

Lahontan Regional Water Quality Control Board

December 19, 2016

Water Board Staff Responses to Comments, Crystal Geyser Cabin Bar Ranch and Crystal Geyser Olancha Water Bottling Facilities, Tentative Waste Discharge Requirements (WDRs)

TO: CRYSTAL GEYSER MAILING LIST

Two tentative waste discharge requirements (WDRs or permits) for Crystal Geyser's spring water bottling facilities (Cabin Bar Ranch and Olancha) near Olancha and Cartago were circulated for public review and comment from November 1, 2016 to December 2, 2016. Comments were received from Alan Bacock, Big Pine Paiute Tribe; and Larry Bruce, area resident. This document summarizes the comments and provides responses, and where applicable, describes proposed revisions to the WDRs. Comment letters are included in Enclosure 1.

The proposed WDRs (incorporating the revisions described in this letter) will be considered for adoption at the Water Board's regular meeting, to be held in Apple Valley on January 11-12, 2017. The agenda materials for this meeting, including the proposed WDRs, will be available for review no later than 10 days prior to the meeting at <http://www.waterboards.ca.gov/lahontan/>.

Comments and Water Board Staff Responses

Alan Bacock, Big Pine Paiute Tribe

Comment 1: Add disinfection byproducts as constituents of concern (COCs) to WDRs table 1 due to ozonation process.

- Response: Water Board staff agrees it is appropriate to add ozone disinfection byproducts (DBPs) as COCs to table 1 of both WDRs, since ozone is used as a disinfectant in the spring water bottling process. Staff used the United States Environmental Protection Agency's (US EPA) *Comprehensive Disinfectants and Disinfectant Byproduct Rules* (Stage 1 and Stage 2), as guidance, to determine the appropriate DBPs associated with ozonation and chlorination for monitoring. While these federal rules apply to community water systems and not to water bottling facilities, they provided the best available guidance on regulated DBPs for systems using disinfectants such as chlorine and ozone. Regulated DBPs include total trihalomethanes (TTHM), 5 haloacetic acids (HAA5), bromate,

chlorite, and chlorine (Note: chlorine was already included in table 1 of both WDRs). Staff also added the ozone DBP formaldehyde to the sampling list. DBP sampling requirements are added for monthly effluent sampling for six (6) months (see section II.C.2. of both monitoring and reporting programs). If DBPs are not detected above an applicable maximum contaminant level (MCL) in that period, the sampling frequency for effluent monitoring will be reduced to annually.

Lastly, an effluent limitation was added to WDR section I.A as follows:

3. Wastewater discharged to the authorized disposal site must not exceed a maximum contaminant level specified for CAM-17 metals or disinfection byproducts.

Comment 2: In Table 2 of WDRs (Expected Discharge Water Quality), include the constituents that were identified in the Phase 2 and 3 investigative reports showing concentrations of various constituents which had exceeded their MCL or were below MCLs but exceeding apparent background levels. The additional constituents requested to include on Table 2 are antimony, barium, lead, pH, conductivity, total chlorine, alkalinity, chromium, copper, molybdenum, phosphorus, vanadium and zinc. These constituents should also be added to the effluent and groundwater sampling requirements.

- Response: Water Board staff does not agree it is appropriate to include the requested constituents in WDRs table 2 (Expected Discharge Water Quality). This is because data in table 2 is intended to show discharge water quality, not groundwater quality. Data cited from Phase 2 and 3 investigations are representative of groundwater quality, and reflect both waste discharges and naturally occurring constituents including metals, alkalinity, phosphorus, salts, and pH levels, some of which likely exceed MCLs due to natural conditions (background levels of constituents for Olancha have not been determined, and pre-discharge data from Cabin Bar Ranch groundwater sampling indicates TDS, arsenic, and pH levels exceed MCLs). We note that pH and total dissolved solids (a conductivity surrogate) are currently included in table 2, and chlorine is included in effluent sampling requirements.

However, Water Board staff agrees that discharge sampling for additional metals beside arsenic is appropriate. This is because examination of data from composite sampling of waste discharges to percolation ponds at Olancha indicated that some metals besides arsenic are detected at levels in the discharge greater than those detected in production well sampling. Specific metals are antimony, barium, copper, molybdenum, and zinc. The reason for the observed increases is not known. To gather additional data on discharge characteristics for metals, requirements have been added for monthly effluent and quarterly groundwater sampling for California Assessment Manual (CAM-17)

metals¹. Groundwater monitoring for CAM-17 will be required for four quarters. If these metals are not detected above an applicable MCL in effluent samples for six (6) months, the sampling frequency for effluent and groundwater monitoring will be reduced to annually (see new finding 10 in Cabin Bar WDRs and new finding 11 for Olancha WDRs; see also sections II.C.2 and II.E.5 (II.F.5 for Olancha) of monitoring and reporting programs). This reduction in metals sampling frequency does not apply to arsenic. Further, an effluent limitation was added to section I.A in both WDRs as follows:

3. Wastewater discharged to the authorized disposal site must not exceed a maximum contaminant level specified for CAM-17 metals or disinfection byproducts.

Comment 3: Table 3 (staff note: now table 5) lists only three effluent limits, for arsenic, TDS and pH. The Tribe agrees with the effluent limits but recommends all constituents in table 2 (including the additional constituents requested in this letter) be listed with effluent limits set at least equal to MCLs.

- Response. As noted above, effluent limits for CAM-17 metals and DBPs have been added, not to exceed applicable MCLs, to section I.A. of the WDRs.

Comment 4: The Tribe recommends a groundwater monitoring well be placed between the community drinking water well (staff note: assuming Cartago well CMW-2) and the discharge ponds (staff note: assuming at Cabin Bar) and this new well be monitored quarterly.

- Response: Water Board staff does not believe an additional monitoring well is needed. The Cabin Bar Ranch WDRs require quarterly sampling of three newly-installed groundwater wells at the Cabin Bar Ranch facility's discharge location for water quality indicators and groundwater elevations (to determine the direction of groundwater flow). Initial (pre-discharge) sampling of these wells indicates that groundwater quality in the discharge area at Cabin Bar Ranch is naturally poor quality (worse than MCLs) for arsenic, TDS, and pH (see new table 3 in the Cabin Bar WDRs). Because the effluent limits for pH, TDS, and arsenic are set at MCLs or lower, the discharge water quality will be better than the existing pre-discharge groundwater quality. Therefore, staff does not foresee groundwater degradation due to the discharge, and the monitoring and reporting program requires monitoring to confirm this. Also, the groundwater flow direction indicates that the Cartago well CMW-2 is cross and upgradient of the discharge, making it unlikely that waste discharges would impact the well. Continued groundwater quality and gradient data will be collected quarterly to verify this initial information. Lastly, the Groundwater Mitigation Monitoring and Reporting Program (GMMRP) developed as a result of the Cabin Bar Ranch EIR process

¹ Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Vanadium, Zinc

specifies monitoring wells and monitoring constituents to ensure that production well pumping at Cabin Bar Ranch does not adversely impact Cartago supply wells.

If future monitoring indicates changes in the groundwater gradient or degraded groundwater quality due to discharges, staff would consider requiring an additional monitoring well, as requested.

Larry Bruce, Area Resident

Comment 1: Using PET [polyethylene terephthalate pellets, to make bottles], what of heavy metals (lead, chromium, etc.)? What standards [in the WDRs] apply?

- Response: Based on facility inspections, it does not appear that the bottle-making process itself poses a threat to water quality (pellets are not manufactured onsite, and the bottle blow-molding process is self-contained). The threat to water quality from PET pellets comes from the potential to spill pellets where they could be discharged to floor drains or storm water conveyances (a particulate/litter issue). However, Water Board staff has added monthly effluent monitoring for CAM-17 metals (including lead and chromium) for six (6) months to gather additional data on discharge characteristics, as noted in response to the Big Pine Tribe's comment 3, above. The discharge must not exceed applicable MCLs for CAM-17 metals in order to qualify for reduced monitoring frequency.

Thank you for your interest in water quality in the Olancho and Cartago area. Please contact me at 530-542-5450 or anne.holden@waterboards.ca.gov if you have any questions regarding this letter.



Anne Holden, PG
Engineering Geologist

Enclosure 1. Copies of comment letters

Response to Comments
Crystal Geysler Cabin Bar Ranch and Olancho Waste
Discharge Requirements
Attachment 1: Copies of Comment Letters



BIG PINE PAIUTE TRIBE OF THE OWENS VALLEY

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December 2, 2016

Submitted by email to: Lahontan@waterboards.ca.gov

RE: Crystal Geysers WDR Comments

Dear Lahontan Regional Water Quality Control Board:

The Big Pine Paiute Tribe of the Owens Valley (Tribe), a federally recognized Tribe, appreciates the opportunity to submit comments to the Lahontan Regional Water Quality Control Board (LRWQCB) regarding the Tentative Waste Discharge Requirements for Crystal Geysers Cabin Bar Ranch and Olancho Spring Water Bottling Facilities in Inyo County (WDR). The Tribe is committed to the responsible stewardship of natural resources and hopes that these comments will assist in avoiding any potential environmental consequences by activities which will be allowed under the permitting of waste discharges associated with the operations of Crystal Geysers Water Bottling facilities in Inyo County.

Table 1 of the WDR lists Constituents of Concern (COCs), which include cleaning solutions/detergents, sanitizing solutions, industrial materials, cooling tower anti-scalant, chlorinated water, and pre-production plastic; however the Tribe finds the list to be incomplete. In addition to the COCs listed, the Tribe would like to add any other constituents which may be present due to the disinfection process conducted by Crystal Geysers. The bottled water production section of the WDR includes a description of the ozonated process for disinfection but the COCs do not include any of the byproducts. Ozonation disinfection can react with natural organic matter to produce a variety of oxidation by-products that typically include aldehydes, aldo- and keto-acids, carboxylic acids and peroxides. Therefore, the Tribe would like the LRWQCB to fully consider all COCs including those which are present in the disinfection process because the waters will be discharged through the application of this permit and can affect groundwater quality.

Table 2 of the WDR has a listing of constituents with Expected Discharge of Water Quality for COCs. In addition to the listed constituents, the Tribe would like to see LRWQCB include the constituents which were identified in the Phase 2 and 3 Investigative reports showing concentrations of various constituents which had exceeded their respective maximum containment level (MCL) or were below MCLs but exceeding apparent background levels. The additional constituents to include on Table 2 which exceeded MCLs are antimony, barium, lead,

pH, conductivity, and total chlorine. The additional constituents to include on Table 2, which were below MCLs but indicate groundwater degradation because of discharges, are alkalinity, chromium, copper, molybdenum, phosphorous, vanadium, and zinc.

Table 3 of the WDR only lists three constituents with effluent limits. The Tribe agrees with the limits set for arsenic, total dissolved solids and pH, but would like all the constituents in Table 2 (including the additional constituents requested in this comment letter) to also be listed with effluent limits. The effluent limits of the additional constituents should at least be equal to the MCL for the respective constituents. The constituents requested by the Tribe to be listed in Table 3 need to also be included in the Monitoring and Reporting Program under II.C.2. regarding effluent monitoring on a monthly frequency and groundwater sampling taking place on a quarterly basis.

Item 26 of the WDR indicates that there will be no degradation of groundwater associated with this permit and that monitoring will be required to ensure that every human being has the right to access clean water. The Tribe is aware of an ongoing dispute between Crystal Geyser and local residents regarding potential water contamination concerns. In order to assist in ensuring that the local residents have access to clean water, the Tribe would like to recommend that a monitoring well be placed in a buffer zone between the community drinking water well and discharge ponds. The Tribe would like this well to be included in the quarterly groundwater sampling monitoring and reporting protocol.

The Tribe hopes the LRWQCB will take these comments into consideration regarding this WDR. If you should have any questions regarding these comments, please contact Alan Bacock, Tribal Water Program Coordinator at a.bacock@bigpinepaiute.org or by phone at 760-938-2003.

Sincerely,

A handwritten signature in black ink, appearing to read 'Shannon Romero', written in a cursive style.

Shannon Romero
Tribal Chairwoman

USING PET WHAT IS

HEAVY METALS - (LEAD - CHROMIUM
ETC) WHAT STANDARDS

JARRE PRUCE
MAILING LIST