



# MARYLAND DEPARTMENT OF THE ENVIRONMENT

Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719

410-537-3442

410-537-3092 (fax)

1-800-633-6101, ext. 3442

Martin O'Malley  
Governor

Robert M. Summers, Ph.D.  
Secretary

Anthony G. Brown  
Lieutenant Governor

August 1, 2012

Mr. Herbert M. Meade  
Environmental, Health and Safety Director  
Carroll Independent Fuel Company  
2700 Loch Raven Boulevard  
Baltimore MD 21208

**RE: MODIFICATION to the CORRECTIVE ACTION PLAN**  
**Case No. 2005-0834-FR**  
**Green Valley Citgo**  
**11791 Fingerboard Road, Monrovia**  
**Frederick County, Maryland**  
**Facility I.D. No. 11836**

Dear Mr. Meade:

The Oil Control Program has completed a review of the case file for the above-referenced facility, including the *In-Situ Chemical Oxidation (ISCO) System Operation Report - July 25, 2012*, and the data regarding the analysis of total chromium and hexavalent chromium received July 30, 2012. The *ISCO Report* documents that 450 pounds of ozone and approximately 107 pounds of hydrogen peroxide have been injected into the subsurface formation since September 2011 as part of the approved Corrective Action Plan (CAP) activities. During this remediation effort, the Oil Control Program required continued groundwater monitoring to include the additional sampling of select on-site monitoring wells, two on-site drinking water supply wells, and six off-site private drinking water supply wells. At this stage of the CAP activities, the analytical data indicates an overall decrease in the concentration of methyl tertiary-butyl ether (MTBE) in the on-site monitoring well network and the off-site private drinking water supply wells.

On July 31, 2012, the Department required Carroll Independent Fuel Company to shut down the remediation system at the site pending further groundwater sampling. Based on the limited hexavalent chromium data received July 30, 2012, the Oil Control Program has determined the need to further evaluate the oxidation/reduction of naturally occurring chromium.

The Department hereby requires the following:

- 1) **Prior to initiation of the sampling events**, provide the Oil Control Program with the name of the laboratory to which the samples will be submitted and include a list of the corresponding test reporting limits for the individual parameters. All samples collected for hexavalent chromium must be analyzed in accordance with **EPA Method 218.7**.

- 2) **No later than August 8, 2012**, complete a round of sampling from the following off-site private drinking water supply wells: 3923 Rosewood Road and 3990, 3992, 3994, 3996, and 3997 Farm Lane; and supply wells FR941233 and FR941281. The samples must be collected prior to any filtration system (e.g., granular activated carbon [GAC] filtration system) and post-filtration at a point of use (e.g., water faucet).

All samples collected must be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates, total organic carbon, chemical oxygen demand, total dissolved solids, total suspended solids, dissolved iron, total iron, total chromium (un-filtered), dissolved chromium (field filtered), and hexavalent chromium. Dissolved chromium samples must be field filtered using 0.45 µm filter.

The Oil Control Program requires expedited analytical turn around time (i.e., no later than 48 hours) on the private drinking water and the supply well samples.

- 3) **No later than August 17, 2012**, complete a round of groundwater sampling to include all site monitoring wells. Sampling order for the monitoring wells must be biased towards those wells immediately down-gradient of the treatment system.

All samples collected as part of this sampling event must be analyzed for full-suite VOCs, including fuel oxygenates, total organic carbon, chemical oxygen demand, total dissolved solids, total suspended solids, dissolved iron, total iron, total chromium (un-filtered), dissolved chromium (field filtered), and hexavalent chromium. Dissolved chromium samples must be field filtered using 0.45 µm filter.

This sampling event must be completed using the USEPA Region III Low-Flow Sampling Standard Operating Procedure. Additionally, collect the following water quality parameters during purging activities: groundwater elevation, temperature, turbidity, dissolved oxygen, oxidation reduction potential, conductivity, and pH.

- 4) **No later than August 24, 2012**, complete a round of sampling from the following off-site private drinking water wells:
- 3979, 3981, 3983, 3984 (both wells), 3985, 3987, 3989, 3991, 3993, 3995, and 3998 Farm Lane;
  - 3829, 3833, 3835, and 3837 Green Ridge Drive;
  - 3737, 3739, and 3740 Blueberry Court; and
  - 3992, 3994, 3996, and 3998 Rye Lane.

Also sample all remaining supply wells serving the Green Valley Plaza and Green Valley Shopping Center not sampled per the above requirement.

The samples must be collected prior to any filtration system (e.g. granular activated carbon (GAC) treatment system) and post-filtration at a point of use (e.g., water faucet).

All samples collected must be analyzed for full-suite VOCs, including fuel oxygenates, total chromium (un-filtered), dissolved chromium (field filtered), and hexavalent chromium. Dissolved chromium samples must be field filtered using 0.45 µm filter.

- 5) **Upon receipt** of the electronic analytical reports from the laboratory, submit the data reports to the Oil Control Program for evaluation.
- 6) **No later than September 28, 2012**, submit a comprehensive report of results to include the above supplemental groundwater monitoring data and a comprehensive ISCO report.
- 7) Continue quarterly (**every three months**) sampling of the entire monitoring well network. All groundwater samples collected during quarterly events must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 8260 and for total petroleum hydrocarbons-diesel range and gasoline range organics (TPH-DRO and TPH-GRO) using EPA Method 8015.

If you have any questions, please contact me at 410-537-3443 (email: [cralston@mde.state.md.us](mailto:cralston@mde.state.md.us)).

Sincerely,



Christopher H. Ralston, Administrator  
Oil Control Program

CHR/jwr

cc: Mr. Steven M. Slatnick (Groundwater and Environmental Services, Inc.)  
M. Albert Figinski, Esq. (Law Offices of Peter G. Angelos)  
Dwight W. Stone II, Esq. (Whiteford, Taylor, Preston)  
Eric Klein, Esq. (Beveridge & Diamond)  
Mr. George Keller (Frederick County Health Dept.)  
Mr. John Grace (MDE-Water Supply Program)  
Priscilla N. Carroll, Esq.  
Ms. Susan Bull  
Mr. Andrew B. Miller  
Mr. Horacio Tablada