

From: [Alan Pryor](#)
To: [Stephanie Cormier](#); [Clerkoftheboard](#)
Subject: The Gravel Mining Companies Operating Adjacent to Cache Creek are Continually Violating Numerous Provisions of the Yolo County Surface Mine Reclamation Ordinance
Date: Friday, February 7, 2025 1:30:08 PM
Attachments: [Cover Memo to Planning Commission re 2025 Report on Lack of Mining Company Compliance 2-7-25.doc](#)
[Yolo County Gravel Mining Companies are Continually Violating the Surface Mining Reclamation Ordinance 2-7-25.pdf](#)

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Please forward to the Planning Commission and the Board of Supervisors

Memorandum

From: Sierra Club Yolano Group
To: Yolo County Planning Commissioners
Date: February 7, 2025
Re: The Gravel Mining Companies Operating Adjacent to Cache Creek are Continually Violating Numerous Provisions of the Yolo County Surface Mine Reclamation Ordinance

Commissioners,

On behalf on the Sierra Club Yolano Group, attached please find a report in which numerous violations of Yolo County's Surface Mining Reclamation Ordinance are disclosed and documented.

Further, these violations were not disclosed last year to the Planning Commission when it was charged with certifying the *2023 Annual Compliance Report* regarding off-channel gravel mining as required by County Code.

Instead, as explained in the attached report, false representations that all of the mining companies were in compliance with the provisions of all applicable mining ordinances in the State and Yolo County were made to the Planning Commission in *Findings of Fact* statements.

The ongoing failure by the County to enforce the provisions of the applicable mining ordinances in Yolo County has resulted in continued production and bioaccumulation of methyl mercury to excessive levels in fish in most of the impoundment pits on the mining sites and required Lake Management Plans to remediate the problems have not been implemented. These compliance shortcomings have also resulted in the ongoing failure by the mining companies to fully restore formerly mined farmland back to its pre-existing soil quality and crop productivity.

This is fully explained in the attached report entitled, "*Yolo County Gravel Mining Companies are Continually Violating Numerous Provisions of the Surface Mining Reclamation Ordinance_2-7-25*".

We request that the Planning Commission refrain from wrongfully certifying that mining companies are in compliance with Yolo County mining ordinances in the future. We additionally request that the Planning Commission not permit or entitle any future new mines

or extensions or expansions of existing mines in Yolo County until such mining companies are in full compliance with all existing ordinances.

Toward that end, we ask that the following questions be addressed by Staff with detailed written answers.

1. Failure by the Mining Companies to Begin Methyl Mercury Monitoring in a Timely Manner - Methyl mercury monitoring is required by the *Surface Mining Reclamation Ordinance* to begin at every mine as soon as a wet pit is created and navigable by boat. There are some pits that have been in existence for years (e.g Granite Capay) that have not ever had annual methyl mercury monitoring reported.

Question - Are all impoundment pits currently being monitored as required by the Reclamation Ordinance? If not, why are they not being monitored and will when such monitoring begin?

2. Regarding Timing of Annual Methyl Mercury Monitoring Reports submitted to the County by the Mining Companies - The Yolo County Surface Mining Reclamation Ordinance requires annual monitoring of methyl mercury in fish between September and November for mines with active impoundment pits containing water and that such reports be submitted to the County within 6 months of sampling – or no later than from March to May of the following year depending on when samples were taken.. The last monitoring reports were submitted in late 2022 for samples taken in the years 2020 and 2021. The last methyl mercury reporting reports were thus from a minimum of about 6 months to almost 2 years late as otherwise required by the Surface mining Reclamation Ordinance. No monitoring reports have yet been submitted for 2022 and 2023 and are similarly from about 6 months to almost 2 years late as otherwise required. The monitoring report for 2024 is due, at latest, from 2 months to 5 months depending on when the samples were taken.

Question - When will the mining companies submit the overdue reports for these years and what will the County do to ensure the reports are filed in a timely manner in the future?

3. Regarding Ongoing Failure by the Mining Companies to Implement and Report Expanded Lake Monitoring in a Timely Manner – Similar to deadlines for reporting annual monitoring results for methyl mercury in fish, expanded monitoring results must be submitted to the County within 6 months of such measurements. No reports have yet been submitted for 2022, 2023, and 2024 and the mining companies are thus not compliant with the Surface Mining Reclamation Ordinance.

Question - When will the mining companies submit the overdue Expanded Monitoring reports for these years and what will the County do to ensure the reports are filed in a timely manner in the future?

4. Regarding Ongoing Failure by the Mining Companies to Implement Lake Management Plans in a Timely Manner – The County’s aquatic Biologist stated in the 2020 annual monitoring report that preparation of lake management plans were indicated for a number of mines based on the expanded water and pit sediment testing results previously reported. Such lake management plans are required to be implemented within 3 years of completion of expanded testing – or by the end of 2023 at the latest. However, no such plans have even yet been submitted to the County for review much less implemented. The aquatic biologist also stated in the 2021 monitoring results report that additional lake management plans were indicated for other mines based on the further expanded analysis reported. Such additional lake management plans should have been implemented by the end of last year but none have been even submitted for review.

Question - When will the mining companies implement the overdue lake management plans?

5. Regarding Failure by Yolo County to Determine Baseline Methyl Mercury Levels Every Ten Years – The Reclamation Ordinance requires the County to determine the ambient or “baseline” fish mercury levels in Cache Creek “every ten (10) years in years ending in 0”. The last reported baseline measurements were taken in 2011 and should have been taken in 2020. They are now overdue by about 4 years.

Question - When will the County take the required baseline measurements to come into compliance with the Reclamation Ordinance?

Respectfully submitted,

Alan Pryor

Memorandum

From: Alan Pryor, Chair – Sierra Club Yolano Group
To: Yolo County Planning Commissioners
Date: February 7, 2025
Re: The Gravel Mining Companies Operating Adjacent to Cache Creek are Continually Violating Numerous Provisions of the Yolo County Surface Mine Reclamation Ordinance

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Yolo County Gravel Mining Companies are Continually Violating Numerous Provisions of the Surface Mining Reclamation Ordinance

These violations over many years have allowed continued production and bioaccumulation of methyl mercury to excessive levels in fish in most of the impoundment lakes on the mining sites. They have also resulted in the ongoing failure to fully restore formerly mined farmland back to its pre-existing quality and productivity.

by Sierra Club Yolano Group, February 7, 2025

Executive Summary

Yolo County has developed an Off-Channel Mining Plan and further promulgated a series of implementing ordinances to establish such a regulatory framework. These included the Off-Channel Surface Mining Ordinance and the Surface Mining Reclamation Ordinance.

The provisions of these ordinances are routinely violated and ignored by both Yolo County and the mining companies engaging in off-channel gravel mining along Cache Creek. These violations have resulted in continued and unmitigated bioaccumulation of methyl mercury in game fish in the impoundment ponds and reclaimed agricultural lands that are seriously deficient in terms of the quality and title of the soil which in no way approaches that of the former Class I Prime soils on which the off-channel mining was originally undertaken.

Further, under the authority of the Off Channel Surface Mining Ordinance, the Yolo County Planning Commission is annually charged with holding a public hearing to certify that the mining companies are in compliance with all mining ordinances and development agreements under which the mining companies are entitled to perform their mining operations.

On October 10, 2024, such a public hearing was held in which the *2023 Annual Compliance Report* regarding off-channel gravel mining within the boundaries of the Cache Creek Area Plan was accepted by the Planning Commission. As part of the hearing process, the County prepared and submitted a *Findings of Fact* statement to the Planning Commission in which representations were made with respect to mines and mining companies in current operation or in the reclamation phase of such mines.

Unfortunately, these *Findings of Fact* statements for each mine presented to the Planning Commission contained misleading or false information or did not adequately report non-compliance by the various mining companies and the County itself with the County's Surface Mining Reclamation Ordinance. However, the Planning Commission relied on these false and deficient *Findings of Fact* statements when approving the *2023 Annual Compliance Report* and annual compliance reports in earlier years in apparent violation of the County's Off Channel Mining Ordinance.

In particular, in the annual compliance reports the County generated a *Findings of Fact* statement for every single mining operation in which it is specifically but erroneously affirmed

that the mines and mining companies are fully compliant with all pertinent ordinances in the County regarding their mining operations and responsibilities.

Introduction and Background

Prior to 1996, in-channel surface mining of sand and gravel had been going on for over a century in stretches of Cache Creek – primarily from Esparto to I-5. The type and quality of the sand and gravel product produced by these mining operations were prized by concrete manufacturers and builders for its strength and consistency. But this substantially lowered the bed of Cache Creek by up to 30 ft. in some stretches as materials were removed with substantial adverse impacts on the Creek’s wildlife and geomorphology. As a result, In 1996, Yolo County prohibited further in-channel mining and restricted future surface mining to specified lands adjacent to the Creek.

Regulation of surface mining in California is relegated to the Counties under Section 2774(a) of the *California Surface Mining and Reclamation Act (SMARA)* requires the lead agency in every County in which there is an active surface mine to “...adopt ordinances in accordance with state policy that establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations...”.

Under this authority, Yolo County has developed the [Off-Channel Mining Plan](#) and further promulgated a series of implementing ordinances to establish such a regulatory framework. These included the [Off-Channel Surface Mining Ordinance](#) and the [Surface Mining Reclamation Ordinance](#). The [Off Channel Surface Mining Ordinance](#) primarily specifies the approval, permitting, and operating process and procedures under which off-channel mining is entitled and regulated in the County. The [Surface Mining Reclamation Ordinance](#) specifies the requirements imposed on the mining companies to reclaim and/or restore formerly mined lands to either agricultural uses, habitat, or impoundment pits.

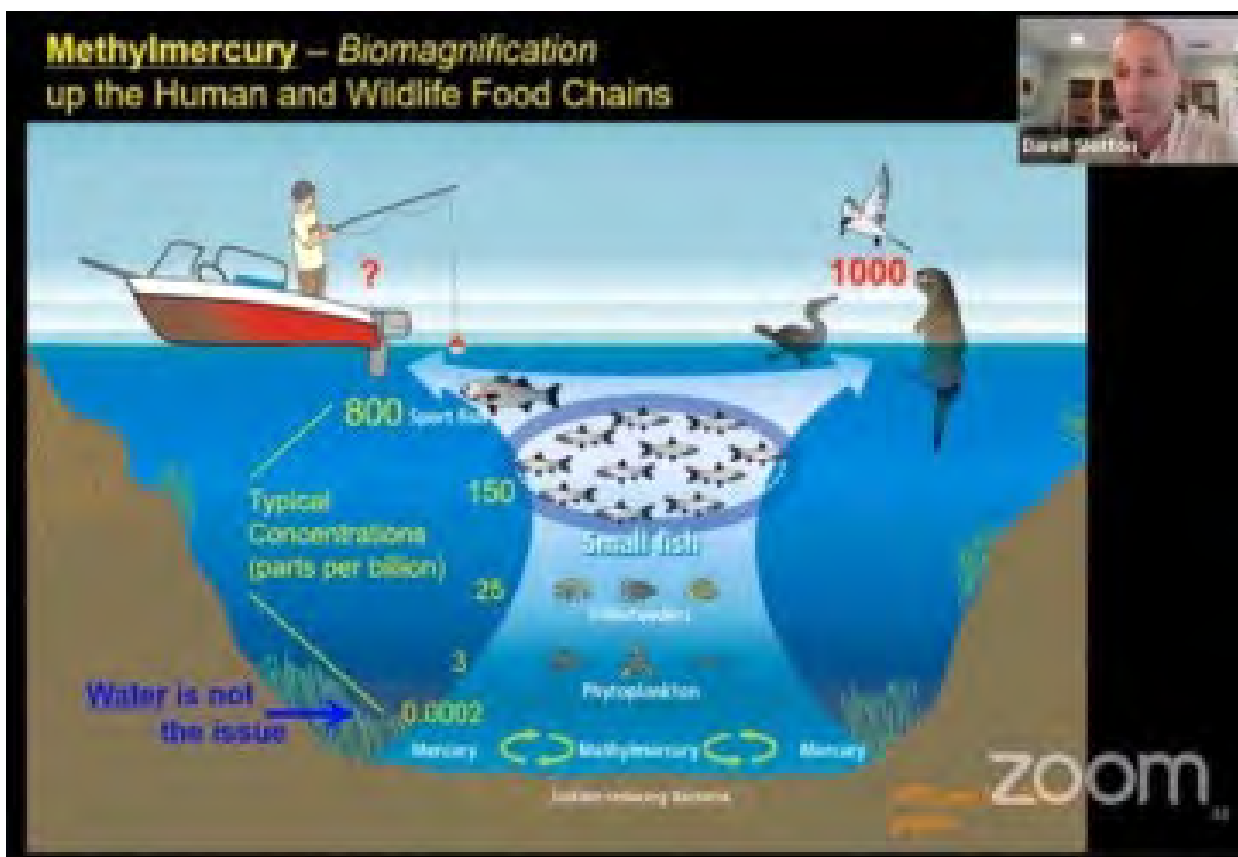
Unfortunately, as discussed later, the provisions of these ordinances are routinely violated and ignored by both Yolo County and the mining companies engaging in off-channel gravel mining along Cache Creek. These violations have resulted in continued and unmitigated bioaccumulation of methyl mercury in game fish in the impoundment pits and reclaimed agricultural lands that are seriously deficient in terms of the quality and title of the soil which in no way approaches that of the former Class I Prime soils on which the off-channel mining was originally undertaken.

The following two sections will discuss both the methyl mercury contamination problem in the impoundment pits and the shortcomings in agricultural lands attempted to be restored thus far. Thereafter, sections will document the ongoing violations of the [Surface Mining Reclamation Ordinance](#) by the County and the mining companies.

Methyl Mercury Contamination in Impoundment Pits

The most controversial of the restoration measures proposed for former mining sites involves the construction of deep impoundment pits in the former mining sites. One of the expected outcomes of construction of the 50 – 150 ft deep holes, predicted 30-years ago and now realized, is the methylation of elemental mercury into methyl mercury by anaerobic bacteria in the oxygen deprived sediments of the pits. This methyl mercury bioaccumulates in the lake's ecosystem and can be magnified over four million-fold higher up in the food chain potentially rendering game fish toxic and inedible for human and other wildlife consumption.

This is shown graphically in the following diagram presented to the Yolo County Board of Supervisors by Dr. Daryl Slotten, the County's primary aquatic consultant on methyl mercury in post-mined impoundment pits.



The first monitoring of methyl mercury in the impoundment pits began in 2015. It has not been explained why monitoring had not commenced earlier as was otherwise required by the Surface Mining Reclamation Ordinance. That ordinance specifies that methyl mercury monitoring must commence as soon as the impoundment pits are formed on the mining sites and navigable by boat.

Following is information excerpted from the Summary of the most recent annual [2021 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Report](#) prepared by Dr. Slotten for the County. The 2021 report is the most recent annual report submitted to the County.

“...Section 10-5.517 of the Yolo County Code requires 5 years of annual pre-reclamation mercury monitoring for mining ponds, and then biannual monitoring for 10 years following reclamation to permanent water bodies. The fish monitoring includes new sampling each year and assessment of mercury levels in relation to comparable baseline fish data from Cache Creek.” ...

– Require Expanded Analysis – including expanded water column profiling of all relevant water quality parameters (multiple times per year rather than a single time per year) and one-time bottom sediments analysis. Expanded analyses, as set out in the Ordinance, began in 2018 and are reported separately.

– Once the reports are completed, the County will notify individual operators of results in individual ponds that require Lake Management Plans (LMPs). The information in the fish monitoring, water column profiling, and bottom sediments reports will then be used to identify mercury control methods to reduce fish mercury levels and prepare required LMPs.

– Implementation of the LMP is required within three years of completion of the expanded monitoring...Fish monitoring and water column profiling will continue, per the regulations, for a minimum of five more years. Required periodic analysis of ambient conditions will also continue.”

Following is the summary of the status of methyl mercury levels in 8 existing impoundment pits on various mining properties adjacent to Cache Creek.

Fish Monitoring							
Pit	2015	2016	2017	2018	2019	2020	2021
Cemex – Phase 1	≤	≤	≤	≤	≤	LAB	LAB
Cemex – Phase 3-4	>	>	>	>	>	LAB	LAB
Syar – B1	>	>	>	>	>	LAB	LAB
Syar – West			INC	≤	INC	LAB	LAB
Teichert – Esparto Mast			INC	>	>	LAB	LAB
Teichert – Esparto Reiff	INC	>	>	>	>	LAB	LAB
Teichert – Woodland Storz		INC	INC	≤	≤	LAB	LAB

No results have yet been reported for samples taken during 2022, 2023, and 2024 which delays have not been explained by the County. As discussed later herein, this is a clear violation of the Surface Mining Reclamation Ordinance which requires all pit monitoring results to be reported within 6 months of sampling.

If such monitoring showed fish mercury levels in excess of background levels in Cache Creek fish in 3 of the last 5 years, then expanded water quality monitoring is required followed by preparation of a lake management plan. The following expanded monitoring results were provided as part of the 2021 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Report.

MONITORING RESULTS

Fish Monitoring								Water Column Profiling							
Pit	2015	2016	2017	2018	2019	2020	2021	Pit	2015	2016	2017	2018	2019	2020	2021
Cemex – Phase 1	≤	≤	≤	≤	≤	LAB	LAB	Cemex – Phase 1 (Control)				✓	✓	✓	✓
Cemex – Phase 3-4	>	>	>	>	>	LAB	LAB	Cemex – Phase 3-4				✓	✓	✓	✓
Syar – B1	>	>	>	>	>	LAB	LAB	Syar – B1				✓	✓	✓	✓
Syar – West			INC	≤	INC	LAB	LAB	Syar – West (Control)				✓	✓	✓	✓
Teichert – Esparto Mast			INC	>	>	LAB	LAB	Teichert – Esparto Mast							
Teichert – Esparto Reiff	INC	>	>	>	>			Teichert – Esparto Reiff				✓	✓	✓	✓
Teichert – Woodland Storz		INC	INC	≤	≤	LAB	LAB	Teichert – Woodland Storz							

Bottom Sediment Collection (one-time)								Report Status							
Pit	2015	2016	2017	2018	2019	2020	2021	Sampling	2015	2016	2017	2018	2019	2020	2021
Cemex – Phase 1 (Control)					✓			Fish Monitoring	FINAL	FINAL	FINAL	FINAL	DRAFT	LAB	LAB
Cemex – Phase 3-4					✓			Water Column Profiling				FINAL	DRAFT	PNDG	PNDG
Syar – B1					✓			Bottom Sediments (1x)				FINAL			
Syar – West (Control)					✓										
Teichert – Esparto Mast															
Teichert – Esparto Reiff					✓										
Teichert – Woodland Storz															

Green = At or below ambient
 Red = Above ambient
 INC = Inconclusive
 LAB = Laboratory work underway
 PNDG = Report pending

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Similar to the results of the methyl mercury in fish monitoring, however, expanded results are also required to be reported to the County within 6 months of the sampling event. It was not explained in the 2020 and 2021 annual mercury monitoring reports why the required final reports for the 2020 and 2021 expanded monitoring were not submitted until late 2022 nor why expanded monitoring information has not yet been provided for measurements taken in the 2022, 2023, and 2024 calendar years .

Nevertheless, based on the results presented in the 2021 annual mercury monitoring report, the following conclusion was stated,

“Fish monitoring and seasonal water column testing will continue at the designated ponds. Ongoing findings will continue to narrow down management options for the sites requiring lake management plans and action. At this point (late 2022 at the time of this reporting), with

[3-4 years of additional information at CEMEX–Phase 3 and 4, Teichert–Esparto, Syar–B1, and Syar–West, it is time to develop Lake Management Plans for those sites.](#)”

This conclusion echoed a similar one in the 2020 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Report. Unfortunately, despite the intervening years and the failure of the County to prepare Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Reports for 2022, 2023, and 2034 in a timely manner, no lake management plans have yet been prepared and implemented within 3 years of expanded analysis as required by the Off-Channel Mining Reclamation Ordinance.

Further, no timeline for implementation of these required lake management plans have been provided by the County nor has the County explained why the required lake management plans have not been implemented within the statutory-required 3 year period for the 5 ponds recommended by the County’s consultant.

SHORTCOMINGS IN RECLAMATION OF PRIME FARMLAND

In addition to failures by the mining companies to comply with the reporting deadlines for methyl mercury monitoring in fish, expanded monitoring of the impoundment pits, and preparation of lake management plans, there is substantial evidence that post-mined reclaimed farmland cannot ever be reclaimed back to its original agricultural “Prime” quality as otherwise required by the Surface Mining Reclamation Ordinance.

The Yolo County Surface Mining Reclamation Ordinance requires that farmland will be reclaimed to its original quality and "*of good health, supporting earthworm populations and microbial health, such that the soils can support equivalent agriculture production*". In 2021, the County commissioned a report from an agricultural consultant, *House Agricultural Consultants*, to determine compliance of mining companies in restoring former off channel mine to agricultural use per the requirements of the Reclamation Ordinance (see Assessment of Reclamation of Mined Lands to Agriculture under the Yolo County CCAP (the "House Report")).

In their report the County's consultant acknowledges that "*the literature reflects that reclaimed soils are not the same quality as original soils due to loss of soil structure and organic matter during the period of mining when the top soils are stockpiled for later use. The literature also reflects challenges in managing production on reclaimed fields.*"

The primary crops grown on former mining sites prior to mining were high value field crops such as tomatoes, sunflowers, and peppers. However, it has been claimed that when the soil from prime farmland is removed and stockpiled prior to mining, it can never be reclaimed to the same quality and capacity of the existing prime farmland. This is because the very process of removing and stockpiling the original topsoil for later placement back onto land to be reclaimed as farmland reduces the organic carbon content and degrades the stockpiled soil. In the stockpiling process, soil organisms are starved and they will eventually die and the soil will no longer contain sufficient living organisms to carry on the biological and chemical processes needed for healthy plant growth.

These observations are confirmed in the House Report that evaluated the relative success of agricultural reclamation. The House Report contains three sections that 1) summarizes the available academic and scientific literature on the results of using reclaimed mining land for agriculture, with an emphasis on surface-gravel mining; 2) summarizes the policies and regulations under which the reclamation program operates and reviews the monitoring reports on the agricultural reclamation that had taken place; and 3) sets forth conclusions and recommendations for improving Yolo County's mining program with respect to agricultural reclamation.

The House Report confirms that reclaimed soils have poor soil structure resulting from the process of soil removal, stockpiling and redepositing the soil and also confirms the loss of soil organic matter during the mining and reclamation process. The House Report goes on to evaluate three mine sites in Yolo County which have undergone or are undergoing, reclamation to agriculture.

The first site evaluated was the Teichert Muller-30 site which is considered fully reclaimed by the County because it showed two successive years of winter wheat crop that approached previous productivity. The House Report, however, found that some of the class I soil should be classified as Class II soil after restoration and that *"seven of the ten pit sites dug on the reclaimed Teichert Muller-30 field had shallow soil or firm subsoils, which would severely limit root growth and water-holding capacity of the upper soil profile"*. This property has reportedly not been farmed since "successful" reclamation which suggests economic viability of farming post-reclamation may not be possible as predicted in the House Report.

The second site evaluated was the Teichert Coors site. The House Report indicates that the Teichert Coors site may in the future complete the reclamation process, but that the site is still not deemed reclaimed even though it has been farmed intermittently since fall 2012 during which the site has failed to produce two consecutive years of crops equivalent to previous standards for crop productivity.

As the third mining site operated by CEMEX, the House Report indicated the site has not been reclaimed and has not been farmed since the deposition of added soil in 2017.

The House Report inexplicably claimed that Yolo County's agricultural land reclamation program was a success as the three sites reviewed have either met the two-year standard (Teichert Muller 30), have shown progress (Teichert Coors), or showed some level of previous compliance but is no longer compliant due to deposition of added soil (CEMEX).

It is important to note, however, some of the House Report's key findings and conclusions explicitly contradict these findings. First, the Report states that not all reclaimed land is suitable for agriculture and not all prior agriculture may remain economically viable after reclamation. The Report then recognizes the realistic agronomic expectations for reclamation of agricultural lands. The Report concludes that *"while crops grown on reclaimed agricultural land can reach desired productivity standards . . . the soils themselves will not match the pre-mining quality or productivity."* The Report further recognized the unrealistic objective *"to maintain soil productivity at a level equal to or greater than that prior to mining"*

Thus, due to the time and costs to restore productivity after reclamation, it is not likely to be practical or economically feasible to restore reclaimed farmland to pre-mining conditions. Due to many limitations of the reclaimed land and the time and expense involved in reclaiming the land, the House Report concludes that given the economic realities of farming, "*some farmers may not be interested in the economic limitations presented by the more limited range of crops that the reclaimed lands can successfully support.*"

Nevertheless, the mining companies argue that based upon the House Report, reclamation to agriculture is a viable end use and that the House Report's result supports the conclusion that the required standards for agricultural reclamation can be achieved. But this conclusion seemingly ignores the House Report's conclusion that "*the productivity may be lower compared to native agricultural soils*" which conflicts with the requirement Prime Farmland be reclaimed to the equivalent quality and capacity to existing Prime Farmland permanently converted as a result of the project. The record demonstrates that this likely cannot be achieved.

Thus, not only can the Prime Farmlands not be restored to the equivalent quality and capacity, the House Report concludes that even in instances where it might be technically feasible, it is not economically feasible given the amount of time and expense incurred. Neither the mining companies nor the County has presented any substantial evidence to the contrary.

Acceptance of the Yolo County 2023 Annual Compliance Report for Mining Companies was Based on Erroneous Findings of Fact Statements Presented to the Planning Commission

Under the authority of the Off Channel Surface Mining Ordinance, the Yolo County Planning Commission is annually charged with holding a public hearing to certify that the mining companies are in compliance with all mining ordinances and development agreements under which the mining companies are entitled to perform their mining operations.

"Sec. 10-4.703. Annual reports: Hearing.

*Every year, the Planning Commission shall hold a public hearing, in accordance with Article 5 of this chapter, regarding the compliance status of each surface mining operation permitted pursuant to this title. **After considering the evidence in the public hearing, the Commission shall find that the operation either complies or does not comply with the Act, this chapter, and the conditions of approval for the surface mining permit. If the Commission finds that the operation is not in compliance, then the Director shall commence Notice of Violation proceedings, pursuant to Article 11 of this Chapter.**"(Bold emphasis added)*

On October 10, 2024, a public hearing was held in which the 2023 Annual Compliance Report regarding off-channel gravel mining within the boundaries of the Cache Creek Area Plan was accepted by the Planning Commission.

As part of the hearing process, Yolo County Staff prepared and submitted a *Findings of Fact* statement in which representations were made with respect to the following mines and mining companies in current operation (i.e. mining is still being actively undertaken or reclamation is underway):

- 1) CEMEX
- 2) Granite - Capay
- 3) Granite – Esparto (mining has not commenced)
- 4) Syar Industries LLC – Madison Sand and Gravel
- 5) Teichert Aggregates – Esparto
- 6) Teichert Aggregates – Schwarzgruber
- 7) Teichert Aggregates – Woodland
- 8) Teichert Aggregates – Schiffler

Unfortunately, these *Findings of Fact* statements prepared by Staff for each mine and presented to the Planning Commission contained misleading or false information or did not adequately report non-compliance by the various mining companies and the County itself with the County’s Surface Mining Reclamation Ordinance. Further, the Planning Commission relied on these false and deficient *Findings of Fact* statements when approving the 2023 Annual Compliance Report.

In particular, in the annual compliance report County Staff prepared a *Findings of Fact* statement for every single mining operation in the County in which it is specifically affirmed that the mines and mining companies are compliant with all pertinent County ordinances regarding their mining operations and responsibilities. For instance, in the 2023 *Findings of Fact* statement regarding the CEMEX mining operation the following assertions were made ,

“Re: 2023- CEMEX Findings

OCMP COMPLIANCE FINDINGS OF FACT

Pursuant to Section 10-4.1101 of the Yolo County Off-Channel Surface Mining Ordinance (Mining Ordinance) and Section 10-5.1201 of the Yolo County Surface Mining Reclamation Ordinance (Reclamation Ordinance), and based on on-site inspections, documentation provided by the operators, aerial topographic maps, and facts and analysis presented by County staff, the Yolo County Planning Commission hereby finds the following:

- 1. Yolo County regulates mining and reclamation pursuant to the Yolo County Off-Channel Mining Plan (OCMP) and adopted mining and reclamation ordinances.*
- 2. The surface mining operation was found to be substantially consistent with the OCMP, including the mining and reclamation ordinances, as a prerequisite to approval.***
- 3. Yolo County has conducted the annual inspections required by Section 10-4.1101 of the Mining Ordinance and Section 10-5.1201 of the Reclamation Ordinance for the surface mining operation known as CEMEX (County Permit ZF# 95-093).*

4. Pursuant to Sections 10-4.1101 and 10-5.1201 of the County Mining and Reclamation Ordinances, respectively, **the surface mining operation was found to be in substantial compliance with SMARA, the OCMP, conditions of the approved mining permit, and the conditions of the approved reclamation permit.****

5. Pursuant to Sections 10-4.1101 and 10-5.1201 of the County Mining and Reclamation Ordinances, respectively **the operation was not found to be causing any new or unanticipated environmental effects to the surrounding area.” (Bold emphasis added)**

Similar *Findings of Fact* statements were made for every single active mining operation in the County. In fact, all of the Cache Creek mining companies are deficient in terms of their management of the methyl mercury contamination problem, in one or more of the following ways:

1. Ongoing Failure by the Mining Companies to Begin Methyl Mercury Monitoring in a Timely Manner

Methyl mercury monitoring is required to begin in the mining phase of operations at every mine as soon as a wet pit is created per the following requirements of the Reclamation Ordinance.

“(c) PIT MONITORING.

(1) Mining Phase (including during idle periods as defined in SMARA). The operator shall monitor fish and water column profiles in each pit lake once every year during the period generally between September and November for the first five (5) years after a pit lake is created...The requirements of this subsection apply to any pit lake that is permanently wet and navigable by a monitoring vessel.”

For many mines, this monitoring was not started until 2015 which was years beyond when the impoundment pits were initially formed and when monitoring was supposed to begin. Other operating mines currently also have existing pits that are filled with water and should be monitored but which has not commenced.

Conclusion - Despite the fact that off channel mining has been occurring since 1996, with the attendant construction of the impoundment pits, no monitoring at all was conducted until 2015. Some pits have been in existence for years but have not yet commenced monitoring. This is in violation of the reclamation ordinance requiring that monitoring commence as soon as permanently wet pits are constructed and navigable by a vessel

2. Ongoing Failure by the Mining Companies to Submit Results of Methyl Mercury Monitoring in a Timely Manner

The Reclamation Ordinance clearly states that annual methyl mercury monitoring must occur in the September to November time frame each year and the results of such monitoring must be submitted to the County within 6 months of the monitoring event.

“(d) Reporting.

*(1) Pit Monitoring Results. Reporting and evaluating of subsection (c) pit monitoring results shall be conducted by a qualified aquatic scientist or equivalent professional acceptable to the Director. Monitoring activities and **results shall be summarized in a single report (addressing all wet pit lakes) and submitted to the Director within six (6) months following each annual monitoring event.** The report shall include, at a minimum: (1) results from subsection (b) (pit monitoring), in relation to subsection (a) (ambient mercury levels).”*
(Bold emphasis added)

Conclusion - The most recent methyl mercury monitoring results reported by the County was in late 2022 when they simultaneously reported the results from the 2020 and 2021 monitoring events. These were clearly in excess of the six-month reporting time period requirement required by the County’s Surface Mining Reclamation Ordinance. Nor have results been submitted yet for methyl mercury monitoring events that occurred in 2022 and 2023 which delays are obviously in excess of the the prescribed 6-month reporting requirement.

3. Ongoing Failure by the Mining Companies to Implement and Report Expanded Lake Monitoring in a Timely Manner

The Reclamation Ordinance clearly states that if expanded analysis shall occur for any mining impoundment pit if excessive methyl mercury concentrations in fish are noted in any 3 of 5 years of annual methyl mercury monitoring and the results of such expanded monitoring must be submitted to the County within 6 months of the monitoring event.

“(c) Pit Monitoring.

*(1) Mining Phase...If, in the initial five (5) years after the pit lake is created, the applicable response threshold identified in subsection (e) is exceeded in any three (3) of five (5) monitoring years, the operator shall, solely at their own expense, undertake expanded analysis pursuant to subsection (f) and preparation of a lake management plan pursuant to subsection (g).”**(Bold emphasis added)*

“(d) Reporting

*(2) Expanded Analysis Results. Reporting and evaluation of subsection (f) expanded analysis shall be conducted by a qualified aquatic scientist or equivalent professional acceptable to the Director. **Results shall be summarized in a single report (addressing all affected wet pit lakes) and submitted to the Director within six (6) months following each annual monitoring event.** The report shall include, at a minimum, the results of the expanded analysis undertaken pursuant subsection (f).”**(Bold emphasis added)*

However, significant delays in reporting of such expanded analyses has occurred. For instance, the results of expanded analyses in 2020 and 2021 were not reported until the end of 2022. No expanded analyses results have yet to be reported for such analyses performed in 2022 or 2023 which delays are obviously in excess of the the prescribed 6-month reporting requirement.

Conclusion – Ongoing failure by the mining companies to submit results of expanded analyses within 6 months of such analyses is in violation with the explicit provisions of the Surface Mining Reclamation Ordinance.

4. Ongoing Failure by the Mining Companies to Implement Lake Management Plans in a Timely Manner

Despite the recommendations of the County’s aquatic biologist in the 2020 and 2021 annual methyl mercury monitoring reports that lake management plans should commence for impoundment pits CEMEX–Phase 3 and 4, Teichert–Esparto, Syar–B1, and Syar–West, no such lake management plans have yet been implemented for a single mine in Yolo County.

The Surface Mining Reclamation Ordinance requires that lake management plans be implemented within 3 years of reported results from the expanded monitoring required by the ordinance as shown in the following excerpts.

“(g) Lake Management Activities

(1) General. If monitoring conducted during the mining or post-reclamation phases triggers the requirement to undertake expanded analysis and prepare and implement a lake management plan, the operator shall implement lake management activities designed by a qualified aquatic scientist or equivalent professional acceptable to the Director, informed by the results of subsection (f). Options for addressing elevated mercury levels may include (A) and/or (B) below at the Director’s sole discretion and at the operator’s sole expense.

(A) Lake Management Plan. Prepare a lake management plan that provides a feasible, adaptive management approach to reducing fish tissue mercury concentrations to at or below the ambient mercury level...All costs associated with preparation and implementation of the lake management plan shall be solely those of the operator. Upon acceptance by the Director, the operator shall immediately implement the plan. The lake management plan shall generally be implemented within three years of reported results from the expanded analyses resulting from subsection (f). If lake management does not achieve acceptable results and/or demonstrate declining mercury levels after a maximum of three years of implementation, at the sole discretion of the Director, the operator may prepare an alternate management plan with reasonable likelihood of mitigating the conditions.” (Bold emphasis added)

Conclusion - Despite the assertion of the need for such lake management plans by the county’s aquatic specialist in BOTH the 2020 and 2021 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Reports, no

such plans have yet been prepared much less implemented within 3 years as required by the County's Surface Mining Reclamation Ordinance.

5. Ongoing Failure by Yolo County to Determine Baseline Methyl Mercury Levels Every Ten Years

Additionally, the County itself is in violation of the Surface Mining Reclamation Ordinance because the County itself is responsible for obtaining methyl mercury background concentrations in fish within the Creek itself every ten years for baseline comparison purposes

*(b) Ambient Mercury Level. The determination of the ambient or "baseline" fish mercury level shall be undertaken by the County **every ten (10) years in years ending in 0**. This analysis shall be undertaken by the County for use as a baseline of comparison for fish mercury testing conducted in individual wet mining pits. **(Bold emphasis added)***

However, the last baseline measurements reported in the most recently published methyl mercury monitoring annual report, 2021 Cache Creek Off Channel Fish Monitoring Annual Report listed the last baseline comparison as having occurred in 2011, and not 2020 as required by the ordinance.

The fact that new baseline data was required in 2020 per the Surface Mining Reclamation Ordinance was noted in the 2019 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Report where it was noted that, "*Another full Cache Creek Baseline set of fish collections will be conducted some time in the next few years.*". However, such an updated baseline was not used nor provided in either the 2020 or 2021 Cache Creek Off Channel Fish Monitoring Annual Report

Conclusion - To date, the results of any such new baseline collections taken after 2011 were not included in either the 2020 or 2021 Cache Creek Off Channel Aggregate Mining Ponds Mercury Monitoring Report in apparent violation of the Surface Mining Reclamation Ordinance.

Summary

County Staff has asserted and affirmed in *Findings of Fact* statements prepared for and presented to the Planning Commission that the mining companies are in full compliance with all provisions of the Surface Mining Reclamation Ordinance. The Planning Commission relied on these *Findings of Fact* statements for each mining company when certifying the Yolo County 2023 Annual Compliance Report for Mining Companies. Unfortunately, this acceptance and certification was based on erroneous *Findings of Fact* statements. In fact, the mining companies and Yolo County itself is in ongoing violation with numerous provisions of the Surface Mining Reclamation Ordinance in the following manner:

i) Methyl mercury and expanded analysis monitoring and implementation of lake management plans - The reporting required results of annual methyl mercury monitoring are repeatedly

years late compared to what is required in the Surface Mining Reclamation Ordinance. Similarly, reporting of results of expanded analysis of the impoundment pits are also years late. Additionally, implementation of lake management plans are years late and the County has not reported new baseline methyl mercury calculations for 2020 as otherwise required

ii) Purportedly restored farmland has not been brought back to the productive standards that existed before mining - There is substantial evidence that such lands may never be restored to the productive standards required for such farmland reclamation by the Surface Mining Reclamation Ordinance. This conflicts with the *Findings of Fact* statements provided by Staff stating the the mining companies are in compliance with all of the County ordinances for surface mining and reclamation.

Thus, the acceptance and certification of all Annual Compliance Statements that relied on such false representations and assertions by County Staff in their submitted *Findings of Fact* is in violation of the Yolo County Off Channel Mining Ordinance.

APPENDIX A – PROVISIONS OF THE YOLO COUNTY SURFACE MINING RECLAMATION ORDINANCE REGARDING METHYL MERCURY IN IMPOUNDMENT PITS AND FARMLAND RESTORATION

(WITH PERTINENT SECTIONS HIGHLIGHTED IN YELLOW)

Article 5. Minimum, Reclamation Performance Standards: Off-Channel Operations

Sec. 10-5.517. Mercury bioaccumulation in fish.

As part of each approved long-term mining plan involving wet pit mining to be reclaimed to a permanent pond, lake, or water feature, the operator shall maintain, monitor, and report to the Director according to the standards given in this section. Requirements and restrictions are distinguished by phase of operation as described below.

(a) Mercury Protocols. The Director shall issue and update as needed "Lower Cache Creek Off-Channel Pits Mercury Monitoring Protocols" (Protocols), which shall provide detailed requirements for mercury monitoring activities. The Protocols shall include procedures for monitoring conditions in each pit lake, and for monitoring ambient mercury level in the lower Cache Creek channel within the Cache Creek Area Plan ("CCAP") planning area, as described below. The Protocols shall be developed and implemented by a qualified aquatic scientist or equivalent professional acceptable to the Director. The protocols shall identify minimum laboratory analytical reporting limits, which may not exceed the applicable response threshold identified in subsection (e) below. Data produced from implementing the Protocols shall meet or exceed applicable standards in the industry.

(b) Ambient Mercury Level. The determination of the ambient or "baseline" fish mercury level shall be undertaken by the County every ten (10) years in years ending in 0. This analysis shall be undertaken by the County for use as a baseline of comparison for fish mercury testing conducted in individual wet mining pits. The work to establish this baseline every ten (10) years shall be conducted by a qualified aquatic systems scientist acceptable to the Director and provided in the form of a report to the Director. It shall be paid for by the mining permit operators on a fair-share basis. The results of monitoring and evaluation of available data shall be provided in the report to substantiate the conclusions regarding ambient concentrations of mercury in fish within the lower Cache Creek channel within the CCAP planning area.

(c) Pit Monitoring.

(1) Mining Phase (including during idle periods as defined in SMARA). The operator shall monitor fish and water column profiles in each pit lake once every year during the period generally between September and November for the first five (5) years after a pit lake is created. Fish monitoring should include sport fish where possible, together with other representative species that have comparison samples from the creek and/or other monitored ponds. Sport fish are defined as predatory, trophic level four fish such as bass, which are likely to be primary angling targets and have the highest relative mercury levels. The requirements of this subsection apply to any pit lake that is permanently wet and navigable by

a monitoring vessel. If, in the initial five (5) years after the pit lake is created, the applicable response threshold identified in subsection (e) is exceeded in any three (3) of five (5) monitoring years, the operator shall, solely at their own expense, undertake expanded analysis pursuant to subsection (f) and preparation of a lake management plan pursuant to subsection (g).

(2) Reclamation Phase. No monitoring is required after mining has concluded, during the period that an approved reclamation plan is being implemented, provided reclamation is completed within the time specified by SMARA or the project approval, whichever is sooner.

(3) Post-Reclamation Phase. After reclamation is completed, the operator shall monitor fish and water column profiles in each pit lake at least once every two (2) years during the period of September-November for ten (10) years following reclamation. Monitoring shall commence in the first calendar year following completion of reclamation activities. If fish monitoring results from the post-reclamation period exceed the applicable response threshold described in subsection (e) or, for ponds that have implemented mitigation management, results do not exhibit a general decline in mercury levels, the operator shall, solely at their own expense, undertake expanded analysis pursuant to subsection (f) and preparation of a lake management plan pursuant to subsection (g).

(4) Other Monitoring Obligation. If monitoring conducted during both the mining and post-reclamation phase did not identify any exceedances of the ambient mercury level for a particular pit lake, and at the sole discretion of the Director no other relevant factors substantially support that continued monitoring is merited, the operator shall have no further obligations.

(d) Reporting.

(1) Pit Monitoring Results. Reporting and evaluating of subsection (c) pit monitoring results shall be conducted by a qualified aquatic scientist or equivalent professional acceptable to the Director. Monitoring activities and results shall be summarized in a single report (addressing all wet pit lakes) and submitted to the Director within six (6) months following each annual monitoring event. The report shall include, at a minimum: (1) results from subsection (b) (pit monitoring), in relation to subsection (a) (ambient mercury levels).

(2) Expanded Analysis Results. Reporting and evaluation of subsection (f) expanded analysis shall be conducted by a qualified aquatic scientist or equivalent professional acceptable to the Director. Results shall be summarized in a single report (addressing all affected wet pit lakes) and submitted to the Director within six (6) months following each annual monitoring event. The report shall include, at a minimum, the results of the expanded analysis undertaken pursuant subsection (f).

(3) Data Sharing. For pit lakes open to the public, the Director may submit the data on mercury concentrations in pit lake fish to the state Office of Environmental Health Hazard Assessment (or its successor) for developing site-specific fish consumption advisories.

(4) Other Monitoring Obligation. If monitoring conducted during both the mining and post-reclamation phase did not identify any exceedances of the ambient mercury level for a particular pit lake, and at the sole discretion of the Director no other relevant factors substantially support that continued monitoring is merited, the operator shall have no further obligations.

(e) Response Thresholds.

(1) Fish Consumption Advisory. If at any time during any phase of monitoring the pit lake's average sport fish tissue mercury concentration exceeds the Sport Fish Water Quality Objective, as it may be modified by the state over time (as of 2019, the level was 0.2 mg/kg), the operator shall post fish consumption advisory signs at access points around the lake and around the lake perimeter. Catch-and-release fishing may still be allowed. Unless site-specific guidance has been developed by the state's Office of Health Hazard Assessment or the County, statewide fish consumption guidance shall be provided.

(2) Mining Phase Results. If, during the mining phase of monitoring, the pit lake's average fish tissue mercury concentration exceeds the ambient mercury level for any three (3) of five (5) monitoring years, annual monitoring shall continue for an additional five (5) years, and the operator shall undertake expanded analysis pursuant to subsection (f) and preparation of a lake management plan pursuant to subsection (g).

(3) Post-Reclamation Phase Results. If during the first ten (10) years of the post-reclamation phase of monitoring, the pit lake's average fish tissue mercury concentration exceeds the ambient mercury level for any three (3) of five (5) monitoring years, biennial monitoring shall continue for an additional ten (10) years, and the operator shall undertake expanded analysis pursuant to subsection (f) and preparation of a lake management plan pursuant to subsection(g).

(f) Expanded Analysis.

(1) General. If during the mining or post-reclamation phase, any pit lake's average fish tissue mercury concentration exceeds the ambient mercury level for any three (3) years, the operator shall undertake expanded analyses. The analysis shall include expanded lake water column profiling (a minimum of five (5) profiles per affected wet pit lake plus one or more nonaffected lakes for control purposes) conducted during the warm season (generally May through October) in an appropriate deep profiling location for each pit lake. The following water quality parameters shall be collected at regular depth intervals, from surface to bottom of each lake, following protocols identified in subsection (a): temperature, dissolved oxygen, conductivity, pH and oxidation-reduction potential (ORP), turbidity or total suspended solids, dissolved organic matter, and algal density by Chlorophyll or Phycocyanin. The initial analysis shall also include one-time collections of fine grained (clay/silt) bottom sediments from a minimum of six (6) well distributed locations for each affected lake, and from one or more nonaffected lakes for control purposes, to be analyzed for mercury and organic content.

(2) Scope of Analysis. The purpose of the expanded analyses is to identify and assess potential factors linked to elevated methyl mercury production and/or bioaccumulation in each

pit lake. The scope of the expanded analyses shall include monitoring and analysis appropriate to fulfill this purpose, invoking best practices in the industry. In addition to the analyses described in subsection (f)(1) above, the analysis should also consider such factors as: electrical conductivity, bathymetry (maximum and average depths, depth-to-surface area ratios, etc.), and trophic status indicators (concentrations, Secchi depth, chlorophyll a, fish assemblages, etc.). Additional types of testing may be indicated and appropriate if initial results are inconclusive.

(3) Use of Results. The results of the expanded analyses undertaken pursuant to this subsection shall be used to inform the preparation of a lake management plan described below under subsection (g).

(g) Lake Management Activities.

(1) General. If monitoring conducted during the mining or post-reclamation phases triggers the requirement to undertake expanded analysis and prepare and implement a lake management plan, the operator shall implement lake management activities designed by a qualified aquatic scientist or equivalent professional acceptable to the Director, informed by the results of subsection (f). Options for addressing elevated mercury levels may include (A) and/or (B) below at the Director's sole discretion and at the operator's sole expense.

(A) Lake Management Plan. Prepare a lake management plan that provides a feasible, adaptive management approach to reducing fish tissue mercury concentrations to at or below the ambient mercury level. Potential mercury control methods could include, for example: addition of oxygen to or physical mixing of anoxic bottom waters; alteration of water chemistry (modify pH or organic carbon concentration); and/or removal or replacement of affected fish populations. The lake management plan may be subject to external peer review at the discretion of the Director. Lake management activities shall be appropriate to the phase of the operation (e.g. during mining or post-reclamation). The Lake Management Plan shall include a recommendation for continued monitoring and reporting. All costs associated with preparation and implementation of the lake management plan shall be solely those of the operator. Upon acceptance by the Director, the operator shall immediately implement the plan. The lake management plan shall generally be implemented within three (3) years of reported results from the expanded analyses resulting from subsection (f). If lake management does not achieve acceptable results and/or demonstrate declining mercury levels after a maximum of three (3) years of implementation, at the sole discretion of the Director, the operator may prepare an alternate management plan with reasonable likelihood of mitigating the conditions.

(B) Revised Reclamation Plan. As an alternative to (A), or if (A) does not achieve acceptable results and/or demonstrate declining mercury levels after a maximum of three (3) years of implementation, at the sole discretion of the Director, the operator shall prepare and submit revisions to the reclamation plan (including appropriate applications and information for permit amendment) to fill the pit lake with suitable fill material to a level no less than five (5) feet above the average seasonal

high groundwater level, and modify the end use to agriculture, habitat, or open space at the discretion of the Director, subject to Article 6 of the Mining Ordinance and/or Article 8 of the Reclamation Ordinance as may be applicable.

(2) Implementation Obligations.

(A) If a lake management plan is triggered during the mining or post-reclamation phase and the subsequent lake management activities do not achieve acceptable results and/or demonstrate declining mercury levels, the operator may propose different or additional measures for consideration by the Director and implementation by the operator, or the Director may direct the operator to proceed to modify the reclamation plan as described in subsection (g)(1)(B).

(B) Notwithstanding the results of monitoring and/or lake management activities during the mining phase, the operator shall, during the post-reclamation phase, conduct the required ten (10) years of biennial monitoring.

(C) If monitoring conducted during the post-reclamation phase identifies three (3) monitoring years of mercury concentrations exceeding the ambient mercury level, the operator shall implement expanded analyses as in subsection (f), to help prepare and implement a lake management plan and associated monitoring.

(D) If subsequent monitoring after implementation of lake management activities, during the post-reclamation phase, demonstrates levels of fish tissue mercury at or below the ambient mercury level for any three (3) monitoring years (i.e. the management plan is effective), the operator shall be obligated to continue implementation of the plan and continue monitoring, or provide adequate funding for the County to do both, in perpetuity. (§ 1, Ord. 1191, eff. September 5, 1996; as amended by Ord. 1518, eff. February 13, 2020)

Sec. 10-5.525. Farmland conversion.

All mining permit applications shall identify the location and acreage of prime farmlands, unique farmland, and farmland of statewide significance, as shown on the State Farmland Mapping and Monitoring Program (FMMP) which, as a result of reclamation, would be permanently converted to non-agricultural uses. For each acre of farmland in these categories that would be converted to non-agricultural use, the reclamation plan shall present provisions to offset the conversion of these lands, at a ratio consistent with Section 8-2.404 (Agricultural Conservation and Mitigation Program) of the County Code. This mitigation requirement may be satisfied using a variety of flexible options identified below so long as the total acreage of benefit is found to be equivalent to the applicable ratio and acreage required under Section 8-2.404 of the County Code, by type and amount of farmland being impacted, and so long as a minimum ratio of 1:1 of permanently protected agriculture land of equivalent or better quality/capability is achieved.

(a) Implementation of improvements, identified by a qualified soil scientist, to the agricultural capability of non-prime lands within the project site or outside the project site but within the

OCMP area, that convert non-prime to prime agricultural conditions. These improvements can include permanent improvement of soil capability through soil amendments, reduction of soil limitations (such as excessive levels of toxins), or improvements in drainage for areas limited by flooding or low permeability soils) .

(b) Placement of permanent conservation easements on land of equal or better quality/capability. The operator shall be encouraged to target property "at risk" of conversion to non-agricultural uses in selecting areas for permanent protection. Prior to approval of the conservation easement, the operator shall consult with the County and/or an appropriate non-profit agency to determine the relative risk of conversion, to which the proposed property might otherwise be subject. A minimum ratio of 1:1 is required in this category.

(c) Dedication of land, funding, or equivalent improvements, consistent with the County's net gains goals, above and beyond the net gains benefits otherwise required under the CCAP program.

(d) Dedication of land, funding, or equivalent improvements, consistent with the Parkway Plan, above and beyond net gains benefits otherwise required under the CCAP program. (§ 1, Ord. 1191, eff. September 5, 1996; as amended by Ord. 1518, eff. February 13, 2020).