

RESPONSE TO COMMENTS

Darigold Inc.
NPDES Permit ID0024953
February 19, 2019

On August 28, 2018, the U.S. Environmental Protection Agency (EPA) issued a public notice for the reissuance of the Darigold National Pollutant Discharge Elimination System (NPDES) Permit No. ID0024953 (Permit).

This Response to Comments document provides a summary of significant comments received and corresponding EPA responses.

The EPA received comments from:

- Scott Algate, Senior Environmental Compliance Manager, Darigold (Darigold)
- Austin Hopkins, Conservation Associate, Idaho Conservation League (ICL)

The following changes to the Final Permit have been made as a result of the comment period:

- The maximum daily limits for phosphorus are removed;
- The outfall location is corrected to 43.6779 latitude N and 116.6998 longitude west;
- The word “stations” is changed to “station” in the background monitoring section; and,
- The standard permit provision for reporting toxics introduced into a POTW is replaced with the standard permit provisions for reporting toxics discharged from an industrial facility.
- Surface water monitoring for conductivity, dissolved organic carbon and copper, required to evaluate site-specific water quality standards for copper based on the biotic ligand model is not included in the final permit.

- 1. Comment: (Darigold)** On page 17 of the Fact Sheet it is stated that a compliance schedule is not required based on the assumption that we are able to discharge to the POTW if our temperature exceeds the stated parameter. Where this is at times an available option for very short durations, it cannot be assumed that this is an available long-term (or even short-term) option. This would need to be discussed and agreed upon with the City of Caldwell as a condition of our SIU permit with them. We at times struggle to meet those permit condition on total flow. Diverting to the POTW while we are working to meet a new lower temperature limit contained in this NPDES permit would put us in violation of our SIU permit with the City of Caldwell POTW. We request that we are afforded a compliance schedule to meet the new lower temperature limit.

New and More Restrictive Limits with No Schedule of Compliance

The fact sheet on pages 8 and 17 states that Darigold can discharge its wastewater to the city of Caldwell’s sanitary sewer and treatment system, and can do this whenever limitations in the NPDES permit might be exceeded. Based on this assumption, the permit does not provide a compliance schedule for any parameter that has a new or more restrictive limitation (e.g. temperature and pH). In fact Darigold’s authorization to discharge to the City’s sanitary sewer system has a flow constraint regarding Darigold’s operation. If Darigold discharges industrial wastewater to the City of more than approximately 17 hours within that day, Darigold will exceed the City’s permit limit on a daily flow. Thus Darigold does not have a simple and easily implemented way to comply with the limits in the NPDES permit and will need a compliance schedule to find a cost-effective and realistic way to achieve compliance.

The Draft permit includes a new limitation of 13 degrees Celsius for the period November 1 to May 31. Darigold's monitoring data for temperature in the discharge show that this limitation will routinely be exceeded during this period. Darigold's operation with respect to discharge to the City's sanitary sewer system is not as simple as the Fact Sheet suggests. Furthermore, this new limit is much more restrictive than the existing temperature limit and will require modifications to Darigold's facilities and operation. This Darigold plant is relatively old and has space limitations for new facilities. Also, additional monitoring of condensate of whey (COW) wastewater and non-contact cooling water temperatures are needed to establish a reliable data base for compliance evaluation, design and proper operations.

As a result, Darigold requires a compliance schedule of 5 years from the effective date of the final permit to achieve compliance with the new and more restrictive temperature limitation. This schedule will allow two years of monitoring across multiple seasons and climate years, 18 months for planning and design, 12 months for construction, and 6 months for startup and testing.

The Draft permit includes a new limitation of 6.5 to 9.0 pH units applicable year-round. Darigold monitoring data indicates that the current discharge will not always be in compliance with this pH range limitation, both on the low and high end of the range. This will involve a more complex control system than if the compliance challenge was on one end of the range. Also, additional monitoring of condensate of whey and non-contact cooling water pH is needed to establish a reliable data base for compliance evaluation, design and proper operations.

As a result, Darigold requests a compliance schedule of 5 years from the effective date of the final permit to achieve compliance with the new pH limitations. This schedule will allow two years for monitoring across multiple seasons, 18 months for planning and design, 12 months for construction, and 6 months for startup and testing.

Response: The federal regulation for compliance schedules is 40 CFR 122.47. The EPA NPDES Permit Writers on page 9-9 provides the following guidance on compliance schedules.

“ In May 2007, the Director of the EPA's Office of Wastewater Management issued a memorandum to EPA Region 9 that clarified the requirements of 40 CFR § 122.47 as they relate to water quality based effluent limits (WQBELs). See *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* <www.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf>. The following principles outlined in this memo must be considered when assessing whether a compliance schedule for achieving a WQBEL is consistent with the CWA and its implementing regulations and when documenting the basis for a compliance schedule in a permit:

- Demonstrate that the permittee cannot immediately comply with the new effluent limitation on the effective date of the permit.
- Justify and document the *appropriateness* of the compliance schedule; factors relevant to a determination that a compliance schedule is appropriate include how much time the discharger had to meet the WQBEL under prior permit(s), whether there is any need for modifications to treatment facilities, operations, or other measures and, if so, how long it would take to implement such modifications.
- Justify and demonstrate that compliance with the final WQBEL is required *as soon as possible*; factors relevant to a determination that a compliance schedule is required as soon as possible include the steps needed to modify or install treatment facilities, operations, or other measures and the time those steps would take....”

The comment does not adequately demonstrate that the permittee cannot immediately comply with the new effluent limitation on the effective date of the permit nor does it justify and document the

appropriateness of the compliance schedule. As explained below modification to treatment facilities, operations or other measures is not needed.

According to the Caldwell POTW Plant Operator Salvador Arreola, the capacity of the City of Caldwell POTW is 8.5 million gallons per day (mgd). It utilizes 7.4 mgd during the summer and 4.2 mgd during the winter which is the spawning season when Darigold will require discharge of up to 0.38 mgd to Caldwell to avoid violating the new 13°C temperature effluent limit (personal telephone communication, John Drabek and Salvador Arreola, September 6, 2018). The operator stated the plant is typically operated at less than 52 percent capacity during the winter months and there is capacity for Darigold's increased discharge. Further, the wastewater will not inhibit biological activity in the POTW according to Mr. Arreola.

In accordance with the pretreatment regulation at 40CFR Part 403(j) states:

“Notification of changed Discharge. All Industrial Users shall promptly notify the Control Authority (and the POTW if the POTW is not the Control Authority) in advance of any substantial change in the volume or character of pollutants in their Discharge, including the listed or characteristic hazard wastes for which the Industrial user has submitted initial notification...”

According to Mr. Arreola, submission of a written request to modify the Industrial User permit is all that is required of Darigold to allow all of the evaporated condensate of whey (“COW” water) from its drying process and non-contact cooling water now discharged to the Boise River to be re-routed to the POTW.

Further, IDEQ's 401 Certification does not provide a compliance schedule to meet the new temperature limits.

Temperature

The EPA disagrees with the comment “additional monitoring of condensate of whey (COW) wastewater and non-contact cooling water temperatures are needed to establish a reliable data base for compliance evaluation, design and proper operations” and that a compliance schedule is needed to “allow two years of monitoring across multiple seasons and climate years.” Continuous temperature monitoring was required in the previous permit, measured and reported to the EPA since 2001. This provides continuous monitoring data for 16 years through multiple seasons and climate years. A reliable temperature data base was insured by the Quality Assurance Plan required for temperature monitoring in Condition I.B. of the existing permit.

pH

The EPA disagrees that the monitoring data indicates that the current discharge will not always be in compliance with the pH range limitation, both on the low and high end of the range and will involve a more complex control system than if the compliance challenge was on one end of the range.

In the last five years Darigold has never exceeded the lower pH limit and has only exceeded the upper pH limit once in the last five years. The table below shows recent data.

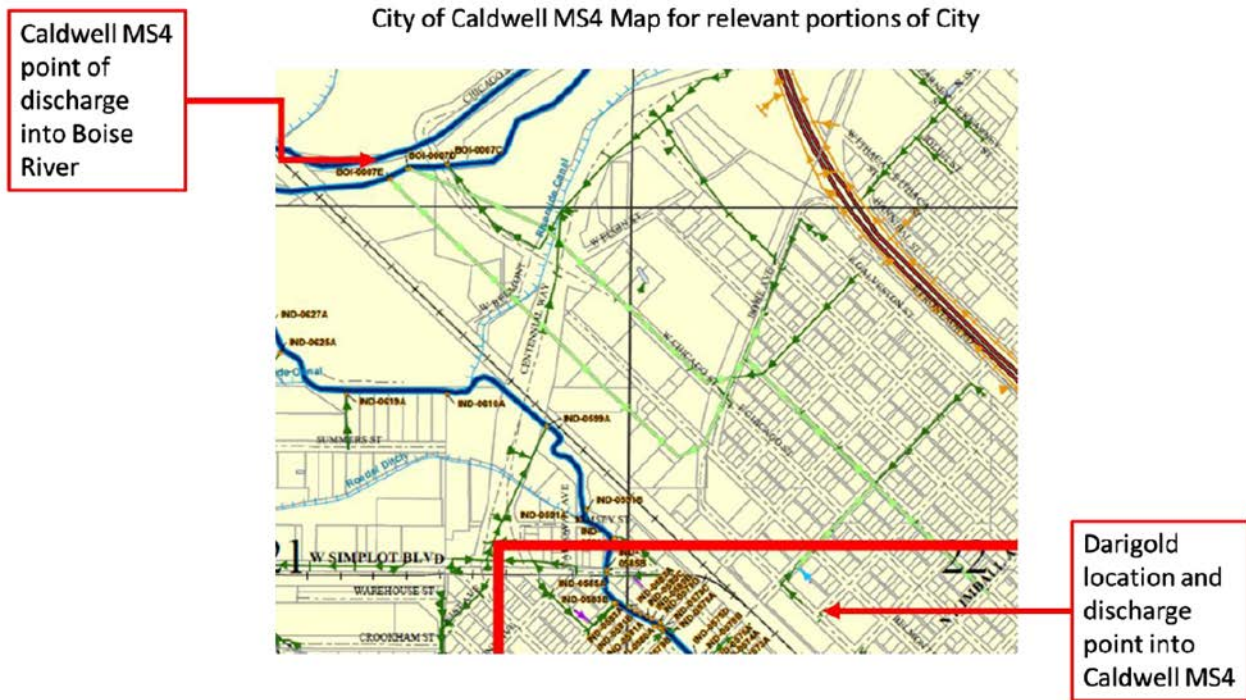
8.	SU	03/31/2013
6.9	SU	03/31/2013
8.1	SU	06/30/2013
6.7	SU	06/30/2013
9.3	SU	09/30/2013
7.	SU	09/30/2013
8.5	SU	12/31/2013
6.7	SU	12/31/2013
8.	SU	03/31/2014
6.8	SU	03/31/2014
8.5	SU	06/30/2014
6.6	SU	06/30/2014
8.	SU	09/30/2014
6.8	SU	09/30/2014
8.5	SU	12/31/2014
6.8	SU	12/31/2014
8.5	SU	03/31/2015
6.7	SU	03/31/2015
8.	SU	06/30/2015
6.7	SU	06/30/2015
8.3	SU	09/30/2015
7.	SU	09/30/2015
8.5	SU	12/31/2015
6.8	SU	12/31/2015
8.1	SU	03/31/2016
6.6	SU	03/31/2016
8.1	SU	06/30/2016
6.6	SU	06/30/2016
8.1	SU	09/30/2016
6.7	SU	09/30/2016
8.	SU	12/31/2016
6.7	SU	12/31/2016
7.5	SU	03/31/2017
6.6	SU	03/31/2017
7.8	SU	06/30/2017
6.8	SU	06/30/2017
8.5	SU	09/30/2017
6.7	SU	09/30/2017
7.6	SU	12/31/2017
6.6	SU	12/31/2017
8.	SU	03/31/2018
6.6	SU	03/31/2018
9.	SU	06/30/2018
6.5	SU	06/30/2018

Therefore, a compliance schedule is not required for Darigold to meet the effluent limits for pH.

The effective date of the permit will be six months after the issuance date to allow the modification of Darigold's Industrial User permit, if needed.

The comment did not result in a change to the permit.

- 2. **Comment: (Darigold)** The fact sheet on page 8 states that the facility discharged directly to the Boise River via an open pipe. Regarding the proposed surface water monitoring I feel that it is important that EPA recognize that Darigold, Inc. does not have a discrete discharge to the Boise River. Darigold, Inc. discharges into the City of Caldwell MS4 in the street outside of the processing plant which is approximately 1 mile from the Boise river. The MS4 that Darigold discharges into collects water from a significant portion of the City of Caldwell (please note picture below).



As can be seen there is vast opportunity for potential pollutants to enter this discharge stream to the Boise River that have nothing to do with Darigold, Inc. and related discharge.

The MS4 also does not have a discrete discharge into the Boise river. The MS4 has 2 locations that discharge into the Boise river which are approximately 100 ft. from each other. To attempt to distinguish between these two separate discharge points as well as to distinguish between Darigold, Inc. discharge impacts into these two discharge points and subsequent effects to the Boise River seems virtually impossible. Any data or observations of the surface water in this location would likely serve only to indicate some potential issue somewhere in the NE portion of the City of Caldwell MS4 system and not with Darigold, Inc. specifically.

Darigold has recently conferred with the City and confirmed that the City's storm sewer system conveys the Darigold discharge to the river just upstream of the confluence of Indian Creek with the Boise River. This has implications not only for Fact Sheet accuracy, but also on receiving water monitoring as noted in Draft Permit Comments.

The location of the discharge points of the MS4 into the Boise River are located in a particularly vulnerable portion of the Boise River. It is close enough to town where it can be easily accessed by transient people but remote and in dense enough vegetation that frequenting the area brings into question the personal safety of a person going there to conduct observations and/or sampling. There is abundant evidence throughout the area of illicit activities. Frankly I didn't feel very safe in the area when reviewing the potential requirement to conduct the surface water monitoring.

Response: Here, the receiving water of the discharge is the Boise River. The location of the MS4 discharge points into the Boise River are noted; however, receiving (or surface) water monitoring must occur upstream of the discharge points. As explained in the Fact Sheet, Section 308 of the CWA and 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

EPA's NPDES Permit Writers Manual page 6-18 states:

“If a discharge is controlled so that it does not cause water quality criteria to be exceeded in the receiving water at the critical flow condition, the discharge controls should be protective and ensure that water quality criteria, and thus designated uses, are attained under all receiving water flow conditions.”

The critical flow conditions are when stormwater in the storm sewer system does not dilute the Darigold discharge to the Boise River. To assist Darigold in determining the most representative surface water monitoring location, Condition I.C.2. states: “The permittee must seek written approval of the surface water monitoring stations from IDEQ's Boise Regional Office.” IDEQ can assist Darigold in finding an adequate sampling location in light of Darigold's concerns.

The permit is unchanged based on the comment.

3. **Comment: (Darigold) Maximum Daily Limits for Phosphorus**

The Fact Sheet on page 10 states:

“The *Lower Boise River TMDL 2015 Total Phosphorus Addendum* (Phosphorus Addendum), was approved by the EPA in December 2015. Table 27 provided a total phosphorus WLA to Darigold of 1.4 lbs/day as a monthly average from May 1 through September 30. To ensure that the permit effluent limit is consistent with the WLA in the TMDL, the permit establishes a monthly average effluent limitation of 1.4 lbs/day.

The Phosphorus Addendum also provides a total phosphorus WLA of 5.0 lbs/day as a monthly average from October 1 through April 30 in Table 34. Therefore, to ensure that the permit effluent limit is consistent with the WLA in the TMDL, the permit establishes a monthly average loading limit of 5.0 lbs/day during these months.

Darigold recognizes the TMDL-driven basis for these monthly limitations, however, the Draft Permit also contains maximum daily limits of 2.1 and 7.5 lbs/day for each of those respective seasons. The EPA-approved Phosphorus Addendum is clear that only monthly limits are needed to correctly implement the TMDL, and in fact this has been the case for all permits issued since the Phosphorus Addendum was complete and approved, including NPDES permits issued by Region 10 for the cities of Caldwell, Meridian and Nampa.

Darigold therefore requests that the maximum daily phosphorus limits be deleted from the Draft Permit, consistent with the stated intent of the TMDL and other permits issued in the watershed since the completion of the TMDL.

Response:

Federal regulations at (40 CFR 122.45(d) require “(d) *Continuous discharges*. For continuous dischargers all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works;... “

Thus, in order to remove the maximum daily effluent limits for total phosphorus from the permit, the EPA would need to make a finding that it is “impracticable” to state the effluent limits as average weekly and average monthly discharge limitations.

The Lower Boise River TMDL TP Addendum establishes total phosphorus WLAs that are monthly averages. The draft permit also proposes maximum daily limits that are derived from the average monthly WLAs. Monitoring of total phosphorus was neither required nor submitted under the last permit. A default of 0.6 coefficient of variation was used to calculate the maximum daily limit. Historic effluent variability for total phosphorus may not be representative of future effluent variability.

The EPA has determined that it is impracticable to state the total phosphorus effluent limits as maximum daily limits at this time, since, if the actual effluent variability is significantly different than EPA’s assumptions, then the maximum daily limits will not be appropriate.

Because the coefficient and effluent variability is unknown, it is impracticable for the EPA to properly calculate maximum daily limits for total phosphorus at this time. Thus, the EPA has deleted the maximum daily total phosphorus limits from the final permit. Since the WLAs are expressed as monthly averages, average monthly limits are adequate to ensure that the effluent limits are consistent with the assumptions and requirements of the TMDL’s WLAs.

Therefore, the maximum daily limits are removed from the final permit. These limits are 2.1 lbs/day from May through September and 7.5 lbs/day from October through April.

- 4. **Comment: (Darigold)** On page 5 of the draft permit there is a requirement to perform surface water observations in a written log, however it does not state frequency of how often those observations are to be conducted.

Response: Observations must be based on the Best Management Plan to ensure discharges do not cause floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.

The permit is not changed.

- 5. **Comment: (Darigold)** On page 8 there is reference to monitoring stations (plural) however there is only a requirement to establish one monitoring station upstream.

Response: The word “stations” is changed to “station” for clarification.

- 6. **Comment: (Darigold)** On page 17 - The Notice of New Introduction of Toxic Pollutants appears to be language specific to a POTW NPDES permit. I fail to see how these requirements relate to our specific facility since we don't have indirect dischargers, etc.

Response: The EPA agrees. The permit mistakenly required the standard permit provision requiring notice of introduction of toxic pollutants into a POTW. The standard permit provision for industrial NPDES permits is for reporting any activity that would result in the discharge of any toxic pollutant not limited in the permit. The provision is stated below.

The permittee must notify the Director of the Office of Water and Watersheds and IDEQ as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a **routine or frequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following “notification levels”:
 - a) One hundred micrograms per liter (100 ug/l);
 - b) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - c) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d) The level established by EPA in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur that would result in any discharge, on a **non-routine or infrequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following “notification levels”:
 - a) Five hundred micrograms per liter (500 ug/l);
 - b) One milligram per liter (1 mg/l) for antimony;
 - c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d) The level established by EPA in accordance with 40 CFR 122.44(f).
3. The permittee must submit the notification to Office of Water and Watersheds at the following address:

US EPA Region 10
 Attn: NPDES Permits Unit Manager
 1200 Sixth Avenue
 Suite 155 OWW-191
 Seattle, Washington 98101-3140

The standard permit provision for reporting toxics introduced into a POTW is replaced with the standard permit provisions for reporting toxics discharged from an industrial facility.

7. **Comment: (Darigold)** On page 28 of the Fact Sheet it states that the facility is considered a new source, however per the cited definition at 40 CFR 122.2 the facility would have had to be constructed after the promulgation of the CWA. This facility was constructed in 1930 and has been drying milk products since at least the 1950’s. I don’t believe that the new source definition is applicable to our facility.

Response: (Darigold) New source means any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- (a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source.

40 CFR § 122.29(b) states that a facility is a new source if it meets the definition of “new source” and it “totally replaces the process or production equipment that causes the discharge of pollutants at an existing source.”

The promulgation of standards for the Dairy Product Processing category applicable to Darigold as stated in EPA's NPDES Permit Writers Manual is 40 CFR Part 405 Dairy Products Processing Subparts A-L. The date of promulgation is May 28, 1974.

The current production lines at Darigold were installed after the ELG promulgation date (Personal Communication email from Scott Agate to John Drabek dated 10/18/2018). Therefore, the facility meets the definition of a “new source.”

The permit is not changed based on the comment.

- 8. Comment: (Darigold)** In the Fact Sheet page 14 it erroneously states that the previous permit did not contain a pH effluent limit, which it did. The limit in the previous permit was 6.5 to 9.5. Since the Boise River is not impaired for pH and the Idaho standard requirements are for the surface water itself, not necessarily an input to the surface water we would respectfully request a lower pH limit of 6.0 for our discharge at the point of discharge to the MS4. After travelling and mixing with various other waters within the MS4 and the dilution at the point of discharge into the Boise River we don't believe the Idaho surface water requirement of 6.5 will be impacted.

Response: The EPA agrees a pH limit of 6.5-9.5 was established in the existing permit. See Response to Comment 2 for the justification of the 6.5 to 9.0 effluent limitations in the reissued permit.

The permit is not changed based on the comment.

- 9. Comment: (Darigold)** New Effluent and Receiving Water Monitoring Requirements

The Draft Permit requires effluent monitoring of:

“...iron, magnesium, bromide: fluoride and total nitrate-nitrite (as N) to determine if the Darigold discharge has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard during the next permit reissuance.”

The Draft Permit also requires receiving water monitoring for the above parameters, and also conductivity and dissolved organic carbon in relation to the Biotic Ligand Model criteria for copper.

As noted in Darigold's comments on the Fact Sheet, the Darigold discharge is actually to the City-owned storm sewer system, not to the Boise River. The City storm sewer outfall discharges to the river just upstream of the confluence of Indian Creek. The City of Caldwell Wastewater Treatment Plant (WWTP) discharges to the river just downstream of the Indian Creek confluence. This is a complex situation from the perspective of a reasonable potential evaluation. Monitoring these parameters in Darigold's discharge to the storm sewer and in the river upstream of where the storm sewer discharges to the river, as proposed in the Draft Permit, will not provide a complete or adequate data set of the river quality for these parameters downstream of the storm sewer or the WWTP. In addition, there is no indication that these parameters are of concern in the river upstream of Indian Creek, in Indian Creek or in the river downstream of Indian Creek (e.g., no impaired waters listings or concerns expressed in any of the Integrated Report findings or comments). In addition, monitoring for iron, magnesium, bromide, fluoride and total nitrate-nitrite was not included in the recently issued Caldwell WWTP NPDES permit or the City of Nampa TP permit to discharge to Indian Creek. Thus, there is no indication that these are problem parameters in this area.

As a result, Darigold requests that the new receiving monitoring for these parameters be deleted from the permit. River monitoring would be challenging for Darigold and would not provide useful information for a reasonable potential evaluation in the future. Darigold requests that effluent monitoring for iron, magnesium, bromide, fluoride and total nitrate-nitrite also be deleted from the

permit at this time. If Idaho DEQ determines that these are parameters of concern for the river in this area, they can be included in a future IPDES permit.

Response: Surface water and effluent monitoring for these parameters are required to determine whether there is reasonable potential requiring effluent limits in the next permit cycle. Please refer to Appendix C and D of the Fact Sheet.

Although the receiving water is not impaired for these parameters, as explained in the Response to Comment 2, Darigold must not cause or contribute to violations even if the Boise River is not impaired for these pollutants. In addition, IDEQ has listed these parameters as pollutants of concern in the 401 Certification. Since they are pollutants of concern and a reasonable potential analysis is required for the next permit cycle once data is collected, upstream monitoring is necessary for the reasonable potential. The permit must therefore require upstream monitoring for these pollutants.

Addressing the comment on Biotic Ligand Model surface water monitoring, Darigold's application did not identify copper as present in the effluent. Therefore the discharge does not have a reasonable potential to violate the site specific copper standard using the Biotic Ligand Model. Consequently, surface water monitoring for conductivity, dissolved organic carbon and copper, required to evaluate site-specific water quality standards for copper based on the biotic ligand model is not included in the final permit.

The permits for the City of Caldwell and Nampa are not relevant with regard to this permit action. The permit is not changed based on the comment.

10. Comment: (ICL) Addition of Surface Water Monitoring for Phosphorus

Table 7 in the Fact Sheet lists the pollutants that Darigold is required to analyze as part of surface water monitoring. We believe phosphorus should be included in this list as well to assess the efficacy of the currently utilized seasonal limits outlined in the 2015 Total Phosphorus TMDL Addendum. Etheridge (2012) presents data on phosphorus contributions from the Boise River and corresponding algal growth in the Snake River. This study concluded that the "Boise River has higher TP in winter" (slide 14) and that "All measured TP concentrations in the Boise River exceeded the seasonal target of 0.07 mg/L" (slide 17).

The 2015 TP Addendum to the Lower Boise TMDL will soon be reviewed and reevaluated by DEQ pursuant to Idaho Code 39-3611(7). At such time, it's critical that DEQ has all necessary data to adequately review said TMDL. Requiring surface monitoring of phosphorus as part of this permit would achieve this requirement and should therefore be included as a permit requirement.

Response: The EPA included limits that ensure that WQS are met, including TP limits to ensure compliance with the TMDL WLAs. As such, EPA did not see the need to include surface water quality monitoring as such a requirement would not affect future permit limits. To the extent IDEQ wants or needs additional receiving water data for the TMDL, it could have required such monitoring in the 401 certification which it did not.

The permit is not changed based on the comment.

11. Comment: (ICL) TSS Performance Standards for New Sources (40 CFR 405.105)

There appears to be some confusion in Appendix E within the table comparing TBELs and WQBELs. For monthly values, the EPA is comparing the results from Appendix B (681.1 lbs.) with the WLA from the Phosphorus TMDL (100 lbs./day). The EPA's direct comparison of these values seems inappropriate as the units are different. Results from Appendix B show the total mass of TSS discharged over a month, whereas the WLA presents an average daily rate of TSS discharge.

As such, the results from Appendix B appear to create more stringent standards relative to current effluent limits in the draft permit. We presume that the Appendix B value for TSS of 681.1 lbs. corresponds to an average monthly limit (AML) of 22.7 lbs./day (681.1 lbs./30 days). This value is much less than the currently proposed 100 lbs./day effluent limit based on the TMDL WLA and listed in the draft permit.

Our understanding is that the EPA is obligated by the Clean Water Act to utilize the most stringent limit when assigning effluent limits in permits. As such, we request that the EPA please explain why the more stringent standards were not selected. Further, if the results from Appendix B are the more stringent limit for TSS then this value must be utilized in the final permit.

Response: The EPA agrees Appendix B and Appendix E are not applying the same units for the TSS technology based limits. Appendix B contains a mistake in unit designations. The technology based units for TSS on page 29 of Appendix B are 681.1 lbs for the AML and 1362.0 lb for the MDL. The correct units for the technology based TSS limits are shown in the table labeled *Comparison of Technology Based TSS Limit and Water Quality Based TSS Limit (lb/day)* in Appendix E on page 36. These are 681.1 lbs/day as the AML and 1362.0 lbs/day as the MDL.

The comparison between the technology based limits and the water quality based limits are correct and the more stringent limits are the water quality based limits established in the permit.

The permit is not changed based on the comment.

12. Comment: (ICL) Effluent Limit Ammonia

Appendix D of the Fact Sheet shows the Reasonable Potential Analysis (RPA) for ammonia. The RPA determined that ammonia discharges from this facility did not have a reasonable potential to exceed water quality standards; however, this result is contingent on a number of factors, including that ammonia concentrations in the effluent do not exceed 8,590 µg/L. We encourage the EPA to include 8,590 µg/L as an effluent limit for ammonia given that the results of the RPA are only valid if this value is not exceeded.

Further, under “Critical River Flows,” 234 cfs is listed as the 30B3/30Q10 Annual Critical Flow rather than the 30Q5 critical flow, differing from Table 4 in the Fact Sheet. We are concerned that the RPA calculations relying on this value may be inaccurate if the incorrect critical flow was used. We request that the EPA ensure the correct values are utilized for the critical low-flow values (i.e using 234 cfs as the 30Q5 flow) and that the RPA for ammonia be redone using the correct values to ensure the final results are correct and accurate.

Response: As the fact sheet states using procedures in the Technical Support Document, the reasonable potential multiplying factor (RPMF) is used to derive the maximum projected effluent concentration (Ce). Using the RPMF and the 95th percentile representing the highest reported concentration discharge concentration a reasonable potential to violate the water quality standards for ammonia is derived. If there is no reasonable potential to violate the ammonia during these worst case conditions there is no necessity to establish an effluent limitation for ammonia. The Fact Sheet concluded using these procedures there is no reasonable potential to violate the water quality standard for ammonia under these worst case conditions and therefore an effluent limitation is not required and not established.

As the fact sheet states on page 11 30Q5 can be used for the ammonia reasonable potential calculation.

“The low flow conditions of a water body are used to determine WQBELs. In general, Idaho’s WQS require criteria be evaluated at the following low flow receiving water conditions (see IDAPA 58.01.02.210.03):

Table 3 – Critical Low Flows

Acute aquatic life	1Q10 or 1B3
Chronic aquatic life	7Q10 or 4B3
Non-carcinogenic human health criteria	30Q5
Carcinogenic human health criteria	Harmonic mean
Ammonia	30Q10, 30Q5, 30B3, 1Q10

The spreadsheet is mislabeled. It should say on the line for chronic ammonia critical flow 30B3/30Q10/**30Q5**. These long term averages can all be used to determine the reasonable potential to violate the chronic ammonia water quality standards.

The permit is not changed based on the comment.

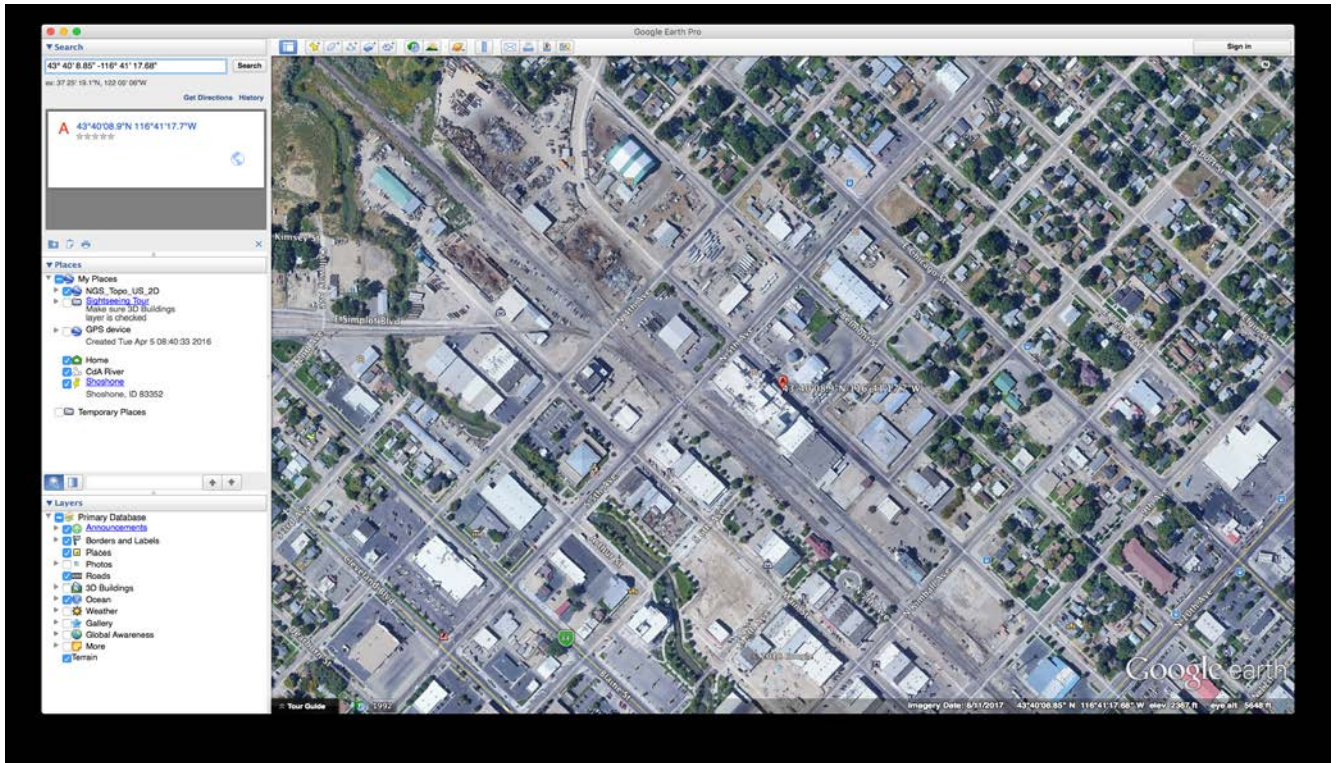
13. Comment: (ICL) Violation of pH Water Quality Standards

Idaho’s Water Quality Standards (WQS) sets general criteria for pH values such that values must be within six point five (6.5) and nine point zero (9.0). *See* IDAPA 58.01.02.250.01.a. Table 1 in the Fact Sheet reports a maximum pH value of 9.3, in exceedance of Idaho’s WQS; however, the proceeding section states that this facility has had no violations in the past five years. We request that the EPA explain this discrepancy and revise as necessary in final documents.

Response: A re-review of the DMR data submitted over the last five years confirms Darigold exceeded the pH upper limit once over the last five years. The Response to Comments documents the discrepancy.

14. Comment: (ICL) Outfall Location

The outfall location in the draft permit appears to provide the latitude/longitude of the facility, not the location of the outfall into the Boise River (Figure 1). This must be corrected in the final permit.



Response: The outfall location is 43.6779 latitude N and 116.6998 longitude west. The draft permit coordinates are changed to these coordinates.

15. Comment: (ICL) Appropriateness of Utilizing Mixing Zone

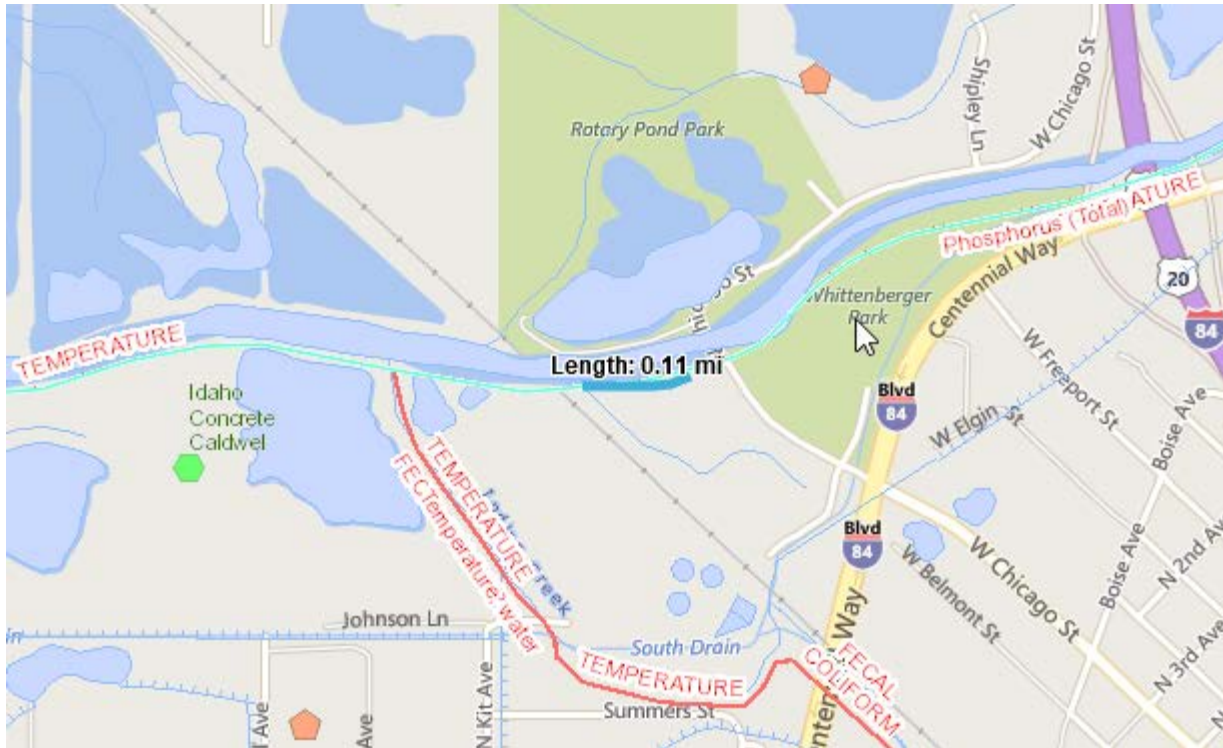
Idaho DEQ (IDEQ) is proposing a 10% mixing zone for ammonia as part of this permit and 401 Certification. We have concerns over the appropriateness of mixing zones for this facility given the outfall locations proximity to the City of Caldwell’s WWTP. There is likely overlap between these two discharges; thus, the typical dilution assumptions accompanying mixing zone decisions may not be applicable (i.e. the efficacy of dilution in waters being simultaneously polluted by a different source). We request that the EPA and or IDEQ explain their consideration of this scenario and discuss any analysis that was performed to assess the appropriateness of a mixing zone for this discharge.

Response: The EPA used Riverplume6 dispersion modeling and measurements in the vicinity of the outfall to the Boise River to determine the impacts to the City of Caldwell 580 feet downstream. River depth came from the 1999 USGS publication *Stream Channel Cross Sections for a Reach of the Boise River in Ada County, Idaho*. Complete mixing occurs approximately 164 feet downstream of the Darigold outfall well before impacting the mixing zone for the City of Caldwell 580 feet downstream. Therefore the mixing zone analysis is appropriate. The spreadsheet is shown below.

Spread of a Plume from a Point Source in a River with Boundary Effects from the Shoreline

Based on the method of Fischer et al. (1979) with correction for the effective origin of effluent.

INPUT	
1. Effluent Discharge Rate (cfs):	0.59
2. Receiving Water Characteristics Downstream From Waste Input	
Stream Depth (ft):	6.00
Stream Velocity (fps):	0.27
Channel Width (ft):	106.00
Stream Slope (ft/ft) or Manning roughness "n":	0.022
0 if slope or 1 if Manning "n" in previous cell:	0
3. Discharge Distance From Nearest Shoreline (ft):	0
4. Location of Point of Interest to Estimate Dilution	
Distance Downstream to Point of Interest (ft):	580
Distance From Nearest Shoreline (ft):	53
5. Transverse Mixing Coefficient Constant (usually 0.6):	0.6
6. Original Fischer Method (enter 0) or Effective Origin Modification (enter 1)	0
OUTPUT	
1. Source Conservative Mass Input Rate	
Concentration of Conservative Substance (%):	100.00
Source Conservative Mass Input Rate (cfs*%):	59.00
2. Shear Velocity	
Shear Velocity based on slope (ft/sec):	2.062
Shear Velocity based on Manning "n" (using Prandtl equations 8-26 and 8-54 assuming hydraulic radius equals depth for wide channel):	
Darcy-Weisbach friction factor "f":	#N/A
Shear Velocity from Darcy-Weisbach "f" (ft/sec):	#N/A
Selected Shear Velocity for next step (ft/sec):	2.062
3. Transverse Mixing Coefficient (ft ² /sec):	7.422
4. Plume Characteristics Accounting for Shoreline Effect (Fischer et al., 1979)	
C _o	3.44E-01
x'	1.42E+00
y' _o	0.00E+00
y' at point of interest	5.00E-01
Solution using superposition equation (Fischer eqn 5.9)	
Term for n= -2	5.64E-02
Term for n= -1	6.65E-01
Term for n= 0	1.91E+00
Term for n= 1	1.35E+00
Term for n= 2	2.31E-01
Upstream Distance from Outfall to Effective Origin of Effluent Source (ft)	#N/A
Effective Distance Downstream from Effluent to Point of Interest (ft)	580.00
x' Adjusted for Effective Origin	1.42E+00
C/C _o (dimensionless)	9.97E-01
Concentration at Point of Interest (Fischer Eqn 5.9)	3.43E-01
Unbounded Plume Width at Point of Interest (ft)	714.276
Unbounded Plume half-width (ft)	357.138
Distance from near shore to discharge point (ft)	0.00
Distance from far shore to discharge point (ft)	106.00
Plume width bounded by shoreline (ft)	106.00
RESULTS	
Approximate Downstream Distance to Complete Mix (ft)	164
Theoretical Dilution Factor at Complete Mix	291.051
Calculated Flux-Average Dilution Factor Across Entire Plume Width	291.051
Calculated Dilution Factor at Point of Interest	291.809



The permit is unchanged based on the comment.

16. Comment: (ICL) Discharge of Cleaning Solution

The Facility Description section in the Fact Sheet states, “Darigold discharges 300,000 gallons per day (gpd) of evaporated condensate of whey (“COW” water) from its drying process through the facility’s outfall.” Based on ICL’s history of reviewing and commenting on NPDES permits for similar facilities, we’re accustomed to seeing facilities such as Darigold also discharge wastewater produced from the cleaning of equipment. We request that EPA explain how this facility cleans their equipment and handles the waste stream generated through cleaning. If this waste stream is ultimately discharged to the Boise River than it should be described as part of the facility’s operations and included as part of any necessary analyses or development of effluent limits.

Response: Darigold routes equipment cleaning water to the City of Caldwell sewage treatment plant. Only evaporated condensate of whey and non-contact cooling water is discharged to the Boise River.

The permit is not changed based on the comment.