.2

The net replacement requirement, which is the total lagged accretions minus the total lagged depletions from past dewatering and recharge activities, is **0.01 acre-feet** for this SWSP period. **Therefore, the total replacement requirement is 66.6 acre-feet (Table 4, column 5) .**

Replacements

The Applicant proposes to provide replacement for this pit using fully consumable water leased from the City of Aurora ("Aurora"). A copy of the lease agreement with the City of Aurora for **77.05 acre-feet** for April 2024 through March 2025 was provided to this office on March 13, 2024 and is attached to this letter. The leased water will be released from the Metro Waste Water Treatment Plant ("Metro") (WDID 0200700) to the point of depletion. The leased water includes additional water to cover transit losses. Transit losses for Inouye Pit M-2018-037 Aug Impact Reach (WDID 0202384) were estimated based on a 0.5 percent loss per mile and a distance of 26.5 miles.

Long Term Augmentation

In accordance with the letter dated April 30, 2010 (copy attached) 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. The DRMS letter identifies four approaches to satisfy this requirement. In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for $3,082,695.00 through the DRMS for lining of this site to assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events that would lead to the abandonment of the Pit.

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 is approved with the effective date of **April 1, 2024 and shall be valid through March 31, 2025** unless otherwise revoked or superseded by a decree. If this plan is not decreed in water court by the SWSP expiration date, a renewal request must be submitted to this office with the statutory fee of $257 no later than **February 1, 2025**. If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP and the $1,593 filing fee will apply.

2. Well Permit 87117-F has been issued for this pit. The permit covers up to 20.0 acres of exposed surface area, dust suppression, and dewatering activities. The average annual amount of groundwater that can be appropriated shall not exceed 118.52 acre-feet, including dewatering, evaporative loss, dust control, and water lost in mined product.

3. The total surface area of the groundwater exposed at the Inouye site must not exceed **14.89 acres** for the west site of the pit, which results in a maximum annual evaporative loss of **41.5 acre-feet**. In addition, **0.5 acres** are exposed within the East Cell slurry wall provisional liner approval, which result in an annual instantaneous depletion of **1.4 acre-feet**. **For the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area that may occur during the assumed ice-covered period (the months of January and December) for any time that the pit is not completely covered by ice. Computation of the net evaporation during any time that the pit is not completely covered by ice shall be determined as the pro-rata amount of the monthly gross evaporation rate distribution amount identified in the State Engineer's *General Guidelines for Substitute Supply Plans for Sand and Gravel Pits*, subtracting the pro-rata amount of the effective precipitation for that period.**

4. The annual amount of water used at the Inouye Pit, in addition to evaporation, is limited to **25 acre-feet** (approximately 2.9 acre-feet for dust control, and 22.1 acre-feet of water lost with an estimated 750,000 tons of mined product per year).

5. Total consumption at the Inouye Pit must not exceed these aforementioned amounts unless an amendment is made to this SWSP.

6. The Applicant must replace all out-of-priority depletions resulting from operation under this SWSP, including those lagged depletions that occur to the stream after the expiration date of this SWSP.

7. 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 this 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.

8. Approval of this SWSP is for the purposes as stated herein. This office must first approve any additional uses for the water. Any future historical consumptive use credit given (e.g., agricultural water transfer) for this site must consider all previous credits given.

9. The Applicant should consider the effects of groundwater mounding and the need for interceptor drains due to construction of the liners around the pits.

10. All pumping for dust control shall be measured in a manner acceptable to the Division Engineer.

11. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to this site until a plan for augmentation is obtained. All replacement water must be concurrent with depletions in quantity, timing, and locations.

12. 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 Administration Protocol for Division One*. **NOTE**: Monthly accounting, even during the winter non-irrigation season, is required.

    In addition, the **Applicant shall verify** that the entity making replacements has included the Applicant on their accounting and submitted their accounting to the Division Office and the Water Commissioner, and shall claim **credit only for actual amounts released** as shown in the entity's accounting. For this SWSP, that entity is the Central Colorado Water Conservancy District.

13. Conveyance loss for delivery of augmentation water to the point of depletion on the South Platte River is subject to assessment and modification as determined by the Division Engineer.

14. In order to prevent injury to other water rights, the Division Engineer and Water Commissioner must be able to administer Applicants' replacement water past headgates on the river at times when

those headgates would otherwise be legally entitled to divert all available flow in or "sweep" the South Platte River or its tributaries. Applicant shall not receive credit for replacement of depletions to the South Platte River below such diversion structures unless bypass and measurement structures are in place to allow the Division Engineer and Water Commissioner to confirm that Applicant's replacement water is delivered past the headgates. In the event that delivery past dry-up points requires the use of a structure for which a carriage or use agreement with a third party is required, Applicant shall be responsible for securing such agreement. Until such time as the Applicant provides a copy of the carriage or use agreement to the Division Engineer and Water Commissioner, no credit will be allowed for replacement of depletions to the South Platte River below such diversion structure.

15. The Division of Water Resources will not be responsible for any enforcement or administration of third party agreements that are not included in a decree of the water court.

16. Applicant shall follow the Augmentation Plan Accounting or any other applicable protocols as referenced in the attached documents, for the operation of this SWSP.

17. The name, mailing address, and phone number of the contact person who will be responsible for operation and accounting of this plan must be provided on the accounting forms to the Division Engineer and Water Commissioner.

18. All 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.

19. The approval of this SWSP does not relieve the Applicant and/or landowner of the requirement to obtain a Water Court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions after gravel mining operations have ceased. If reclamation of the mine site will produce 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 and lagged depletions. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.

20. 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 the product from below the water table, and all other use of water at the pit, must cease immediately.

21. 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 whether 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.

22. 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 the SWSP. This decision shall not bind the State Engineer to act in a similar manner in any other applications involving other plans or in any proposed

renewal of this plan, 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 Ailis Thyne in Denver at (303) 866-3581 or Aliyah Santistevan in Greeley at (970) 352-8712.

Sincerely,

for Joanna Williams, P.E.
Chief of Water Supply

Attachments: Figure 2
Tables 1, 2a, 3 and 4
Aurora Lease
Letter from DRMS dated April 30, 2010
Accounting Protocol

Ec: Aliyah Santistevan, Assistant Division Engineer, Aliyah.Santistevan@state.co.us
Dawn Ewing, Accounting Coordinator, Dawn.Ewing@state.co.us
Alec Hernandez, Water Commissioner District 2, Alec.Hernandez@state.co.us
Louis Flink, Tabulation/Diversion Records Coordinator, Louis.Flink@state.co.us
Peter S. Hays, Division of Reclamation Mining and Safety, Peter.Hays@state.co.us

CIVIL RESOURCES, LLC		BURNCO COLORADO, LLC INOUYE SWSP
DATE: 02/2024	FIGURE: 1	VICINITY MAP

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Table 1
Inouye Gravel Mine

Evaporative Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Month	**Percent of Annual Evaporation**	**Gross Evaporation**	**Average Precipitation**	**Effective Precipitation**	**Net Evaporation**		**West Silt Evaporation**	**West Mine Evaporation**	**East Site Evaporation**	**Lagged Site Evaporation**
		(inches)	(inches)	(inches)	(inches)	(feet)	(ac-ft)		(ac-ft)	(ac-ft)
Jul-20	15.0%	6.60	1.37	0.96	5.64	0.47	0.00			0.00
Aug-20	13.5%	5.94	1.35	0.95	4.99	0.42	0.00			0.00
Sep-20	10.0%	4.40	0.99	0.69	3.71	0.31	0.00			0.00
Oct-20	7.0%	3.08	0.79	0.55	2.53	0.21	0.00			0.00
Nov-20	4.0%	1.76	0.59	0.41	1.35	0.11	0.00			0.00
Dec-20	0.0%	0.00	0.34	0.24	0.00	0.00	0.00			0.00
Jan-21	0.0%	0.00	0.37	0.26	0.00	0.00	0.00			0.00
Feb-21	3.5%	1.54	0.34	0.24	1.30	0.11	0.00			0.00
Mar-21	5.5%	2.42	0.89	0.63	1.79	0.15	0.00			0.00
Apr-21	9.0%	3.96	1.40	0.98	2.98	0.25	0.06			0.00
May-21	12.0%	5.28	2.05	1.44	3.84	0.32	0.08			-0.02
Jun-21	14.5%	6.38	1.47	1.03	5.35	0.45	0.11			-0.03
Jul-21	15.0%	6.60	1.37	0.96	5.64	0.47	0.70			-0.08
Aug-21	13.5%	5.94	1.35	0.95	4.99	0.42	0.62			-0.21
Sep-21	10.0%	4.40	0.99	0.69	3.71	0.31	0.62			-0.31
Oct-21	7.0%	3.08	0.79	0.55	2.53	0.21	0.42			-0.38
Nov-21	4.0%	1.76	0.59	0.41	1.35	0.11	0.22			-0.38
Dec-21	0.0%	0.00	0.34	0.24	0.00	0.00	0.00			-0.34
Jan-22	0.0%	0.00	0.37	0.26	0.00	0.00	0.00			-0.27
Feb-22	3.5%	1.54	0.34	0.24	1.30	0.11	0.22			-0.21
Mar-22	5.5%	2.42	0.89	0.63	1.79	0.15	2.30		0.07	-0.34
Apr-22	9.0%	3.96	1.40	0.98	2.98	0.25	3.82		0.12	-0.87
May-22	12.0%	5.28	2.05	1.44	3.84	0.32	4.93		0.16	-1.65
Jun-22	14.5%	6.38	1.47	1.03	5.35	0.45	6.86		0.22	-2.57
Jul-22	15.0%	6.60	1.37	0.96	5.64	0.47	7.24		0.23	-3.64
Aug-22	13.5%	5.94	1.35	0.95	4.99	0.42	6.41		0.21	-4.51
Sep-22	10.0%	4.40	0.99	0.69	3.71	0.31	4.76		0.15	-4.94
Oct-22	7.0%	3.08	0.79	0.55	2.53	0.21	3.24		0.11	-4.89
Nov-22	4.0%	1.76	0.59	0.41	1.35	0.11	1.73		0.06	-4.46
Dec-22	0.0%	0.00	0.34	0.24	0.00	0.00	0.00		0.00	-3.75
Jan-23	0.0%	0.00	0.37	0.26	0.00	0.00	0.00		0.00	-2.89
Feb-23	3.5%	1.54	0.34	0.24	1.30	0.11	1.67		0.05	-2.29
Mar-23	5.5%	2.42	0.89	0.63	1.79	0.15	2.30		0.07	-2.13
Apr-23	9.0%	3.96	1.40	0.98	2.98	0.25	3.22		0.12	-2.33
May-23	12.0%	5.28	2.05	1.44	3.84	0.32	4.16		0.16	-2.76
Jun-23	14.5%	6.38	1.47	1.03	5.35	0.45	5.79		0.22	-3.43
Jul-23	15.0%	6.60	1.37	0.96	5.64	0.47	6.10		0.23	-4.29
Aug-23	13.5%	5.94	1.35	0.95	4.99	0.42	5.40		0.21	-4.99
Sep-23	10.0%	4.40	0.99	0.69	3.71	0.31	4.01		0.15	-5.27
Oct-23	7.0%	3.08	0.79	0.55	2.53	0.21	2.73		0.11	-5.13
Nov-23	4.0%	1.76	0.59	0.41	1.35	0.11	1.46		0.06	-4.63
Dec-23	0.0%	0.00	0.34	0.24	0.00	0.00	0.00	0.00	0.00	-3.85
Jan-24	0.0%	0.00	0.37	0.26	0.00	0.00	0.00	0.00	0.00	-2.53
Feb-24	3.5%	1.54	0.34	0.24	1.30	0.11	1.41	0.21	0.05	-2.06
Mar-24	5.5%	2.42	0.89	0.63	1.79	0.15	1.94	0.28	0.07	-1.99
Apr-24	9.0%	3.96	1.40	0.98	2.98	0.25	3.22	0.47	-0.12	-2.18
May-24	12.0%	5.28	2.05	1.44	3.84	0.32	4.16	0.61	-0.16	-2.65
Jun-24	14.5%	6.38	1.47	1.03	5.35	0.45	5.79	0.85	-0.22	-3.35
Jul-24	15.0%	6.60	1.37	0.96	5.64	0.47	6.10	0.89	-0.23	-4.20
Aug-24	13.5%	5.94	1.35	0.95	4.99	0.42	5.40	0.79	-0.21	-4.86
Sep-24	10.0%	4.40	0.99	0.69	3.71	0.31	4.01	0.59	-0.15	-5.10
Oct-24	7.0%	3.08	0.79	0.55	2.53	0.21	2.73	0.40	-0.11	-4.92
Nov-24	4.0%	1.76	0.59	0.41	1.35	0.11	1.46	0.21	-0.06	-4.41
Dec-24	0.0%	0.00	0.34	0.24	0.00	0.00	0.00	0.00	0.00	-3.63
Jan-25	0.0%	0.00	0.37	0.26	0.00	0.00	0.00	0.00	0.00	-2.78
Feb-25	3.5%	1.54	0.34	0.24	1.30	0.11	1.41	0.21	-0.05	-2.25
Mar-25	5.5%	2.42	0.89	0.63	1.79	0.15	1.94	0.28	-0.07	-2.12
Per Year	**94%**	**44.00**	**12.0**	**8.4**	**33.5**	**2.8**	**36.2**	**5.3**	**-1.4**	**-42.5**

(1) Based on SB 120 for gravel pits at elevations below 6,500 feet, readjusted for ice-cover months.

(2) Percent of Annual Evaporation times 44.0 inches. Assume zero evaporation during months with ice coverage (January & December).

(3) From Western Regional Climate Center, (http://www.wrcc.dri.edu/), see Appendix A.

(4) Equals Column (3) times 70%.

(5) Equals Column (2) minus Column (4).

(6) Equals Column (5) divided by 12 inches.

(7) Equals the monthly values in Column (6) times the exposed groundwater for the west silt pond.

(8) Equals the monthly values in Column (6) times the exposed groundwater for the west mine.

(9) Equals the monthly values in Column (6) times the exposed groundwater for the east phase, instaneous starting in April 2023. Changed values to negative in April 24.

(10) Based on SEO Glover calculations: X=3,582 and 875 and 2450, W=5,001 ft, T=140,000 gpd/ft & S=0.2.

Table 2a
Inouye Gravel Mine

Operational Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Month	**Percent of Annual Aggregate Production**	**Amount of Aggregate Production**	**Water Lost With Mined Aggregate**	**Amount of Concrete Production**	**Water Lost In Concrete Batching**	**Water Used for Dust Control**	**Water Used In Slurry Wall**	**Total Operational Losses West Silt Pond**	**Total Operational Losses East Mine**	**Total Operational Losses West Mine**	**Total Lagged Operational Losses**
		(tons)	(acre-feet)	(yd^3)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
Jul-20	13.9%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Aug-20	12.5%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Sep-20	9.6%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Oct-20	5.5%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Nov-20	4.6%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Dec-20	3.8%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Jan-21	3.8%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Feb-21	4.6%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Mar-21	5.5%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Apr-21	9.6%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
May-21	12.5%	0	0.00	0	0.00	0.00	0.00	0.00			0.00
Jun-21	13.9%	16,150	0.48	0	0.00	0.00	0.00	0.48			-0.02
Jul-21	13.9%	68,950	2.03	0	0.00	0.00	0.00	2.03			-0.19
Aug-21	12.5%	62,720	1.85	0	0.00	0.00	0.00	1.85			-0.58
Sep-21	9.6%	36,000	1.06	0	0.00	0.00	0.00	1.06			-0.86
Oct-21	5.5%	0	0.00	0	0.00	0.24	0.00	0.24			-0.89
Nov-21	4.6%	55,000	1.62	0	0.00	0.24	0.00	1.86			-0.84
Dec-21	3.8%	55,000	1.62	0	0.00	0.24	0.00	1.86			-1.04
Jan-22	3.8%	55,000	1.62	0	0.00	0.24	0.00	1.86			-1.24
Feb-22	4.6%	34,571	1.02	0	0.00	0.24	0.00	1.26			-1.36
Mar-22	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	1.22		-1.96
Apr-22	9.6%	72,129	2.12	0	0.00	0.24	3.50	0.24	5.62		-4.37
May-22	12.5%	93,721	2.76	0	0.00	0.24	3.50	0.24	6.26		-5.59
Jun-22	13.9%	104,250	3.07	0	0.00	0.24	3.50	0.24	6.57		-6.08
Jul-22	13.9%	104,518	3.07	0	0.00	0.24	0.00	0.24	3.07		-4.42
Aug-22	12.5%	93,721	2.76	0	0.00	0.24	0.00	0.24	2.76		-3.58
Sep-22	9.6%	72,129	2.12	0	0.00	0.24	0.00	0.24	2.12		-3.05
Oct-22	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	1.22		-2.32
Nov-22	4.6%	34,571	1.02	0	0.00	0.24	0.00	0.24	1.02		-1.90
Dec-22	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.84		-1.61
Jan-23	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.84		-1.46
Feb-23	4.6%	34,571	1.02	0	0.00	0.24	0.00	0.24	1.02		-1.46
Mar-23	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	1.22		-1.54
Apr-23	9.6%	72,129	0.00	0	0.00	0.24	0.00	0.24	0.00	0.00	-0.89
May-23	12.5%	93,721	0.00	0	0.00	0.24	0.00	0.24	0.00	0.00	-0.59
Jun-23	13.9%	104,250	0.00	0	0.00	0.24	4.00	0.24	0.00	4.00	-1.07
Jul-23	13.9%	104,518	0.00	0	0.00	0.24	4.00	0.24	0.00	4.00	-2.06
Aug-23	12.5%	93,721	0.00	0	0.00	0.24	4.00	0.24	0.00	4.00	-2.63
Sep-23	9.6%	72,129	0.00	0	0.00	0.24	0.00	0.24	0.00	0.00	-2.45
Oct-23	5.5%	41,348	0.00	0	0.00	0.24	0.00	0.24	0.00	0.00	-1.69
Nov-23	4.6%	34,571	0.00	0	0.00	0.24	0.00	0.24	0.00	0.00	-1.31
Dec-23	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.00	0.84	-1.16
Jan-24	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.00	0.84	-1.18
Feb-24	4.6%	34,571	1.02	0	0.00	0.24	0.00	0.24	0.00	1.02	-1.20
Mar-24	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	0.00	1.22	-1.25
Apr-24	9.6%	72,129	2.12	0	0.00	0.24	0.00	0.24	0.00	2.12	-1.44
May-24	12.5%	93,721	2.76	0	0.00	0.24	0.00	0.24	0.00	2.76	-1.81
Jun-24	13.9%	104,250	3.07	0	0.00	0.24	0.00	0.24	0.00	3.07	-2.19
Jul-24	13.9%	104,518	3.07	0	0.00	0.24	0.00	0.24	0.00	3.07	-2.49
Aug-24	12.5%	93,721	2.76	0	0.00	0.24	0.00	0.24	0.00	2.76	-2.64
Sep-24	9.6%	72,129	2.12	0	0.00	0.24	0.00	0.24	0.00	2.12	-2.62
Oct-24	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	0.00	1.22	-2.39
Nov-24	4.6%	34,571	1.02	0	0.00	0.24	0.00	0.24	0.00	1.02	-2.08
Dec-24	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.00	0.84	-1.84
Jan-25	3.8%	28,714	0.84	0	0.00	0.24	0.00	0.24	0.00	0.84	-1.64
Feb-25	4.6%	34,571	1.02	0	0.00	0.24	0.00	0.24	0.00	1.02	-1.53
Mar-25	5.5%	41,348	1.22	0	0.00	0.24	0.00	0.24	0.00	1.22	-1.50
Per Year	**100%**	**750,000**	**22.1**	**0**	**0.0**	**2.9**	**0.0**	**2.9**	**0.0**	**22.1**	**-24.2**

(1) Equals Column (2) monthly values divided 500,000 tons/year.
(2) Based on information from S.W. Meadows, LLC.
(3) Equals Column (2) times 2,000 times 4% divided by 62.4 divided by 43,560.
(4) Based on information from S.W. Meadows, LLC.
(5) Equals Column (4) times 280lbs of water per yd^3 of concrete divided by 62.4 divided by 43,560.
(6) Based on information from S.W. Meadows, LLC.
(7) Equals Column (3) plus Column (5) plus Column (6).
(8) Instantaneous depletions, lagging based on SEO Glover calculations: X=3,582, W=5,001 ft, T=140,000 gpd/ft & S=0.2.
(9) Instantaneous depletions, lagging based on SEO Glover calculations: X=875, W=5,001 ft, T=140,000 gpd/ft & S=0.2.
(10) Instantaneous depletions, lagging based on SEO Glover calculations: X=2,450, W=5,001 ft, T=140,000 gpd/ft & S=0.2.
(11) Totaal lagged depletions.
The per year row shows a depletion for 12 months (Jan. - Dec.) and is used for calculating estimated aggregate production and dust suppression water.

Table 3
Inouye
Dewatering Operation
Pumping Rate Returned to River/ No Beneficial Use Direct Return

(values in ac-ft)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	107	156	268	528	82	0	0	0	1,140
2022	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0	0	0	0

Direct retrun, no beneficial use.

Pumping Rate to Recharge

(values in ac-ft)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	24.697	81.98	151	112	19	9	2	2	401
2022	0	0	0	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0	0	0	0

Direct to recharge

Lagged Pumping Rate - Depletion

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2021	0.0	0.0	0.0	0.0	-1.2	-8.6	-28.6	-54.9	-63.7	-57.2	-44.1	-35.2	-293.5
2022	-26.9	-18.5	-15.6	-11.4	-8.9	-6.5	-5.1	-3.8	-2.8	-2.2	-1.6	-1.2	-104.5
2023	-0.9	-0.6	-0.5	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	-3.6
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0

Lagged dewatering effect on the river, based on SEO Glover calculations: X=3582, W=5,001 ft, T=140,000 gpd/ft & S=0.2.

Evap from Recharge Pond

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	0.00	0.00	0.00	0.30	0.42	0.45	0.40	0.29	0.20	0.11	0.00	2.17
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Equals the instantaneous dewatering rate minus the lagged dewatering from the AWAS output.

Delivered to Recharge Pond

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2021	0.00	0.00	0.00	0.00	24.39	81.56	150.76	111.62	18.54	8.39	1.48	2.00	399
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Equals the instantaneous dewatering rate minus the lagged dewatering from the AWAS output.

Recharge - Lagged Accretion

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2021	0.00	0.00	0.00	0.00	3.12	16.23	44.62	69.27	64.80	49.57	36.41	28.43	312
2022	21.57	14.75	12.43	9.08	7.08	5.17	4.03	3.03	2.21	1.72	1.26	0.98	83
2023	0.74	0.51	0.43	0.31	0.24	0.18	0.14	0.10	0.08	0.06	0.04	0.03	3
2024	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Lagged dewatering bassed on a maximum of 105 ac-feet per month if **available** , based on SEO Glover calculations: X=2587, W=5,001 ft, T=140,000 gpd/ft & S=0.2.

Net Effect on the River from Dewatering (Includes Pumpming Depletions, Direct Return and Lagged Recharge)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
2021	0.00	0.00	0.00	0.00	1.92	7.63	16.01	14.41	1.07	-7.64	-7.71	-6.76	19
2022	-5.28	-3.77	-3.20	-2.33	-1.82	-1.33	-1.04	-0.78	-0.57	-0.45	-0.32	-0.25	-21
2023	-0.19	-0.13	-0.11	-0.08	-0.07	-0.04	-0.03	-0.03	-0.02	-0.01	-0.01	-0.01	-0.73
2024	0.00	0.00	-0.01	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	-0.02
2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Equals the instantaneous dewatering rate minus the lagged dewatering minus the recharge accreation.

Table 4
Inouye Gravel Mine

Evaporative and Operational Losses with Replacements

(all values in acre-feet)

Month	(1) Lagged Evaporative Losses	(2) Lagged Operational Losses	(3) Total Lagged Losses	(4) Dewatering Depletions/Credits	(5) Total Replacement Obligation	(6) Lease
Jul-20	0.00	0.00	0.00	0.00	0.00	0.00
Aug-20	0.00	0.00	0.00	0.00	0.00	0.00
Sep-20	0.00	0.00	0.00	0.00	0.00	0.00
Oct-20	0.00	0.00	0.00	0.00	0.00	0.00
Nov-20	0.00	0.00	0.00	0.00	0.00	0.00
Dec-20	0.00	0.00	0.00	0.00	0.00	0.00
Jan-21	0.00	0.00	0.00	0.00	0.00	0.00
Feb-21	0.00	0.00	0.00	0.00	0.00	0.00
Mar-21	0.00	0.00	0.00	0.00	0.00	0.00
Apr-21	0.00	0.00	0.00	0.00	0.00	0.00
May-21	-0.02	0.00	-0.02	1.92	0.00	0.00
Jun-21	-0.03	-0.02	-0.05	7.63	0.00	0.00
Jul-21	-0.08	-0.19	-0.27	16.01	0.00	0.00
Aug-21	-0.21	-0.58	-0.79	14.41	0.00	0.00
Sep-21	-0.31	-0.86	-1.17	1.07	-0.10	0.11
Oct-21	-0.38	-0.89	-1.27	-7.64	-8.91	10.21
Nov-21	-0.38	-0.84	-1.22	-7.71	-8.93	10.23
Dec-21	-0.34	-1.04	-1.38	-6.76	-8.14	9.33
Jan-22	-0.27	-1.24	-1.51	-5.28	-6.79	7.78
Feb-22	-0.21	-1.36	-1.57	-3.77	-5.34	6.12
Mar-22	-0.34	-1.96	-2.30	-3.20	-5.50	6.30
Apr-22	-0.87	-4.37	-5.24	-2.33	-7.57	8.68
May-22	-1.65	-5.59	-7.24	-1.82	-9.06	10.38
Jun-22	-2.57	-6.08	-8.65	-1.33	-9.98	11.44
Jul-22	-3.64	-4.42	-8.06	-1.04	-9.10	10.43
Aug-22	-4.51	-3.58	-8.09	-0.78	-8.87	10.17
Sep-22	-4.94	-3.05	-7.99	-0.57	-8.56	9.81
Oct-22	-4.89	-2.32	-7.21	-0.45	-7.66	8.78
Nov-22	-4.46	-1.90	-6.36	-0.32	-6.68	7.66
Dec-22	-3.75	-1.61	-5.36	-0.25	-5.61	6.43
Jan-23	-2.89	-1.46	-4.35	-0.19	-4.54	5.20
Feb-23	-2.29	-1.46	-3.75	-0.13	-3.88	4.45
Mar-23	-2.13	-1.54	-3.67	-0.11	-3.78	4.33
Apr-23	-2.09	-0.89	-2.98	-0.08	-3.06	3.50
May-23	-2.44	-0.59	-3.03	-0.07	-3.10	3.55
Jun-23	-2.99	-1.07	-4.06	-0.04	-4.10	4.70
Jul-23	-3.83	-2.06	-5.89	-0.03	-5.92	6.78
Aug-23	-4.57	-2.63	-7.20	-0.03	-7.23	8.29
Sep-23	-4.97	-2.45	-7.42	-0.02	-7.44	8.52
Oct-23	-4.91	-1.69	-6.60	-0.01	-6.61	7.58
Nov-23	-4.51	-1.31	-5.82	-0.01	-5.83	6.69
Dec-23	-3.85	-1.16	-5.01	-0.01	-5.02	5.75
Jan-24	-2.53	-1.18	-3.71	0.00	-3.71	4.25
Feb-24	-1.96	-1.20	-3.16	0.00	-3.16	3.62
Mar-24	-1.85	-1.25	-3.10	-0.01	-3.11	3.56
Apr-24	-2.18	-1.44	-3.62	0.00	-3.62	4.18
May-24	-2.65	-1.81	-4.46	0.00	-4.46	5.14
Jun-24	-3.35	-2.19	-5.54	0.00	-5.54	6.39
Jul-24	-4.20	-2.49	-6.69	-0.01	-6.70	7.73
Aug-24	-4.86	-2.64	-7.50	0.00	-7.50	8.64
Sep-24	-5.10	-2.62	-7.72	0.00	-7.72	8.90
Oct-24	-4.92	-2.39	-7.31	0.00	-7.31	8.42
Nov-24	-4.41	-2.08	-6.49	0.00	-6.49	7.48
Dec-24	-3.63	-1.84	-5.47	0.00	-5.47	6.31
Jan-25	-2.78	-1.64	-4.42	0.00	-4.42	5.10
Feb-25	-2.25	-1.53	-3.78	0.00	-3.78	4.36
Mar-25	-2.12	-1.50	-3.62	0.00	-3.62	4.18
Total	-42.5	-24.2	-66.6	0.0	-66.6	76.8

(1) Equals Table 1, Column (8).
(2) Equals Table 2, Column (8).
(3) Equals Column (1) plus Column (2).
(4) Equals Table 3, Net Effect on the River from Dewatering.
(5) Equals Column (4) plus Column (3), only if it is negative.
(6) Equals negative of Column (5) inlcuding 26.5 miles of loss at 0.5% per mile.