URS

June 28, 2005

Mr. Girish Desai
New York State Department of Environmental Conservation
Division of Environmental Remediation
Building 40 – SUNY, Stony Brook
Stony Brook, New York 11790-2356

Re: Revised Soil-Gas Survey Workplan
Former Columbia Cement Company Facility
Freeport, New York
Site ID No. 130052

Dear Mr. Desai:

INTRODUCTION

On behalf of the Atlantic Richfield Company, a BP Affiliated company (BP), URS Corporation (URS) is pleased to present this Revised Workplan to conduct a soil-gas survey at the former Columbia Cement Company, Inc., (CCC) site in Freeport, New York ("Site"). The New York State Department of Environmental Conservation (NYSDEC) requested soil vapor sampling at the site in its March 22, 2005, letter. URS submitted a Soil-Gas Survey Work Plan on May 13, 2005, and NYSDEC provided comments to the Work Plan on June 17, 2005. This Revised Work Plan addresses those comments. The former CCC facility is undergoing environmental investigation and response measures under NYSDEC supervision and BP is in the process of conducting supplemental activities in coordination with NYSDEC in order to prepare a Feasibility Study (FS) for the Site. The purpose of the soil-gas survey is to characterize the nature and extent of subsurface vapor contamination for consideration during preparation of the FS.

SOIL-GAS SURVEY

A soil-gas survey will be conducted to evaluate the presence of organic vapors in the subsurface at the Site. The samples will be collected in general accordance with the protocols described in the NYSDOH document "Guidance for Evaluating Soil Vapor Intrusion in the State of New York, PUBLIC COMMENT DRAFT," dated February 2005, as specifically described herein. The proposed sample locations, depicted on Figure 1, are as follows:

- Four sample locations, SG-05-01 and SG-05-04, located north, east, south and west, respectively, of the former UST area. As requested by NYSDEC in its June 19, 2005, comments, sample location SG-05-02 has been relocated adjacent to former soil-gas sampling location SG-16.

- Three sample locations, SG-05-05, SG-05-06, and SG-05-07 along the southern side of the Site building.

- Three sample locations, SG-05-08, SG-05-09, and SG-05-10 along the northern side of the Site building.

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- Two ambient air/background air samples will be obtained on the east and west sides of the site.

- As requested by NYSDEC in its June 17, 2005, comments, an additional sample location, SG-05-11, has been added adjacent to the 1,1,1-TCA spill area.

At each sampling location (other than the background sample locations), a permanent soil vapor sampling point will be installed. Permanent sampling points will be installed so that if soil vapor contamination is detected, the concentrations can be monitored to evaluate the progress of future remedial measures at abating soil vapor contamination. Aquifer Drilling and Testing, of New Hyde Park, New York (ADT) will advance a 2-inch diameter hole through the concrete or asphalt surface to approximately 5 feet below grade, or approximately 1 foot above typical groundwater levels. A ¼-inch diameter polyethylene air sampling tube tipped with a 6-inch long stainless steel screen will be advanced to the bottom of the borehole and the bottom 12 inches of the boring will be filled with coarse sand to form the sampling zone. A bentonite seal will be placed above the sand and the remainder of the borehole will be backfilled with a bentonite grout to ground surface. Each vapor sampling point will be finished at grade with a flush-mount steel manhole and cover so that the points can be sampled on multiple occasions.

Samples will be obtained using laboratory supplied pre-cleaned 6-liter SUMMA ® canisters. To evaluate the potential for "short circuit" of ambient air into soil vapor samples, a small polyethylene bucket, equipped with purge and vent ports as well as a grommet equipped with a ¼-inch diameter hole for the sampling tube will be placed upside down over the hole, with the sampling tube passing through the bottom of the bucket. A gasket will be formed with bentonite or modeling clay, which will act as a gas tight seal between the edge of the bucket and the slab surface around the sampling point. The purge and vent ports on the bucket will be opened and helium will be introduced into the bucket space until an 80 to 100 percent concentration is measured at the vent port. Both ports will then be closed.

The sampling line will be purged at 200 cc/min and checked for helium intrusion and, if, 10 percent helium or less is measured, sampling for sub-slab vapors will be initiated. The soil vapor sampling line will be attached to the SUMMA Canister after the pre-sampling vacuum has been recorded and an air sample will be collected at a maximum of 200 cc/min. for 1 hour (6 liters in total). During the sampling period, the sampling line will be monitored periodically for the presence of helium by means of a tee port on the sampling line. Sampling will be interrupted and corrective action will be taken should helium be present at a concentration of greater than 10 percent. During the sampling period, the vacuum reading will be monitored.

After the sampling has been completed, the SUMMA canister vacuum readings will be recorded, chain-of-custody documentation will be completed, and the samples will be forwarded to the Accutest Laboratories, an ELAP certified laboratory for analysis. Sample analysis will be performed following the U.S. EPA Compendium Method TO-15:

Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS) (1999). The following protocols will be adhered to:

- All TO-15 methodology will be followed. No variations are allowed unless pre-approved by NYSDEC.
- Gaseous standards must be used in the preparation of all method standards.
- Control samples and control sample duplicates must be analyzed at the same frequency as required method blanks.
- The maximum reporting limit (RL) for each compound in the method is <0.5ppbv. Therefore, the reporting limit used by the laboratory must be greater than the clean canister certification level of 0.2 ppbv and <0.5 ppbv. The analytical laboratory has stated that their method detection limit is 0.05 ppbv to 0.5 ppbv.
- The laboratory must provide a complete listing of the Method Detection Limit (MDL) Study for each compound reported as part of the analytical data deliverable package. The MDL study must also comply with the requirements of 40 CFR Part 136 Appendix B as required by Section 11.2 of the method. The MDL (statistical determination) must be less than or equal to the Clean Canister Certification Level for all compounds.
- All results are to be reported in ppbv. The laboratory must also report the data in $\mu g/m^3$ in a column separate from the ppbv results.
- The laboratory must report in the analytical data deliverable package both the initial and final pressure gauge readings of the canisters. The initial reading is measured when the laboratory pressurizes the canister and the final reading is taken when the canisters are received at the laboratory. The laboratory must include in the data report a copy of the laboratory notebook page on which the information is recorded.

The final analytical data package must be in Full Regulatory Deliverable Package Format.

REPORTING

Upon receipt of laboratory data, URS will prepare a summary letter report for submittal to NYSDEC and NYDOH. The report will present sampling results in tabular format and a map showing sampling locations, along with previous soil-gas sampling locations. The primary guide for interpreting these findings is the NYSDOH "Guidance of Evaluating Vapor Intrusion". NYSDOH has not proposed standards, criteria or guidance values for compounds in soil vapor (Section 3.2.5 of Guidance). Additionally, there are no generally recognized federal numerical criteria or guidelines for soil vapor.

URS

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URS is prepared to implement the scope of work outlined herein upon your approval. Should you have any questions or comments, please feel free to contact us.

Very truly yours,

URS CORPORATION

Anthony O. Kaufman
Associate

Mark T. Becker, P.G.
Senior Geologist

AOK/MTB/jhm

cc: D. Ripstein - NYDOH
C. Wein - BP