

29 May 2015

Ms. Lauri Kemper, P.E.
Assistant Executive Officer
Lahonton Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

Attention: Ms. Lisa Scorable

**Subject: Phase 2 Site Investigation Work Plan Addendum
Crystal Geyser Roxane – Spring Water Bottling Facility
1210 South US Highway 395
Olancho, California**

Dear Ms. Scorable:

Geosyntec Consultants, Inc., (Geosyntec) on behalf of Crystal Geyser Roxane, LLC (CGR), hereby submits this *Phase 2 Site Investigation Work Plan Addendum* (Addendum) for the CGR Spring Water Bottling Facility (Site) located at 1210 South U.S. Highway 395, near Olancho, California. The Lahonton Regional Water Quality Control Board (Water Board) provided comments to the *Phase 1 Site Groundwater Investigation Report* (Phase 1 Report) dated February 16, 2015, in a letter dated April 30, 2015. Based on the results of the Phase 1 groundwater investigation, the Water Board has required additional monitoring wells, and soil/hydropunch boings be completed for the forthcoming Phase 2 investigation. The following Addendum provides a response to the comments for the April 30, 2015, letter as required in the Amended Investigative Order R6V-2014-0063A1, dated May 8, 2015.

Comments/Additional Requirements

Comment 1. Water Board staff recommends at least two (2) additional groundwater monitoring wells at locations cross-gradient of the Arsenic Pond (one generally to the northwest and one to the southeast) be included in the Phase 2 investigation, in order to begin assessing the lateral extent of groundwater pollution and degradation documented in that area.

Response - Comment 1:

Monitoring wells MW-08 and MW-09 have been added to the monitoring well installation schedule. These wells are shown on **Figure 1** attached with this Addendum.

Comment 2. At least one (1) additional soil boring/hydropunch groundwater sampling location is needed adjacent to, and down-gradient from, the wastewater valve distribution box near the Arsenic Pond, where “pH neutralization” activities occur during arsenic treatment system regeneration. The additional boring/hydropunch is necessary to assess whether adverse impacts to soils and/or groundwater have results from either (1) potential leakage from the distribution box, or (2) potential spillage of the highly caustic and corrosive materials or solutions/dilutions thereof (“neutralizing solutions”) that are injected into the distribution box to neutralize wastewater discharges to the Arsenic Pond.

Response – Comment 2:

Boring AP-4 will be completed in a similar methodology to Phase 1 investigation borings. The boring is shown on **Figure 1**, and will be located adjacent and down-gradient of the valve distribution box. The boring will be completed using a hollow stem auger drilling rig. Continuous soil samples will be collected using a modified split spoon sampler to obtain lithologic data and potential indications of contamination. Once the groundwater table is encountered, a Hydropunch™ sampler will be driven approximately 2 feet below the groundwater table and a groundwater sample will be collected.

Comment 3. Water Board staff cannot support the proposed reductions to the laboratory analytical requirements for Phase 2. Many of the analytical results for the groundwater samples collected in Phase 1 were qualified due to holding time exceedances, excessive sediment loads in the samples, and other issues that adversely affect data quality. Appropriate efforts are needed during Phase 2 investigation activities to meet sample holding times, maintain sample integrity, and ensure acceptable data quality.

Response - Comment 3:

Geosyntec and CGR are prepared to adhere to the extensive analytical schedule as required by the Water Board. However, Geosyntec discussed the recommendation to reduce the analytical schedule with Mr. Scott Ferguson with the Water Board and based on such discussion, Geosyntec respectfully submits the following request for your careful consideration:

As noted in Comment 3 above, the Phase 1 investigation data quality has been questioned due to holding time exceedances and suspended sediment in the grab groundwater samples collected. For example, the holding times were exceeded in one or more groundwater samples analyzed for dissolved oxygen, pH, free residual chlorine, total residual chlorine. These compounds have a holding time of 15 minutes, making it impossible to meet laboratory holding times based on the remote location of the Site. It is noted that all these compounds, excluding residual chlorine, have been approved for field monitoring parameters as discussed in Comment 6 below. However, residual chlorine was not approved for field monitoring. Geosyntec proposes that a field colorimeter such as a Hach Pocket Colorimeter™ (<http://www.hach.com/pocket-colorimeter-ii-chlorine-free-and-total/product?id=7640442953>) be used in the field in order to avoid hold time exceedance for residual chlorine.

Additionally, total coliform, exceeded the hold time of 8 hours. The 8 hour hold time for the total coliform is very difficult to maintain based on the remote location of the Site. Vehicular travel time to the certified laboratory used for the Phase 1 report is approximately 5-6 hours, therefore achieving the required 8 hour hold time is very difficult. Additionally, based on the turbidity of the samples collected using the Hydropunch sampling tool, it is difficult to determine if the results were representative of groundwater impacts due to waste water discharges or based on natural background concentrations in the soil. Total coliform was only detected in samples collected adjacent to the East Pond, which is an unlined infiltration pond. The source of these detections is not known, but are not believed to be associated with facility operation. The sewage wastes at the Site are managed in a fully contained sewage system which is not connected to drain lines that discharge to the ground surface. It is likely that the total coliform detected in these samples is from historical livestock activities on Site such as cows or horses that pasture in this area, or from indigenous wildlife in the area. As such, it is requested that total coliform be analyzed in soil samples scheduled for the Phase 2 investigation, and from groundwater monitoring well samples only, and not from the hydropunch soil boring. Additionally, it is requested that the groundwater samples be analyzed by EPA Method 9221, under a drinking water standard which has a hold time of 30 hours, in order to meet holding times. No other holding time issues were reported for groundwater samples collected during the Phase 1 investigation.

The Phase 1 investigation was designed as a screening level investigation to evaluate the constituents of concern and consisted of collection of grab groundwater samples using a Hydropunch sampling tool. The sample results indicated that the main constituents of concern are total and dissolved metals. As indicated in the Phase 1 Report, significant differences between the elevated concentrations of total metals and the generally corresponding low to not detected dissolved metals concentrations indicate that the suspended sediment in the groundwater samples significantly contributed to the elevated detections in the total metals results. It is anticipated that following well development, that groundwater samples will be free of suspended sediment, and that the samples will be filtered in the field. As such, Geosyntec proposes that soil samples scheduled for the Phase 2 investigation be analyzed for total metals, while the groundwater samples be analyzed for dissolved metals only.

Additionally, there were no detections of Methylene Blue Active Substances (MBAS) above the laboratory minimum reporting limit, or significant detections nitrate, nitrite, total nitrogen, total Kjeldahl nitrogen, or volatile organic compounds (VOCs) other than benzene in groundwater or waste water samples collected during the Phase 1 investigation. Therefore Geosyntec respectfully requests that the MBAS, nitrate, nitrogen total nitrogen, and total Kjeldahl nitrogen be eliminated from the analytical list, and that benzene only be analyzed from the VOC list.

The complete analytical schedule required in the original Investigative Order R6V-2014-0063 is very extensive, and therefore very costly. The Phase 1 screening level evaluation was completed to identify contaminants of potential concern (COPCs). While some issues were noted with holding times, and due to suspended sediment, the main COPCs identified in the Phase 1 investigation were metals (primarily arsenic), total dissolved solids (TDS), sulfate, and benzene. It should therefore be noted that difference in cost of the full analytical schedule set in the

Investigative Order R6V-2014-0063 versus the requested reduced analytical schedule would be approximately \$35,000. Respectfully, this an unreasonable cost for minimal benefit towards the goal of characterization of the Site COPCs.

In summary, Geosyntec respectfully requests the analytical schedule be reduced to the following:

- Analyze soil samples for CAM 17 metals, benzene, pH, and total coliform;
- Analyze groundwater samples for dissolved CAM 17 metals, benzene, general minerals including sodium, calcium, magnesium, chloride, bicarbonate, sulfate, and total dissolved solids; and,
- That dissolved oxygen, temperature, conductivity, pH, and total residual chlorine be analyzed as field parameters.

Comment 4. Chemical laboratory analyses of soil samples from Phase 2 well borings, and soil/hydropunch boring in Comment 2 above, are necessary to determine the extent of adverse impacts to site soils from waste discharges at the Facility. Laboratory analyses of soil samples will be the same as those specified for groundwater samples in Investigative Order No. R6V-2014-0063. Soil pH should be analyzed by a certified analytical laboratory using EPA Test Method 9045.

Response – Comment 4:

Please note the response to comment 3 above. Geosyntec respectfully requests that the analyses for soil samples be modified slightly based on the results of the Phase 1 investigation.

Comment 5. Soil and groundwater samples collected from the additional soil/hydropunch boring and all down-gradient monitoring wells for Phase 2 (i.e., proposed wells labeled MW-2, MW-4, MW-5 and MW-7 on Figure 4) should be analyzed for semi-volatile organic compounds (SVOCs) by EPA Test Method 625/8270 to determine whether SVOCs constituents are adversely impacting soil and/or groundwater at the site.

Response – Comment 5:

The Phase 2 soil and groundwater samples will be analyzed for SVOCs as requested, at a certified laboratory at the boring locations specified in Comment 5 above.

Comment 6. Monitoring well stabilization parameters (i.e., groundwater pH, temperature, dissolved oxygen, electrical conductivity) measured in the field during well purging and sampling activities are acceptable. Laboratory analyses for those parameters are not necessary for the monitoring well groundwater samples, provided field instrumentation is adequately maintained, working properly, and calibrated daily prior to use according to manufacturer's instruction. Calibration activities must be included in daily field logs/sampling logs appended to the report.

Response – Comment 6:

The monitoring well stabilization parameters of pH, temperature, dissolved oxygen and electrical conductivity will be measured in the field with YSI 556 Multiparameter instrument equipped with a flow through cell. The instrument will be calibrated daily to a factory supplied calibration standard solution in accordance with the manufacturers specifications. Logs of the daily calibration results will be recorded and maintained with field documentation.

Comment 7. As previously requested, copies of all CG Roxane LLC's documents, including full and complete copies of the Facility Waste Generation and Discharge Systems Report and the Phase 1 Site Groundwater Investigation Report, should be submitted to each of the following for their review and files:

*Dave Stuck, California Department of Toxic Substances Control;
Marvin Moskowitz, Inyo County Environmental Health Department; and
Heidi Calvert, California Department of Fish and Wildlife*

Response – Comment 7:

Copies of the all reports will be transmitted to the interested parties listed above. An electronic copy will be made available following submittal of this Addendum.

If you have any questions related to this letter, report, or other issues, please do not hesitate to call Ryan Smith at 805 897 3800.

Sincerely,
Geosyntec Consultants



Mark Grivetti, P.G., C.Hg.
Principal Hydrogeologist



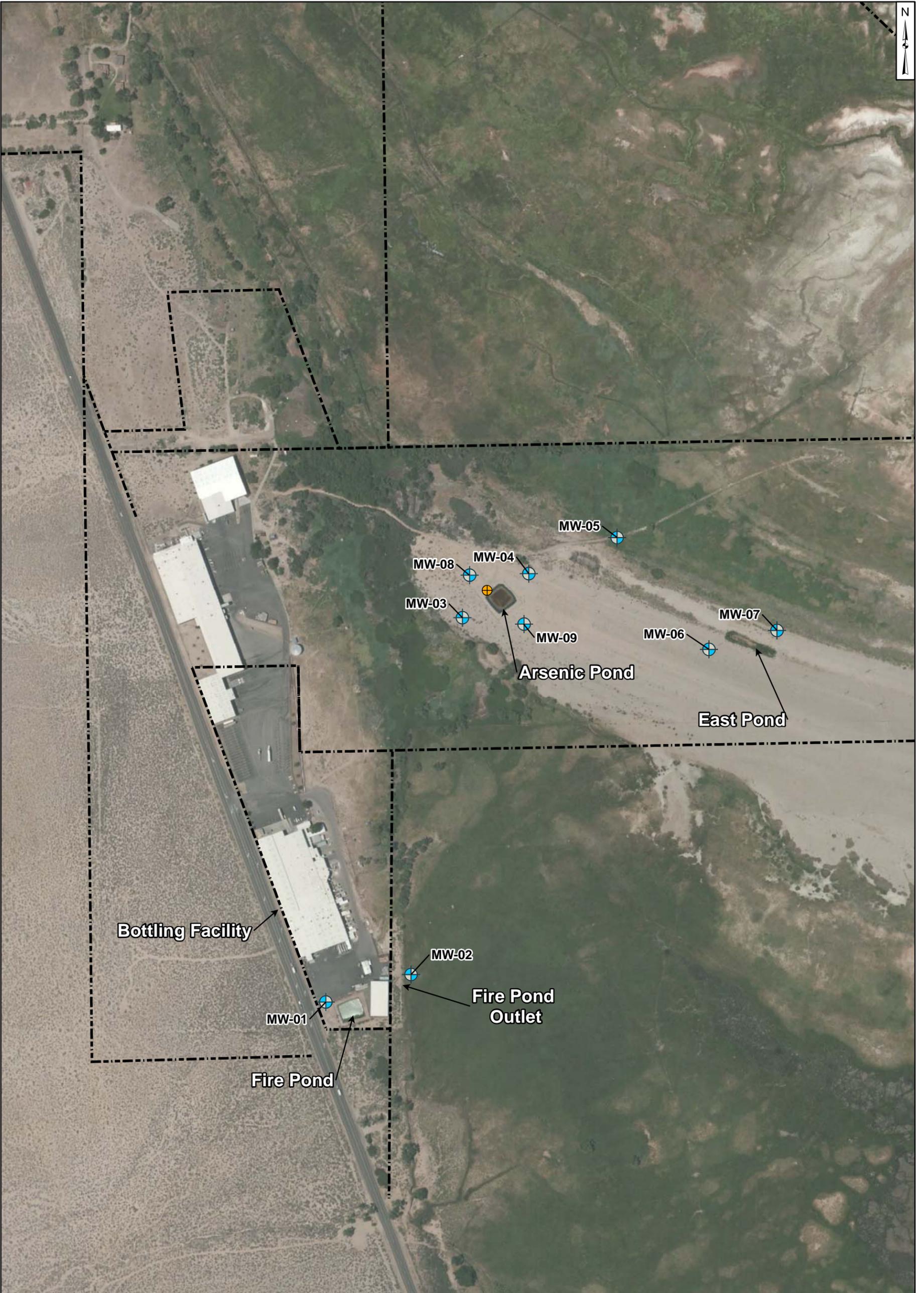
Ryan Smith, P.G., C.Hg.
Project Geologist

Copy: Mr. Page Beykpour, CGR, Chief Operations Officer / General Counsel
Mr. Dave Stuck, California Department of Toxic Substances Control
Mr. Marvin Moskowitz, Inyo County Environmental Health Department
Ms. Heidi Calvert, California Department of Fish and Wildlife

Figures:

Figure 1 Proposed Phase 2 Monitoring Well Locations

Figures

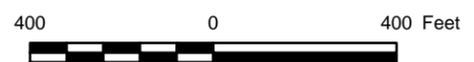


Legend

-  Monitoring Well
-  Soil Boring
-  Parcel Boundaries

Notes:

NAD_1983_StatePlane_California_IV_FIPS_0404_Feet
 Projection: Lambert_Conformal_Conic
 GCS_North_American_1983



Proposed Phase 2 Monitoring Well Locations
 Crystal Geyser Roxane, Spring Water Bottling Facility
 Olancho, California



Santa Barbara

May 2015

Figure
1

P:\GIS\Crystal Geyser\SB0721\Projects\Fig01_Proposed_Phase2_Well_Locations.mxd STM 20150511