



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813-632-7600

Colleen M. Castille
Secretary

September 14, 2006

S. Lee Crouch
Executive Corporation of Clearwater, Inc.
5260 South Landing Drive, Suite 704
Ft. Myers, FL 33919

Re: Site Assessment Report Addendum and Interim Source Removal Plan
Countryside Executive Golf Course
2506 Countryside Blvd.
Clearwater, Florida

Dear Mr. Crouch:

The Department has reviewed the above referenced documents, dated July 10, 2006 and July 2006, prepared by HSA Engineers & Scientists (HSA), received by the Department on July 12 and July 18, respectively, and has the following comments:

Groundwater

1. The Report states that the high concentrations of arsenic at MW-2 will attenuate naturally over time. The fluctuations in arsenic concentrations would appear to indicate that natural attenuation is not occurring at this location. Arsenic concentrations increased from 37.3 ug/L to 79.8 ug/L between May 30, 2006 and June 13, 2006.

Appropriate soil sampling within the property

1. Soil isoconcentration maps of arsenic by depth are needed to indicate where the site has been delineated.
2. Soil samples at depths greater than 6 inches are needed to rule out a persistent source area for the arsenic at the MW-2 location. The report stated that this area might have been used as a temporary maintenance area. Soil samples from this area should also be analyzed for arsenic, pesticides and herbicides using the Synthetic Precipitation Leaching Procedure (Method 1312). Samples that did not exceed the SCTL at the 0 – 2-foot interval may exceed the residential SCTL in the upper 6 inches.
3. Chapter 62-780 F.A.C. requires that for surface releases, soil samples be collected from a depth of 0-6". Only the samples from the 2005 soil-sampling event were collected from this depth. The site does not appear to be delineated at this depth.
4. It is not clear from the data if all of the greens and tees were sampled, or if a representative number of greens were sampled. Typically we see the highest

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concentration of contaminants on the tees and greens with lower concentrations found in the fairways. It is not clear on the maps because the sample locations do not appear to correspond to locations of tees and greens that are seen in the aerial photographs.

5. It is not clear why the proposed interim source removal does not extend down to the area surrounding the CSS-8 soil sample location. Arsenic is present at 8.3 mg/kg at this location at the 0-2' interval. No soil samples were taken below 2' at this location and several other locations where the residential SCTL was exceeded. The area around the maintenance facility needs to be fully delineated to residential and/or leachability SCTLs as described below. The area to be excavated may need to be expanded.
6. It does not appear that soil samples have been taken down to the water table. This information will be important to know, once a leachability SCTL is established (See below).

Leachability SCTL for arsenic

1. SPLP testing must be conducted to establish a leachability SCTL for arsenic at the site. This will ensure that all soils with the potential to affect the groundwater at the site are removed or appropriately managed through an engineering control. A representative number of soil samples at various total arsenic concentrations need to be collected and analyzed for both SPLP and total arsenic. Using these data, a correlation curve can be constructed so that the concentration of total arsenic that is acceptable to leave in place without engineering controls is known (leachability SCTL). This should be done before any excavation is done so that the leachability SCTL is known and remedial actions can be planned accordingly.

Delineation to property boundaries.

1. Many locations adjacent to off-site properties do not show delineation to the residential SCTL for arsenic. For example, CSS-22, CSS-20, SS-8, CSS-25, and CSS- 31, as well as others, exceed the residential SCTL for arsenic at the 0 – 2 feet depth interval.
2. As noted above, samples collected at the 0 – 2-foot interval that were below the SCTL may be above the SCTL at the 0 – 6-inch interval. Delineation should be done to the property boundaries.

Pesticides in soils

1. The Report states, "because surrounding soils are impacted with arsenic as a result of routine legal herbicide/pesticide application, confirmation sampling is not recommended". The Department does not concur with this conclusion. The Department has not adopted the EPA ruling regarding legally applied pesticides at this time. In addition, HSA has indicated that closure under Chapter 62-780 is being pursued.

2. Locations where high arsenic impacts were found were not tested for pesticides, a likely co-located contaminant.
3. The sampling plan for pesticides has not been justified to the Department's satisfaction. Pesticides were not tested for at any depths other than 0 – 6 inches. The reasoning behind the sampling locations is not clear, as they do not appear to correspond to potential mixing areas.
4. Chapter 62-780 requires sampling down to the water table.
5. An appropriate number of samples should be collected in the area surrounding MW-2 and analyzed for pesticides.
6. Units for the SCTLs for pesticides and herbicides in Table 3 are incorrect. They should be in mg/kg, not ug/kg.

Surface Water

1. The Freshwater Surface Water Criteria of 50 ug/L for arsenic was exceeded at the pond located south of the maintenance area. Although a second sample (49 ug/L) from the pond indicated arsenic below the Surface Water Criteria, surface water at the pond should be resampled after excavation activities are completed.

Other concerns

1. Arsenic concentrations above the Department's Groundwater Cleanup Target Levels were found in public supply wells 56, 58 and 63. The Report suggests that the arsenic found in these public supply wells may be widespread and indicative of the local background groundwater quality. At this time, there is not enough data to support this conclusion.
2. Groundwater sampling data sheets are not all completely filled out. Among the missing information is – purge rate, purge volume, site name, decon information, filtered or not filtered, preservatives not indicated, calibration of instruments not indicated, sampler's signature, etc. FDEP SOPs should be followed.
3. According to the data sheet MW-002 was purged for approximately 1.5 hours and TW012 was purged for half an hour, but no volumes were recorded.
4. Monitoring well completion reports are incomplete. Among information that is missing – well development data, type of well completion, top of casing, soil profile, etc.
5. Figure 4 in the SARA differs from Figure 3 of the SAR in regard to the locations of the irrigation wells and the City of Clearwater water supply wells. The descriptions are switched in the map legends. Please indicate the correct locations of these wells.
6. No isoconcentration contour maps of groundwater are included. These should be included in the next SARA submittal.
7. No groundwater flow map for the entire site is presented. This should be included in the next SARA submittal.