



MEMORANDUM

February 15, 2008

To: Mr. Bill Davis
Huntington Group

cc: Mr. Richard Morgan
Mr. Jeff Stevens

From: Richard C. Slade, Principal Groundwater Geologist
Richard C. Slade & Associates LLC

Re: Updated Information on Recent Water Quality Testing
Existing Water Well, Proposed Joshua Falls Project
Los Angeles County, California

Job No. 323-LAS02

- Ref:
1. Information on Recent Sampling and Testing of Groundwater Existing Water Well, Proposed Joshua Falls Project, Los Angeles County. prepared by RCS and dated January 2, 2008
 2. "Memorandum: Water Quality Testing, Existing Well, Proposed Joshua Falls Project, Los Angeles County." prepared by RCS and dated December 3, 2007
 3. "Results of Phase 1 Hydrogeologic Services, 1532-Acre Undeveloped Property Llano Area, Los Angeles County, California"; prepared by RCS and dated December 3, 2007

RCS has recently received the results of the latest laboratory testing of groundwater collected from the existing well located in the southern portion of your proposed Joshua Falls project in Los Angeles County, California. The subject groundwater samples were collected by others from the onsite well on January 8, 2008, and were then delivered the same day for testing to Clinical Laboratory of San Bernardino Inc (Clinical), in Grand Terrace, California.

Figure 1, "Location Map," illustrates the locations of the subject property and of the existing water well that was recently sampled. A copy of these new laboratory test data are appended to this Memorandum.



These latest laboratory data result from our prior conversations and from the discussions presented in the three RCS-prepared documents referenced above. Our review of the recent laboratory test data is provided below.

The concentrations of the constituents that were tested for at this time, as reported by the laboratory, meet their respective State Department of Public Health (DPH) and U.S. Environmental Protection Agency (EPA) Primary and Secondary Maximum Contaminant Levels (MCLs) for domestic use. Concentrations of key general mineral and inorganic chemical (trace metal) analytes, as determined by Clinical, include:

- Arsenic, reported as Not Detected (ND); EPA Primary MCL = 10 micrograms per Liter ($\mu\text{g/L}$);
- Nitrate as NO_3 reported at 15 milligrams per liter mg/L , by the laboratory; State Primary MCL = 45 mg/L ;
- Fluoride, detected at 0.24 mg/L ; State DPH Primary MCL = 2.0 mg/L ;
- Aluminum, detected at 180 $\mu\text{g/L}$; State DPH Primary MCL = 1000 $\mu\text{g/L}$;
- Iron, detected at 150 $\mu\text{g/L}$; State DPH Secondary MCL = 300 $\mu\text{g/L}$;
- Manganese, reported to be ND; State DPH Secondary MCL = 50 $\mu\text{g/L}$;
- Perchlorate, reported to be ND; State DPH Primary MCL = 6 $\mu\text{g/L}$.

Further, all tested EPA Method 524.2 "regulated organic chemicals" (like benzene, carbon tetrachloride, toluene, trichloroethylene, etc) were reported to be ND. Other regulated organic chemicals tested using EPA Methods 504.1, 508.1, 515.4, 531.1, and 547, including unregulated organic chemicals (using EPA Method 524.2) were all reported to be ND (not detected) by the laboratory. Even the regulated organic compounds tested by EPA Methods 525.2, 549.2 and 548.1 (atrazine, diquat, etc) were reported to be ND by the laboratory.

For the radiologicals, Gross Alpha was detected at 3.8 picocuries per liter (pCi/L), whereas its Primary MCL is 15 pCi/L ; uranium, detected at 3.2 pCi/L , is well below its Primary MCL of 20 pCi/L . Based on these results (gross alpha below 5 pCi/L), no other radioactivity analyses were determined to be necessary by Clinical.

The above test data reveal that the detected and/or elevated concentrations for such analytes as aluminum, iron, and manganese that had been reported by Clinical from the prior sampling event discussed in Reference No. 1 are most likely due to the age and condition of the existing



well and/or to testing of groundwater containing turbidity/color. That is, it is likely that the presence of iron, aluminum and zinc is due to the water being slightly turbid (at 4.0 NTU). Because greater care was exercised this time during the pumping of the well and in sampling and testing of the collected groundwater samples, there was much less color in the samples. Moreover, because no electrical tape was used on the pump column installed in the well for this recent sampling event, there was no detection of the organic compound toluene; Reference No. 1 (p.2) stated that the probable reason for its detection in the prior sampling event was that electrical tape had been placed on the pump column at that time.

The detection of nitrate as NO_3 at 15 mg/L in this recent sampling event is consistent with the result from the prior testing (14 mg/L); neither value exceeds the State DPH Primary MCL of 45 mg/L for this constituent, as mentioned above. However, this detection is not unexpected because of the reported history of the site (an old pig farm), the proximity of the pig farm areas to the existing well, and the construction of the old well (lack of a sanitary seal, shallow depth to its uppermost perforations, etc).

In essence, the new data are considered to represent a reasonable indication of the groundwater quality at the site. Based on these new water quality data for the recently tested constituents in your existing onsite well, none of the concentrations of the detected constituents would require treatment in regard to their current respective Primary and/or Secondary standards for domestic, potable (drinkable) water for use for your project.

As we have discussed previously with you, new wells will need to be eventually constructed and tested for your project, and the existing well will need to be permanently destroyed. These wells will tend to be located north of the existing well, and will also tend to be deeper and to have casing perforations set to different and greater depths than currently occur in that existing well. When the new wells are constructed, the final pumping rate and the final water quality of the wellblend of the groundwater entering the specific perforated zones in each new well will become better known.

If you have any questions regarding this communication, please contact us.



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