TODD GROUNDWATER

July 25, 2016

MEMORANDUM

To: Polaris Brown and Bryce Ternet, EMC Planning Group

From: Gus Yates, Senior Hydrologist, and Iris Priestaf, President

Re: Responses to Peer Review of Comprehensive Hydrogeologic Investigation Report for the Paraiso Springs Resort

Todd Groundwater prepared a Comprehensive Hydrogeologic Report (Comprehensive Report) for the Paraiso Springs Resort project in July 2014. A technical peer review was completed by two hydrogeologists at Balance Hydrologics (May 2016). The reviewers raised concerns about a number of specifics in the analysis that they thought collectively called into question the adequacy of the project's water supply. This memorandum responds to those comments, some of which we agree with while others we do not. It also presents the results of additional analyses and alternative assumptions suggested by the reviewers. Overall, we reaffirm our original finding that the water supply is adequate, even when calculations are revised using more conservative assumptions.

1. Aquifer Test

The reviewers commented that the aquifer test of the project's two water supply wells completed by CH2M HILL (2008) deviated from theoretically optimal procedures in some respects. In particular, the reduction in pumping rate at Well #1 from 70 to 58 gallons per minute (gpm) 25 hours after the start of the test complicates the interpretation of subsequent drawdown measurements. While the reviewers considered the results "severely compromised", they noted that "some of the data may be salvageable".

Only two numbers from the aquifer test were used in the Comprehensive Report water supply analysis:

- The amount of water the wells can produce continuously for 10 days (pumping yield).
- The transmissivity value from the test of Well #1, which was used to estimate groundwater flow through the alluvial aquifer.

The pumping yield remains valid regardless of the drawdown or the procedural irregularities (concurrent testing of both wells; changes in pumping rate; the extension of the discharge hose). The pumping yield is simply the rate of pumping that each well was able to sustain over the 10-day period. Pumping rates were confirmed by multiple measurement methods, and the lower, final pumping rate of 58 gpm at Well #1 was appropriately reported as the yield.

Monterey County credits a non-alluvial well for only half of its demonstrated sustained pumping rate, which provides a conservative margin of safety for water supply adequacy. In this case, well #1 is situated in an alluvial formation which would not require, by Monterey County standards the 50% reduction as a well that is in a non-alluvial formation as pointed out by the reviewers. However, the conservative non-alluvial calculation was still used. The estimated peak-day water demand for the project (30.9 gpm) closely matches the conservative credited yield of Well #1 (29.3 gpm) and is only 16 percent of the combined credited yield of the two tested wells.

The estimate of groundwater flow through the alluvial aquifer is directly proportional to the estimate of aquifer transmissivity derived from the aquifer test. We re-evaluated the drawdown data for Well #1 to estimate transmissivity based on the first 25 hours of the test, which preceded the decrease in pumping rate and the extension of the discharge hose. Using the Cooper-Jacob straight-line approximation method, a transmissivity of 165 ft^2/d was calculated, as shown in **Figure 1**. This estimate is almost certainly too low because drawdown at the end of the first 25 hours of pumping had reached approximately 50% of the aquifer saturated thickness. The decrease in saturated thickness increases the drawdown at the well and lowers the resulting estimate of transmissivity.

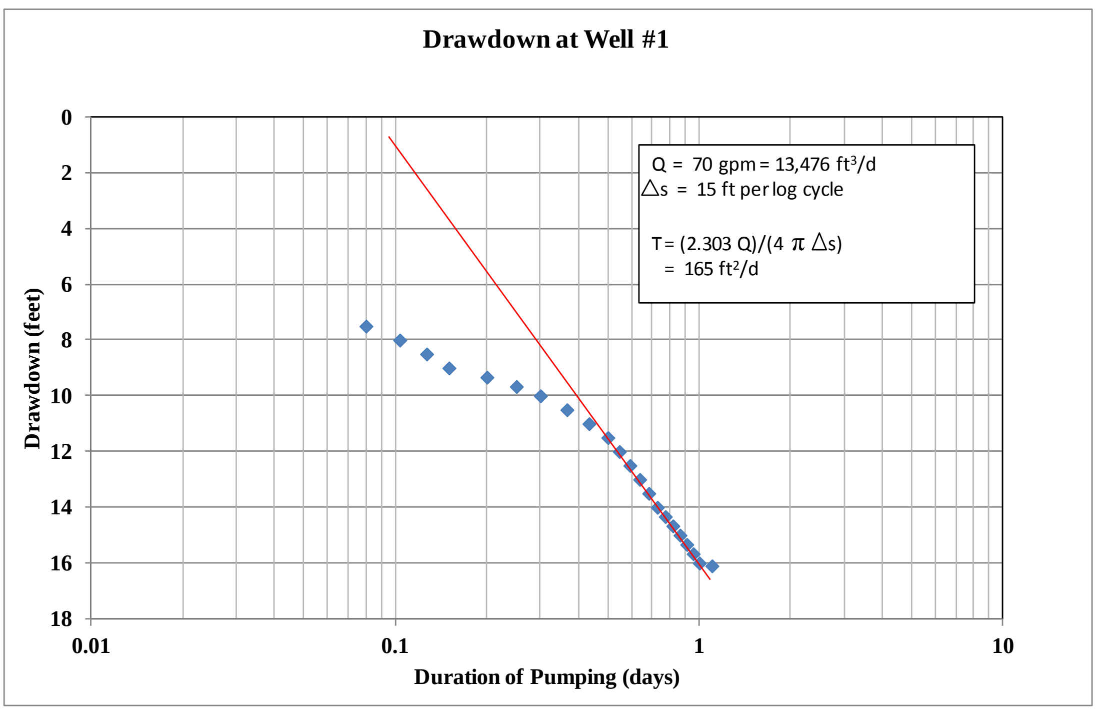

Figure 1. Semi-Logarithmic Plot of Drawdown at Well #1

This alternative estimate of transmissivity is only 18 percent as large as the estimate derived from the specific capacity of Well #1 measured at the end of the 10-day test. Eighteen percent of the original groundwater flow estimate is 129 AFY. Substituting this value into Table 5 of the hydrogeologic report would reduce the sum of total inflows from 797 to 216 AFY, which is still seventeen times greater than the net annual consumptive groundwater demand of the project. Thus, even this unrealistically unfavorable reinterpretation of the Well #1 aquifer test does not alter the conclusion that the project water supply is adequate.

Other comments on the aquifer test are incorrect or of academic rather than practical interest, as follows:

- The reviewers (page 3) asserted that we had incorrectly overstated the distance between Well #1 and Well #2 as 250 feet, based on their assumption that the distance they measured from a map figure in another report (100 feet) was correct. The actual distance recently measured on the ground is 225 feet. Furthermore, the distance between the wells has no bearing on interpretation of the drawdown results (neither well was used as an observation well for the other) or the quantification of the well yield. Thus, the reviewers' speculation about the well separation distance has no bearing on the analysis in the Comprehensive Report.
- The reviewers (page 4) stated that there could have been drawdown interference between the two wells because they were pumped simultaneously and continuously. They neglected to point out, however, that interference would tend to decrease the pumping rates at both wells and lead to a conservatively low estimate of pumping yield. In actual operation, the wells would never be pumped concurrently for 10 days. Furthermore, interference would increase the drawdown at both wells and decrease the estimate of transmissivity (whether by specific capacity or Cooper-Jacob), which would mean our estimate of groundwater flow through the alluvial aquifer was also conservatively too low. Thus, this comment calls into question the validity of our analysis, when in fact any errors associated with well interference would have made our estimates of pumping yield and groundwater recharge too low and even more conservative
- The discharge hose for Well #1 was extended on day 4 of the test. According to the reviewers, this was "presumably due to belated recognition that the discharge was percolating into the ground and likely recharging well 1" (page 4). This statement is speculative and incorrect   Page 2, Table 1, footnote a, of the CH2M Hill Technical Memorandum report titled Paraiso Springs Resort 10_Day Pumping Test Results, states that "The length of discharge hose met the Monterey County requirements. Discharge water was prevented to pond, percolate, or recharge the pumping well within 200 ft. from the water source." Furthermore, there is no evidence in the reports or otherwise to substantiate the speculative comment that the hose was added as a result of percolation or ponding.   In any case, the drawdown data prior to moving the hose confirm the adequacy of the project water supply (see above).
- The reviewers requested a re-evaluation of the Well #2 aquifer test to correct the transmissivity value presented in our report (see response above) and confirm whether recharge or barrier boundaries might have influenced drawdown at the well. We note that the transmissivity value of the Tierra Redonda bedrock formation

tapped by Well #2 is not used in our analysis of well yield or drawdown impacts. We also note that the smooth pattern of the linear-scale drawdown plot for Well #2 presented in the CH2M HILL aquifer test report shows no deviations suggestive of boundary effects. Nevertheless, we manually transcribed the drawdown data from the CH2M HILL report figure and re-plotted them on a semi-log graph, as shown in **Figure 2**. The estimate of transmissivity obtained using the Cooper-Jacob straight-line method is 695 ft2/d. As expected, the semi-log plot also shows no deviations indicative of boundary effects.

- As perspective, we note that one goal of the aquifer test was to evaluate aquifer properties, notably the transmissivity which is the product of the saturated thickness and the hydraulic conductivity, a property of the alluvial materials. Given that the saturated thickness has not changed significantly since 2007, the estimate of transmissivity also would not be expected to change with time; accordingly, the passage of nine years is not a valid reason to repeat the test.

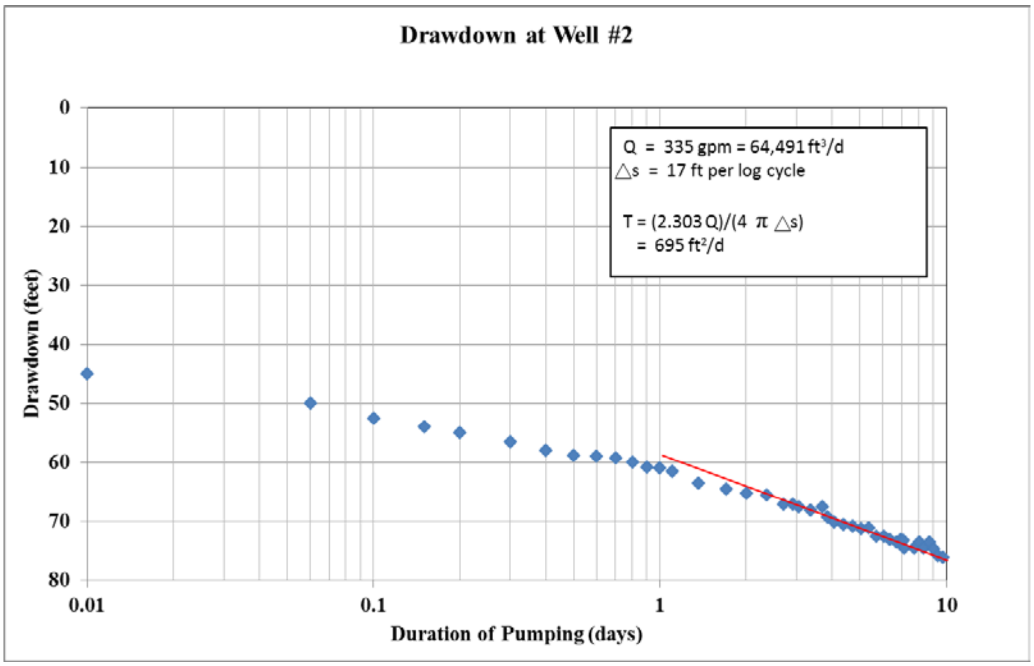

Figure 2. Semi-Logarithmic Plot of Drawdown at Well #2

2. WELL SEAL ADEQUACY

The reviewers assert that the 40-foot sanitary seal on Well #1 does not meet the current standard of 50 feet and that a variance or new well will be required. This decision is at the discretion of the County, and we note that the County never raised a concern regarding the sanitary seal when the well was first drilled, during its subsequent 40 years of service as a resort water supply, or during the current resort application process including the aquifer test. It should be also be noted that this well is tested quarterly by the Monterey County Health Department lab with no recorded exceedances of drinking water standards.

3. Baseline Monitoring

The reviewers state that baseline monitoring data should be collected, specifically of 1) groundwater levels at the wetlands and riparian vegetation, 2) flow and quality at the Pura Spring, and 3) flow and quality at the soda spring (pages 6, 9 and 10). Baseline monitoring may not be useful if it is not designed in a way that reveals the causes of future changes in water levels, flow or quality. For example, a change in groundwater level relative to a prior year could be caused by a wet or dry year or loss of vegetative cover due to wildfire. Vegetation mortality could be caused by pests or diseases rather than water stress. Inadequate flow at the residences served by the Pura spring could be caused by an increase in water use rather than a decrease in spring discharge.

We agree that monitoring is important and that the description of monitoring and mitigation in the Comprehensive Report can be expanded upon. We offer more specific recommendations below, and describe steps that the applicant is already taking to implement monitoring. The reviewers regret that monitoring was not initiated in 2014 or 2015 to capture the effects of drought years on groundwater levels, flow and quality. Monitoring in those years is obviously no longer possible. Furthermore, the effects of drought—and any other year type for that matter—can be estimated by increasing or decreasing the assumed amount of groundwater recharge. Our analysis demonstrates that groundwater storage is sufficient to supply the project even during dry years when recharge is reduced. Initiating monitoring now would provide enough baseline information to detect project-related impacts in the future.

3.1 Monitoring and Mitigation Program

The primary objectives of the monitoring and mitigation measures recommended in the hydrogeologic report were to detect and prevent adverse impacts to riparian vegetation, wetlands and the Pura spring. The reviewers requested more details regarding the monitoring program and mitigation measures, which is reasonable. A monitoring program that encompasses water levels, water quality, vegetation status and spring flow would be capable of detecting adverse impacts and determining whether they resulted from groundwater pumping and water use for the project. Recommended elements of the program are described below.

3.1.1 Water Levels

Shallow piezometers should be installed at the upgradient edges of wetlands, W4, W5 and W6 mapped on Figure 3 of the 2016 updated wetlands report (WRA Environmental Consultants, 2016). These are the perennial wetlands closest to and therefore most likely to be impacted by pumping at Wells 1 and 2 or by salinity impacts of irrigation. The two mapped seasonal wetlands are not dependent on groundwater, and the one closest to the project wells (site W3) would be removed during project construction. Note that site W4 was the only riparian vegetation mapped during the survey and is not located along the creek. Perennial wetlands and riparian vegetation occur only where the water table is shallow (less than 6 feet below ground surface). Therefore, piezometers for measuring groundwater level and quality at the water table can be easily installed by hand. PVC casing 1-2 inches in diameter would be appropriate.

One or two piezometers should be installed in a “control” area that would be similarly affected by droughts and other natural variables but not by well pumping or irrigation return flow. The small side valley in the northern part of the resort property (Indian Valley) might be an appropriate control location.

Depth to water below ground surface should be monitored at least quarterly (preferably monthly) for 5 years, starting before the resort development opens for occupancy. After 5 years, the monitoring data should be evaluated for trends and variability. If groundwater conditions are well-defined and stable, monitoring can be scaled back and later re-adjusted if climatic or hydrologic conditions threaten to generate impacts.

The impact can be attributed to project operation if water levels decline at the wetland sites and 1) decline less or not at all at the control sites and 2) decrease in magnitude with increased distance from the production wells.

Mitigation will consist of providing additional water to the impacted vegetation, by irrigation or replenishment of open water areas, whichever is appropriate. The source of the supplemental water will be the project supply wells (Wells #1 and #2). It is unlikely that the full consumptive water use requirements of the vegetation would need to be replaced, but using that as a worst-case scenario, the water requirement for 0.65 acre of groundwater-supported (i.e. non-seasonal) wetland/riparian vegetation (sites W2 and W4 through W8) during one full dry season (April-October) would be on the order of 2.0 acre-feet of water. This would increase the annual project consumptive use from 12.7 to 14.7 acre-feet per year (AFY). The total use would still represent only 11 percent of the unrealistically low estimate of total groundwater inflows described above (216 AFY), and less than 2 percent of the original estimate (797 AFY). The 2.0 AFY of additional pumping requirement would lower the water table by only 0.2 foot over the alluvial basin area. Thus, the groundwater supply and storage are more than large enough to support the additional demand even during a series of dry years.

During the peak irrigation month (July), the maximum plausible supplemental water demand for wetland/riparian consumptive use would be about 0.4 acre-foot, which equates to a continuous rate of 2.9 gpm. On the peak demand day, this would increase total demand to 32 gpm on a continuous basis, or 16 percent of the combined pumping yields of Wells #1 and #2. The total demand would slightly exceed the credited pumping yield of Well #1 but not the more appropriate alluvial-well yield credit of 58 gpm. However, even if Well #2 were temporarily out of service and Well #1 were unable to supply the mitigation demand on top of the resort’s potable demand, assuming a worst case 100% occupancy, irrigation could be decreased or suspended for a few weeks without long-term adverse vegetation impacts.

3.1.2 Water Quality

Water use at the resort would include irrigation of 23.8 acres of vegetation upgradient of wetland areas W1, W2 and W4 through W8. Irrigation increases groundwater salinity when evaporatively-concentrated minerals in the irrigation water are leached to the water table by winter rains. Furthermore, irrigation will be with recycled water, which will have a higher total dissolved solids (TDS) concentration than ambient groundwater. The reviewers point out that the estimated increase in groundwater TDS presented in the Comprehensive Report unrealistically assumed that the salinity load from irrigation would mix uniformly throughout the alluvial aquifer volume (page 10). We agree that the assumption is optimistic. The salt load would likely remain in the upper part of the alluvial aquifer over the relatively short distance from the irrigated area to the wetlands. The net effect of loading and mixing on the salinity of groundwater arriving at the root zone of wetland and riparian vegetation is difficult to predict quantitatively. We disagree with reviewers' suggestion that modeling be used to further evaluate the impact (pages 10 and 11) because of uncertainties in aquifer heterogeneity, the distribution of recharge along basin perimeter and the amount of flow moving through the system. We think a monitoring approach with contingent mitigation is more worthwhile. Accordingly, we propose that electrical conductivity be monitored in the shallow piezometers on the same schedule as the water-level measurements. If electrical conductivity increases by a statistically significant amount and vegetation begins showing signs of salinity stress, supplemental water should be applied to dilute root zone water salinity.

To help evaluate the causes of future changes in water quality at the Pura spring the resort has collected a water quality sample from the spring on June 20, 2016. The laboratory results are attached to this memorandum. The concentrations of several constituents did not meet drinking water standards. Coliform bacteria including *e. coli* were reported as "present". The primary drinking water standard allows a maximum of only 1 colony per 100 mL of water, so a quantitative colony count would likely have exceeded the standard. The fluoride concentration was 9 mg/L, which is several times greater than the primary drinking water standard. High fluoride is unusual in groundwater derived purely from rainfall recharge. This result suggests that Pura Spring water quality is affected by the hydrothermal waters that enter the alluvial groundwater basin upgradient at Soda Spring. Pura Spring has sodium-sulfate type water, and the sulfate concentration (561 mg/L) is more than twice the secondary drinking water standard. Also, the total dissolved solids concentration (1,090 mg/L) slightly exceeds the upper long-term secondary drinking water standard. Increased salinity, however, is the only potential water-quality impact anticipated at the Pura spring from the proposed resort operations because the reclaimed effluent will meet Title 22 requirements. The resort wastewater treatment process and subsequent use of the water for irrigation would remove nearly all contaminants from the resort wastewater and dilution of irrigation return flow by ambient groundwater flow would further reduce concentrations.

Currently, the Pura spring serves two residences. Historical agreements allow diversions up to the amount of flow that will pass through a 1-inch pipe, to be used for normal domestic purposes only at the two residences and the watering of livestock at one residence. However, the water quality test results described above do not meet primary drinking water standards and therefore is not suitable for domestic potable use. Thus, potential impacts on potable use may be moot, as the current water quality is not suitable for domestic use without further treatment by the 2 residences.

In addition to sampling water quality, a flow meter was added to the 1-inch spring diversion pipe and actual water flow going to the residences from the spring is currently being monitored. Initial results indicate a diversion rate on the order of 1 gallon per minute, but it is too soon to estimate the annual diversion. Monitoring will occur daily for another 90 days and then weekly for the foreseeable future.

If the recently-measured flow of 1 gpm were continued for a full year, the volume of water used would be 1.6 AFY. The project wells and groundwater basin could reliably meet the extra demand if a replacement supply were needed (see discussion of riparian and wetland supplemental water, above).

Increased electrical conductivity is the only potential water quality impact anticipated at Pura Spring. An increase in electrical conductivity could slightly increase the operating costs of a water treatment device (such as a reverse-osmosis unit) that the residents would have to install anyway to obtain potable water, and it could require a slight increase in applied irrigation water to landscape vegetation to maintain soil salinity within the tolerance range of the vegetation. These types of small mutual impacts between groundwater users are routine in groundwater basins and are not considered significant.

The reviewers stated that monitoring of Soda Spring would also be needed for the CEQA process. Soda Spring is the thermal spring at the resort. Monitoring and mitigation are not required under CEQA because the spring belongs to the applicant and is part of the project.

3.1.3 Vegetation Status

Wetland and riparian vegetation could become stressed due to factors unrelated to groundwater levels, and conversely, groundwater levels could decline to some extent without noticeably affecting vegetation health. To help resolve questions of cause and effect related to the wetland and riparian areas, vegetation status will be monitored. Monitoring will consist of bimonthly visual inspection for abnormal amounts of leaf and branch die-back during the dry season (April-October). Observations will be made around the perimeter of wetland/riparian areas W4 and W5, where stress would likely appear first. Surveys will be conducted by resort personnel. Photographs will be taken at 4 or more designated photo stations. If signs of stress increase, the information will be forwarded to a qualified professional vegetation ecologist for additional evaluation and possible on-site surveys.

If vegetation stress coincides with declining water levels or increased salinity, supplemental water will be supplied to the affected areas, as described earlier.

3.1.4 Spring Flow and Water Use

The supply of water from Pura spring could become inadequate in the future due to a decrease in spring discharge. The resort has installed a flow meter on the diversion pipe from the spring box. Baseline water use data collected prior to construction and operation of the project will allow subsequent changes in water use and spring discharge to be detected and concerns regarding supply adequacy to be investigated.

If spring discharge becomes unable to sustain the baseline amounts of water use and the decrease in discharge cannot be attributed to drought or other natural causes, supplemental water will be provided at the spring box from the resort's water supply wells. As described above for supplemental wetland water, the estimated maximum supplement (1.6 AFY) is well within the pumping capacity of the wells and the storage capacity of the groundwater basin.

4. OTHER REVIEW COMMENTS

- The reviewers considered the absence of a field investigation to be an "important limitation" of the Comprehensive Report. We would agree if Paraiso Valley and the proposed project had not already been extensively studied. In this case, previous investigators have made multiple field investigations and prepared numerous reports over the past 14 years addressing surface and groundwater hydrology, soils and wetland/riparian habitats. Those studies provided an adequate technical basis for preparing the Comprehensive report.
- The reviewers suggested that cascading water inside the pumping wells during the aquifer test could result in erroneous water-level measurements unless sounding tubes were used (page 4 footnote). However, there are no data showing that cascading water was present. Furthermore, the aquifer test report stated that pressure transducers inside 1-inch sounding tubes were used to measure water levels during the test.
- The reviewers state (page 7) that the difference in static water levels between Well #1 and Well #2 "suggests that the alluvial fill in the main valley(s) likely has significant internal structure (barriers) and is not the simple bathtub filled with permeable sand that might be inferred from the water-well driller's basic well log of Well 1". We disagree (while steering clear from the simple bathtub analogy). Barriers within the alluvial aquifer would manifest as stair-steps in the down-valley water-level profile, which are not evident from the data. Furthermore, the deep well is screened entirely in the bedrock formation underlying the alluvium, where flow and head are controlled by fractures. If the largest fractures are near the bottom of the well, the overlying less-fractured rock could easily confine groundwater in the fractures and cause a difference in groundwater levels between the deep well and alluvial well. Thus, the difference in water levels does not indicate textural heterogeneity or fault barriers within the alluvium.
- The reviewers (page 7) state that the regional regression analysis of rainfall and baseflow used to obtain one of the three estimates of groundwater inflow to the alluvial aquifer was grossly inaccurate. Upon further investigation, we agree that the analysis and equation used one reference gage that could be considered an outlier that compromised the accuracy of the results for the Paraiso Springs watershed. However, all three estimates of groundwater inflow produced similar results. Therefore, if we retract this one estimate of groundwater inflow and average only the other two estimates, the result would be approximately the same. There would be a negligible effect on the subsequent calculations.
- The reviewers requested a monthly rather than annual groundwater balance. In response, we prepared the monthly water balance for project conditions shown in **Table 1** at the end of this memo; refer to the Comprehensive Report for discussion of the derivation of water balance items. Rainfall recharge occurs only in winter and is skewed toward the latter part of winter due to soil moisture replenishment in the early part. The values shown in the table increase from 20 percent of annual recharge in January to 40 percent in March, followed by 10 percent in April. Stream percolation follows a similar pattern. Although groundwater inflow from the

surrounding tributary areas derives from rainfall, subsurface flow through bedrock fractures and regolith attenuates flow peaks and produces a much less variable inflow of groundwater to the alluvial basin. In the table, a sinusoidal pattern is assumed with a maximum monthly value in May equal to twice the minimum value in November. Hydrothermal inflow is probably constant year-round. Resort water use will likely have some seasonal variations, but those are not known in advance. For our analysis, we have assumed constant year-round water use at a rate corresponding to maximum occupancy. For CEQA purposes, this is the maximum impact that could occur.

Discharge from the soda spring is essentially constant year-round. With reservoir storage, recycled water would meet all of the irrigation demand and there would be no groundwater pumping for irrigation. Evapotranspiration (ET) of groundwater by wetland/riparian vegetation occurs almost entirely during May-October, assuming rainfall and stored soil moisture meet ET demand in the other months. The monthly pattern mirrors the monthly variation in reference ET during May-October. Groundwater outflow probably varies somewhat seasonally, but for a conservative (maximum) estimate of seasonal storage change we assume it is constant year-round.

Inflows exceed outflows by as much as 28.8 AF (March), and later in the year outflows exceed inflows by as much as 23.8 AF (August). The cumulative amount of seasonal storage fluctuation is 90 AF. Assuming that fluctuation in storage is spread uniformly over the 55-acre alluvial groundwater basin and assuming a specific yield of 0.15, the seasonal range in groundwater levels under project conditions would be on the order of 11 feet. This is about one-third of the saturated alluvial thickness at Well #1 and roughly 12 percent of the saturated thickness near the wetland/riparian areas.

- The reviewers state that "the model includes simplifying assumptions that cumulatively add significant uncertainties to the solution" (page 8). They request a sensitivity analysis of the model, especially with respect to hydraulic conductivity and non-uniformity of the alluvial aquifer materials. We do not think a sensitivity analysis is warranted because it can be deduced that possible errors in those variables would decrease the estimated impacts, as follows:
    - If hydraulic conductivity were lower—for example, consistent with the unrealistically low transmissivity values described above for the straight-line analysis of the well drawdown data—then drawdown would be focused more closely around the well. Drawdown would be larger at the well, while drawdown at distant locations such as Pura spring and the Gallo well would be smaller. Thus, the sensitivity analysis would indicate smaller impacts. Furthermore, simply decreasing the hydraulic conductivity in the model would undo the calibration, and the results would become more uncertain as a result.
    - The reviewers repeatedly assert their hypothesis that the alluvial deposits consist of "debris flow and post-fire deposits" that create significant non-uniformity of the basin fill materials (pages 4 [twice], 8, 10 and 11). We

stress that this is only a hypothesis based on geomorphologic concepts and not on any data from Paraiso Springs Valley. It reflects an unsubstantiated assumption that gravity processes dominate over fluvial processes in the valley. But more importantly, the reviewers fail to connect non-uniformity with greater water-level or water-supply impact. We assert that because Well #1 penetrates most of the saturated thickness of the aquifer and because the lateral extent of individual debris flow deposits is likely small relative to the 3,400 foot distance to the potentially impacted well, that the drawdown would be vertically uniform at that well in spite of any heterogeneity. Also, the aquifer test estimates the depth-averaged hydraulic conductivity of the alluvial deposits including the combined effects of individual low- and high-conductivity beds. Thus, the values of transmissivity and hydraulic conductivity extracted from the test are appropriate for a homogeneous or non-homogeneous condition. This conclusion applies to flow, drawdown, storage and yield. Non-homogeneity could affect water quality impacts, however, which is why our refined monitoring and mitigation program (above) includes monitoring of electrical conductivity at the root zone piezometers at the wetland/riparian sites.

The reviewers also criticize use of Arroyo Seco base flow data to define drought conditions. Perhaps this comment was a mistake, because there is no such use of Arroyo Seco data to define drought periods in the Comprehensive Report.

- The reviewers mistakenly assert that the 1.6-square-mile tributary watershed area used in the water balance analysis included the northern lobe of Paraiso Creek Valley ("Indian Valley") and thereby overestimated the amount of recharge and groundwater storage that could be accessed by Well #1 and Well #2 (page 11). The watershed outline is not shown in Figure 8 of the Comprehensive Report as stated by the reviewers. It is shown in Figures 2 and 3 and excludes Indian Valley.
- The reviewers state that the Comprehensive Report does not address concerns raised in comments by Harvey Packard of the Central Coast Regional Water Quality Control Board (both pages 7 and 11). Those comments relate primarily to wastewater treatment and the quality of discharges to surface water and as such are beyond the normal scope of a hydrogeologic analysis. Nevertheless, Paraiso Springs Resort and its consulting civil engineer are contacting Mr. Packard to discuss the comments with the intent of addressing reasonable and substantive concerns.

In summary, the peer review questioned various details of the analysis contained in the Comprehensive Report. However, it failed to demonstrate how those individual concerns collectively substantiate their brief statement in the conclusions that "additional analysis is required to conclude whether there is adequate water supply for the Project" (page 11). There is one instance in which the reviewers concede that "a revision of these groundwater inflow and outflow estimates likely will not meaningfully change the reported outflow deficit of 12.7 acre-feet per year" (page 8). We have demonstrated in these responses that—even after completing most of the requested revisions and re-calculating the water balance and impacts with more conservative assumptions—the water supply is adequate to supply the project on an average annual basis, that groundwater storage capacity is sufficient to sustain the supply through seasonal and dry-year variations in the water balance, and that the monitoring and mitigation program is capable of detecting and mitigating adverse impacts on vegetation and groundwater users caused by project operation.

Table1. Monthly Groundwater Balances under Project Conditions with Reservoir Storage

Inflow or Outflow Item	Monthly Flow or Storage (acre-feet)												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Inflows													
Rainfall and irrigation deep percolation													
Nonirrigated areas	0.3	0.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Irrigated areas	0.9	1.3	1.7	0.4	2.6	3.2	4.1	4.1	2.8	1.9	0.0	0.0	22.9
Impervious areas	4.9	7.4	9.9	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.7
Stream percolation	1.4	2.2	2.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2
Groundwater inflow from hillslope recharge	49.2	59.2	69.2	76.5	79.2	76.5	69.2	59.2	49.2	41.9	39.2	41.9	710.2
Hydrothermal groundwater inflow	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	56.5
Wastewater percolation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.4
Total inflows	62.4	76.2	90.0	86.0	87.5	85.4	79.0	69.0	57.7	49.5	44.9	47.6	835.3
Outflows													
Well pumping													
Indoor uses	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	47.5
Irrigation													
Turf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vineyard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
General	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water treatment	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.4
Spring discharge (Soda Spring well)	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	56.5
Evapotranspiration													
Pond and adjacent wetland	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.0	0.0	1.9
Willow riparian	0.0	0.0	0.0	0.9	1.1	1.2	1.2	1.1	0.8	0.6	0.0	0.0	7.0
Seasonal wet seep	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.7
Net evaporation from ornamental pond	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.0	0.0	1.5
Groundwater outflow	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	717.8
Total outflows	68.7	68.7	68.7	70.2	70.4	70.6	70.6	70.4	70.0	69.7	68.7	68.7	835.3
Inflows - outflows	-6.2	7.5	21.3	15.8	17.1	14.8	8.4	-1.4	-12.3	-20.2	-23.8	-21.1	0.0
Cumulative storage change	0.03	7.54	28.84	44.69	61.77	76.54	84.97	83.58	71.30	51.09	27.33	6.26	
Minimum of seasonal storage range													0.03
Maximum of seasonal storage range													84.97
Maximum minus minimum storage													84.94
Maximum minus minimum water level (ft)													10.3

Pura Spring Analysis of Water Quality Sample, June 20, 2016

MONTEREY COUNTY HEALTH DEPARTMENT

Consolidated Chemistry Laboratory

1270 Natividad Road Salinas, CA 93906
Phone (831)755-4516 Fax (831) 755-4652

ELAP Certification Number: 1395

Paraiso L.L.C.\Paraiso Hot Springs
34358 Paraiso Springs Rd.
Soledad, CA 93960

Attn: Josie

Friday, July 08, 2016

Lab Number: **AB90624** **Client code:** **PARAISO**

Sample Site:	EASEMENT SPRING BOX	Collection Date/Time:	6/20/2016	9:10
Source Code :		Submittal Date/Time:	6/20/2016	10:24
Other ID:		Sample Collector:	REYES C	

Sample Comments: Routine Drinking Water. Receiving temperature 2.8ºC.

Analyte	Method	Unit	**Result**	DLR	MCL	PQL	Date Analyzed
Aluminum (Al)	EPA200.8 REV	ug/L	**ND**	50	1000*	5	6/27/2016
Antimony (Sb)	EPA200.8 REV	ug/L	**ND**	6	6*	0.5	6/27/2016
Arsenic (As)	EPA200.8 REV	ug/L	**ND**	2	10*	1	6/27/2016
Barium (Ba)	EPA200.8 REV	ug/L	**ND**	100	1000*	0.5	6/27/2016
Beryllium (Be)	EPA200.8 REV	ug/L	**ND**	1	4*	0.5	6/27/2016
Bicarbonate Alkalinity (as HCO3)	Calculated	mg/L	**79.3**	N/A		1.0	6/20/2016
Cadmium (Cd)	EPA200.8 REV	ug/L	**ND**	1	5*	0.5	6/27/2016
Calcium	ASTM6919-09	mg/L	**36**			1	6/30/2016
Calculated Langelier	Calculation	CaCO3	**-1.06**	N/A			7/1/2016
Carbonate Alkalinity (as CO3)	Calculated	mg/L	**ND**	N/A		1.0	6/20/2016
Chromium (Cr)	EPA200.8 REV	ug/L	**ND**	10	50*	5	6/27/2016
Chromium VI	Attached	ug/L	**Completed**		10	Attached	6/22/2016
Cl (Chloride)	EPA300.0 REV	mg/L	**59**	N/A	250**	1	6/20/2016
Coliforms; E. coli	SM9223	#/100 mL	**PRESENT**	N/A	1/100 ML	1	6/20/2016
Coliforms; total	SM9223	#/100 mL	**PRESENT**	N/A	1/100 ML	1	6/20/2016
Color Determination	SM2120B-2001	Color Units	**<2**	N/A	15**	2	6/20/2016
Conductivity	SM2510 B-199	umho/cm	**1610**	N/A	900**	2	6/24/2016
Copper (Cu)	EPA200.8 REV	ug/L	**ND**	50	1000*	0.5	6/27/2016
Cyanide	Attached	Attached	**Completed**			Attached	6/24/2016
F (Fluoride)	EPA300.0 REV	mg/L	**9.0**	0.1	2*	0.10	6/20/2016

mg/L : Milligrams per liter (=ppm)
PQL : Practical Quantitation Limit
DLR : Detection Limit for Reporting

ug/L : Micrograms per liter (=ppb)
MCL : Maximum Contaminant Level
ND : Not Detected N/A : Not Applicable

* : Primary Standards
** : Secondary Standards
*** : Action Level

MONTEREY COUNTY HEALTH DEPARTMENT

Consolidated Chemistry Laboratory

1270 Natividad Road Salinas, CA 93906
Phone (831)755-4516 Fax (831) 755-4652

ELAP Certification Number: 1395

Paraiso L.L.C.\Paraiso Hot Springs
34358 Paraiso Springs Rd.
Soledad, CA 93960

Attn: Josie

Friday, July 08, 2016

Lab Number: **AB90624** **Client code:** **PARAISO**

Hardness	SM2340B-1997	mg/L	**107**	N/A			7/1/2016
Hydroxide Alkalinity (as OH)	Calculated	mg/L	**ND**	N/A		N/A	6/20/2016
Iron	Attached	Attached	**Completed**			Attached	6/24/2016
Lead (Pb)	EPA200.8 REV	ug/L	**ND**	5	50*	0.5	6/27/2016
Magnesium	ASTM6919-09	mg/L	**4.1**	N/A		1	6/30/2016
Manganese (Mn)	EPA200.8 REV	ug/L	**ND**	20	50**	0.5	6/27/2016
MBAS, calc as LAS, mol wt. 340	SM5540 C-200	mg/L	**ND**	0.050	0.5**	0.050	6/20/2016
Mercury (Hg)	EPA200.8	ug/L	**ND**	1	2*	0.25	6/27/2016
Nickel (Ni)	EPA200.8 REV	ug/L	**ND**	10	100*	0.5	6/27/2016
Nitrate Nitrogen	EPA300.0	mg/L	**0.4**	0.4	10	0.2	6/20/2016
Nitrite as nitrogen	SM4500 NO2	mg/L	**ND**	0.4	1.0*	0.05	6/20/2016
NO3 (Nitrate)	EPA300.0 REV	mg/L	**1.9**	2.0	45*	1	6/20/2016
Perchlorate	Attached	Attached	**Completed**			Attached	6/29/2016
pH (Laboratory)	SM4500H+ B-2	Std Units	**6.6**	N/A	6.5-8.5**	N/A	6/20/2016
Potassium	ASTM6919-09	mg/L	**5.2**	N/A		0.1	6/30/2016
Selenium (Se)	EPA200.8 REV	ug/L	**ND**	5	50*	5	6/27/2016
Silver (Ag)	EPA200.8 REV	ug/L	**ND**	10	100**	5	6/27/2016
SO4 (Sulfate)	EPA300.0 REV	mg/L	**561**	0.5	250**	1	6/20/2016
Sodium	ASTM6919-09	mg/L	**310**	N/A		1	6/30/2016
Thallium (Tl)	EPA200.8 REV	ug/L	**ND**	1	2*	0.5	6/27/2016
Threshold odor number	SM2150-B	TON	**ND**	N/A	3**	1.0	6/20/2016
Total Alkalinity (as CaCO3)	SM2320 B-199	mg/L	**65**	N/A		1	6/20/2016
Total Dissolved Solids (TDS)	SM2540 C-199	mg/L	**1090**	N/A	500**	5	6/22/2016
Turbidity (Laboratory)	SM2130 B-200	NTU	**0.05**	N/A	5*	0.05	6/20/2016
Zinc (Zn)	EPA200.8 REV	ug/L	**ND**	50	5000**	5	6/27/2016

mg/L : Milligrams per liter (=ppm)
PQL : Practical Quantitation Limit
DLR : Detection Limit for Reporting

ug/L : Micrograms per liter (=ppb)
MCL : Maximum Contaminant Level
ND : Not Detected   N/A : Not Applicable

* : Primary Standards
** : Secondary Standards
*** : Action Level

MONTEREY COUNTY HEALTH DEPARTMENT

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ELAP Certification Number: 1395

Paraiso L.L.C.\Paraiso Hot Springs
34358 Paraiso Springs Rd.
Soledad, CA 93960

Attn: Josie

Friday, July 08, 2016

Lab Number: **AB90624** **Client code:** **PARAISO**

Report approved by:

Donna Ferguson, Ph.D, P.H.M
Laboratory Director

mg/L : Milligrams per liter (=ppm)
PQL : Practical Quantitation Limit
DLR : Detection Limit for Reporting

ug/L : Micrograms per liter (=ppb)
MCL : Maximum Contaminant Level
ND : Not Detected   N/A : Not Applicable

* : Primary Standards
** : Secondary Standards
*** : Action Level

BSK Associates Fresno
1414 Stanislaus St
Fresno, CA93706
559-497-2888 (Main)
559-485-6935 (FAX)

A6F2365
7/05/2016
Invoice: A614597

Donna Ferguson, PhD
Monterey CHD
1270 Natividad Rd. Rm A15
Salinas, CA 93906

RE: Report for A6F2365 General

Dear Donna Ferguson, PhD,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 6/22/2016. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an “as received” basis.

If additional clarification of any information is required, please contact your Project Manager, John Montierth , at (800) 877-8310 or (559) 497-2888 x201.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

John Montierth, Project Manager

Accredited in Accordance with NELAP
ORELAP #4021

ASSOCIATES

Case Narrative

Project and Report Details		Invoice Details	
Client:	Monterey CHD	**Invoice To:**	Monterey CHD
Report To:	Donna Ferguson, PhD	**Invoice Attn:**	Donna Ferguson, PhD
Project #:	Paraiso LLC	**Project PO#:**	-
Received:	6/22/2016 - 09:00		
Report Due:	7/07/2016		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt °C: 5.7

Containers Intact
COC/Labels Agree
Preservation Confirmed
Received On Blue Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

DL1.0 Sample required a dilution due to the matrix or high concentration of a non-target analyte.

Report Distribution

Recipient(s)	Report Format	CC:
Theresa Hodges	FINAL.RPT	

Certificate of Analysis

Sample ID: A6F2365-01
Sampled By: C. Reyes
Sample Description: Easement Spring Box // AB 90624

Sample Date - Time: 06/20/16 - 09:10
Matrix: Drinking Water
Sample Type: Grab

BSK Associates Fresno

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Cyanide (total)	SM 4500-CN E	ND	0.0050	mg/L	1	A607827	06/24/16	06/27/16	
Conductivity @ 25C	SM 2510B	**1600**	1.0	umhos/cm	1	A607723	06/23/16	06/23/16	
Hexavalent Chromium	EPA 218.6	**0.21**	0.20	ug/L	1	A607633	06/22/16	06/22/16	
Perchlorate	EPA 314.0	ND	10	ug/L	5	A607967	06/29/16	06/29/16	DL1.0

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Iron	EPA 200.7	ND	0.030	mg/L	1	A607774	06/24/16	06/29/16	

BSK Associates Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

EPA 218.6 - Quality Control

Batch: A607633 Prepared: 6/22/2016

Prep Method: Method Specific Preparation Analyst: RCN

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A607633-BLK1)											
Hexavalent Chromium	ND	0.20	ug/L							06/22/16	
Blank Spike (A607633-BS1)											
Hexavalent Chromium	2.1	0.20	ug/L	2.0		104	90-110			06/22/16	
Blank Spike Dup (A607633-BSD1)											
Hexavalent Chromium	2.1	0.20	ug/L	2.0		105	90-110	1	10	06/22/16	
Matrix Spike (A607633-MS1), Source: A6F1970-01											
Hexavalent Chromium	6.7	0.20	ug/L	2.0	4.8	94	90-110			06/22/16	
Matrix Spike (A607633-MS2), Source: A6F2426-01											
Hexavalent Chromium	6.9	0.20	ug/L	2.0	4.9	99	90-110			06/22/16	
Matrix Spike Dup (A607633-MSD1), Source: A6F1970-01											
Hexavalent Chromium	6.9	0.20	ug/L	2.0	4.8	105	90-110	3	10	06/22/16	
Matrix Spike Dup (A607633-MSD2), Source: A6F2426-01											
Hexavalent Chromium	6.9	0.20	ug/L	2.0	4.9	100	90-110	0	10	06/22/16	

EPA 314.0 - Quality Control

Batch: A607967 Prepared: 6/28/2016

Prep Method: Method Specific Preparation Analyst: RCN

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A607967-BLK1)											
Perchlorate	ND	2.0	ug/L							06/28/16	
Blank Spike (A607967-BS1)											
Perchlorate	16	2.0	ug/L	15		106	85-115			06/28/16	
Matrix Spike (A607967-MS1), Source: A6F2609-03											
Perchlorate	8.7	2.0	ug/L	5.0	4.1	93	80-120			06/28/16	
Matrix Spike Dup (A607967-MSD1), Source: A6F2609-03											
Perchlorate	9.0	2.0	ug/L	5.0	4.1	99	80-120	4	15	06/28/16	

SM 2510B - Quality Control

Batch: A607723 Prepared: 6/23/2016

Prep Method: Method Specific Preparation Analyst: CEG

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank Spike (A607723-BS1)											
Conductivity @ 25C	1400	1.0	umhos/cm	1400		98	90-110			06/23/16	
Blank Spike Dup (A607723-BSD1)											

BSK Associates Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual

SM 2510B - Quality Control

Batch: A607723 Prepared: 6/23/2016
Prep Method: Method Specific Preparation Analyst: CEG

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank Spike Dup (A607723-BSD1)											
Conductivity @ 25C	1400	1.0	umhos/cm	1400		97	90-110	1		06/23/16	
Duplicate (A607723-DUP1), Source: A6F2452-01											
Conductivity @ 25C	1000	1.0	umhos/cm		1000			1	20	06/23/16	

SM 4500-CN E - Quality Control

Batch: A607827 Prepared: 6/24/2016
Prep Method: Total Cyanide Distillation Analyst: CEG

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A607827-BLK1)											
Cyanide (total)	ND	0.0050	mg/L							06/27/16	
Blank Spike (A607827-BS1)											
Cyanide (total)	0.26	0.0050	mg/L	0.25		104	80-120			06/27/16	
Blank Spike Dup (A607827-BSD1)											
Cyanide (total)	0.26	0.0050	mg/L	0.25		103	80-120	1	20	06/27/16	
Matrix Spike (A607827-MS1), Source: A6F1618-01											
Cyanide (total)	0.26	0.0050	mg/L	0.25	ND	104	80-120			06/27/16	
Matrix Spike Dup (A607827-MSD1), Source: A6F1618-01											
Cyanide (total)	0.26	0.0050	mg/L	0.25	ND	102	80-120	2	20	06/27/16	

BSK Associates Fresno
Metals Quality Control Report

EPA 200.7 - Quality Control

Batch: A607774 Prepared: 6/24/2016
Prep Method: EPA 200.2 Analyst: NYY

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
Blank (A607774-BLK2)											
Iron	ND	0.030	mg/L							06/29/16	
Blank Spike (A607774-BS2)											
Iron	2.0	0.030	mg/L	2.0		98	85-115			06/29/16	
Blank Spike Dup (A607774-BSD2)											
Iron	1.9	0.030	mg/L	2.0		97	85-115	1	20	06/29/16	
Matrix Spike (A607774-MS3), Source: A6F2291-01											
Iron	2.0	0.030	mg/L	2.0	0.054	97	70-130			06/29/16	
Matrix Spike (A607774-MS4), Source: A6F2374-02											
Iron	2.0	0.030	mg/L	2.0	ND	97	70-130			06/29/16	
Matrix Spike Dup (A607774-MSD3), Source: A6F2291-01											
Iron	2.0	0.030	mg/L	2.0	0.054	96	70-130	1	20	06/29/16	
Matrix Spike Dup (A607774-MSD4), Source: A6F2374-02											
Iron	2.0	0.030	mg/L	2.0	ND	97	70-130	0	20	06/29/16	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAC program for the following parameters: **NA**

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

San Bernardino - CA ELAP 2993

Fresno

State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAC	4021
EPA - UCMR3	CA00079	State of Washington	C997-16

Sacramento

State of California - ELAP 2435

Vancouver

State of Oregon - NELAC	WA100008-008	State of Washington	C824-15

A6F2365

06222016

Monte4516

Turnaround: Standard

Due Date: 7/7/2016

Monterey CHD

A6F2365 06/22/2016
Monte4516 10

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888 • FAX (559) 497-2893 • www.bsklabs.com

TEMP: 5.7

* Required Fields

Client/Company Name *: Monterey CHD	Report Attention *: Donna Ferguson	Phone * #: (831)755-4516 FAX * #: (831)755-4652 E-mail:
Address * 1270 Natividad	City * Salinas	State * CA Zip *
Project Information: PARAISO LLC	PO # Quote #	Carbon Copies: CDHS ☐ Fresno Co ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:
How would you like your completed results sent? ☑ E-Mail ☐ Fax ☐ EDD ☐ Mail Only		Regulatory Compliance Electronic Data Transfer: Y☐ N☐ System No. *
Sampler Name Printed / Signature: C. REYES	QC Request ☑ STD ☐ Level II	Result Request ** Surcharge ☑ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day**

Matrix Types: RSW = Raw Surface Water CFW = Clorinated Finished Water CWW = Chorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

ANALYSIS REQUESTED

Sample #	# Bottles	Sampled Date	Sampled Time	Sample Description / Location *	Matrix *	Comments / Station Code	CYANIDE	IRON	CHROMIUM VI	PERCHLORATE					
		6/20/16	0910	EASEMENT SPRING BOX	DW	AB 90624 /	✓	✓	✓	✓					

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
T. Hodges [signature]	MCHD	6/21/16	1600		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company

Received for Lab by: (Signature and Printed Name)	Date	Time	Payment Received at Delivery:
[signature]	6/22/16	0910	Date: Amount: Check/Cash/Card PIA # Init.

Shipping Method: CAO UPS GSO WALK-IN SJVC FED EX OTHER On Trac
Cooling Method: WET BLUE NONE
Packing Material: Bubble wrap

BSK Associates SR-FL-0002-15

A6F2365 06/22/2016
Monte4516 10

Sample Integrity

BSK Bottles: Yes No Page ____ of ____

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes No NA	Were correct containers and preservatives received for the tests requested?	Yes No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Were there bubbles in the VOA vials? (**Volatiles Only**)	Yes No NA
Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No
Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1					
Bacti $Na_2S_2O_3$	—	—						
None (P) White Cap	—	—	1B					
Cr6 (P) Br. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	Y N	1a					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	Y N						
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	Y N						
HNO_3 (P) Red Cap	—	—	1B					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	Y N						
NaOH (P) Green Cap	Cl, pH >10	Y N	1a					
NaOH + ZnAc (P)	pH > 9	Y N						
Dissolved Oxygen 300ml (g)	—	—						
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—						
HCl (AG) Lt. Blue Label O&G, Diesel	—	—						
Na_2O_3S+HCl (AG) Lt. Pink Label 525	—	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—						
$Na_2S_2O_3$ (AG) Blue Label 547,515,548,THM,524	—	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505	—	—						
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	Y N						
NH_4Cl (AG) Purple Label 552	—	—						
EDA (AG) Brown Label DBPs	—	—						
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—						
Buffer pH 4 (CG)	—	—						
None (CG)	—	—						
H_3PO_4 (CG) Salmon Label	—	—						
Other:								
Asbestos 1Liter Plastic w/ Foil	—	—						
Low Level Hg / Metals Double Baggie	—	—						
Bottled Water	—	—						
Clear Glass Jar: 250 / 500 / 1 Liter	—	—						
Soil Tube Brass / Steel / Plastic	—	—						
Tedlar Bag / Plastic Bag	—	—						

6/22/16

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: [signature] @ 1445 Labels checked by: OHD @ 15:12 RUSH Paged by:________@________