October 8, 2012

Electronic Mail

Mr. Javier Perez-Maldonado
Division of Environmental Remediation
Remedial Bureau B, Section B
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12233-7020

Re: Revised Remedial Investigation Work Plan Addendum
SUN/DIC Acquisition Corp.
441-443 Tompkins Avenue
Staten Island, New York
Site #C243024

Dear Mr. Perez:

On behalf of Sun Chemical Corporation (Sun Chemical), ENVIRON International Corporation (ENVIRON) prepared this Revised Remedial Investigation Work Plan Addendum (RIWPA) to propose certain sampling activities at 109 St. Mary's Avenue, a property bordering the above-captioned property to the south, to address NYSDEC and NYSDOH guidance regarding vapor intrusion evaluations. This revised RIWPA also addresses comments provided in the NYSDEC letter dated August 29, 2012.

Background

Soil vapor sampling was conducted on-site in 2012 at eight locations. Analytical results of that sampling were provided to NYSDEC and NYSDOH in the March 12, 2012 monthly progress report. As indicated therein, the chlorinated VOCs present in groundwater above Part 703.5 standards were not detected in soil vapor samples. The only chlorinated VOC present in groundwater that was also detected in soil vapor was PCE at SV01 at 61 µg/m3. In particular, PCE was detected below the Part 703.5 standard at MW-10 located approximately 10 feet north of SV01. Soil vapor data from the southern portion of the site are provided on Figure 1. Methylene chloride, reported at SV01 at 94 $\mu g/m^3$, was detected in groundwater but at negligible concentrations below the method detection limit (and likely attributable to laboratory contamination). Other detected constituents in soil vapor, including ethanol, are commonly present in soil vapor from typical urban activities, such as off-gassing from sanitary sewer lines and, thus, are not considered to warrant further consideration.

ENVIRON discussed these results with NYSDEC on May 1, 2012 during a teleconference with NYSDEC and NYSDOH on May 17. During the latter discussion, NYSDEC and NYSDOH advised ENVIRON that the PCE detection required further investigation including sampling at the residential property immediately south of SV01 (i.e., 109 St. Mary's Avenue). Accordingly, ENVIRON and Sun Chemical developed the proposed staged vapor intrusion evaluation outlined below.

Proposed Off-Site Vapor Intrusion Evaluation

In accordance with NYSDOH recommendations and guidance, a staged sampling program is proposed for the off-site vapor intrusion evaluation at 109 St. Mary's Avenue. During the May 17 teleconference, NYSDOH noted that near-slab soil vapor testing at 109 St. Mary's Avenue would be an acceptable alternative to indoor air sampling. Any required additional sampling will be determined based on the near-slab sampling results, as discussed below.

Sun Chemical proposes to evaluate the vapor intrusion pathway at 109 St. Mary's Avenue through completion of near-slab soil vapor sampling point NS01, as shown on Figure 1. This sampling location was selected and will be sampled in accordance with NYSDOH guidance provided in its October 2006 FINAL Guidance for Evaluating Soil Vapor Intrusion in the State of New York (the "NYSDOH Guidance"). Section 2.5 of the NYSDOH Guidance indicates that soil vapor sampling should be conducted to delineate the extent of elevated soil vapor concentrations and to evaluate potential exposure concerns. Further, per Section 2.4.1 of the NYSDOH Guidance, soil vapor sampling is often conducted during the summer to determine whether interior sampling is appropriate during the heating season (nominally November 15 to March 31).

Sun Chemical and ENVIRON selected the off-site sampling point and depth in accordance with Section 2.6.1 of the NYSDOH Guidance. NYSDOH recommends a soil vapor sample should be collected in the vicinity of a building's foundation at a location between the foundation and the source area in order to evaluate the potential for off-site impacts. The NYSDOH Guidance further suggests that when collecting soil vapor samples around a building with no surrounding pavement, samples should be located approximately 10 feet from the building to ensure sampling in native or undisturbed soils, as well as to be outside of any influences from the building, including operation of HVAC systems, fireplaces, or mechanical equipment (e.g., clothes dryers or exhaust fans/vents), all of which may exacerbate the infiltration of outdoor air into the vadose zone adjacent to the building.

The proposed soil vapor sample will be collected consistent with the sampling procedures outlined in Section 2.7.1 of the NYSDOH Guidance. Specifically, the soil vapor sample will be collected form a temporary soil vapor probe with appropriate measures taken to eliminate infiltration of ambient air. For example, after the probe is installed to the proposed sampling depth of 8 feet (the same interval from which the soil vapor sample was collected from on-site location SV01), the borehole will be backfilled with clean material (e.g., well sand) to a depth of 3 feet, and the upper portion of the annular space will be sealed with a bentonite slurry to prevent outdoor air infiltration. The soil vapor sample will be collected shortly after the temporary probe is installed, with approximately three sample probe/tubing volumes purged prior to sample collection.

The integrity of the probe, connections and surface seal will be verified using a helium tracer, per Section 2.7.5. The helium tracer test will consist of sealing the probe within a small chamber into which helium will be introduced and then purging at least three pore volumes from the probe and associated tubing into a Tedlar bag using a syringe or low flow pump at a rate of 100 mL/min. The purged air will then be introduced into a helium meter to determine whether helium entered the sampling train. If helium is detected at a concentration greater than 10% of the concentration in the chamber, the sample location will be abandoned, sealed and relocated.

The soil vapor sample will be collected at a maximum flow rate of 0.1 liter/minute in a 6-liter SUMMA canister to enable the one-hour sampling duration required by NYSDEC. The sample will be analyzed for TCL VOCs by USEPA Method TO-15 by Integrated Analytical Laboratories of Randolph, New Jersey, certified by NYSDEC to perform that analysis. As NYSDEC

requested, IAL will conduct these analyses to achieve a maximum detection limit of 1 µg/m^3 for each constituent.

Weather conditions and other observations, purge rate and volume, sampling duration, and starting and ending sample canister pressures will be recorded in field notes.

Recommended Contingency Off-Site Vapor Intrusion Evaluation

If PCE is not detected, or is present at only a de minimis concentration, NYSDOH indicated to ENVIRON during a May 14, 2012 teleconference that no additional off-site vapor intrusion evaluation will be necessary. However, based on its September 4, 2012 discussion with NYSDEC regarding the August 29 comment letter, ENVIRON understands that NYSDEC and NYSDOH will evaluate all of the VOC data to determine whether additional actions are potentially necessary. Sun Chemical and ENVIRON therefore propose to compare such data to the findings of prior groundwater and soil vapor sampling at the Sun Chemical site at 441-443 Tompkins Avenue to confirm to what extent detected VOCs are potentially related to conditions at that site. Should that review of any detected PCE and other VOC concentrations suggest that off-site soil vapor may have been impacted by the site such that additional actions are needed at 109 St. Mary's Avenue, Sun Chemical would propose that the additional actions encompass sub-slab and indoor air sampling in accordance with Sections 2.7.2 and 2.7.3 of the NYSDOH Guidance. As previously discussed with NYSDEC and NYSDOH, should this sampling be required, it will be completed during the heating season which per NYSDOH Guidance is nominally November 15 through March 31. The guidance indicates that season-specific weather conditions must be considered such that it is possible that the start of the heating season (and, thus, the sampling timeframe) may be earlier or later than November 15. Sun Chemical and ENVIRON will confer with NYSDEC and NYSDOH regarding the sampling schedule should the proposed contingency sampling be warranted.

Sun Chemical will collect the contingency sub-slab soil vapor sample from a temporary probe completed per the NYSDOH Guidance. As such, a ~1-inch-diameter hole will be drilled through the basement slab at a location where the potential for ambient air infiltration via floor penetrations or damage is minimal. The probe will be constructed with inert Teflon® tubing extending no further than 2 inches into the sub-slab material, and will be sealed to the surface with a non-VOC-containing and non-shrinking product (e.g., putty). The same purging protocols and helium tracer method to be used for the exterior sampling location will also be employed at the sub-slab point to confirm that the sample tubing is properly sealed and that ambient air is not being drawn into the sample. The sub-slab soil vapor sample will be collected and analyzed in the same manner as the exterior soil vapor sample proposed above.

If needed, Sun Chemical will also collect a contingency indoor air sample from 109 St. Mary's Avenue. This sample will be collected over a 24-hour period concurrent with the sub-slab sampling. The indoor air sample will be collected over a 24-hour period in a 6-liter SUMMA canister and will be obtained from breathing-zone height (between 3 and 5 feet above floor level) from the basement, or if there is no basement, from a first-floor living space. Prior to this sampling, ENVIRON will complete a pre-sampling survey to document building conditions, including but not limited to the use and storage of any volatile chemicals, an inventory of such chemicals, and use of HVAC systems. ENVIRON will also develop a site plan showing the floor layout, sampling locations, and all chemical storage areas, and any basement sumps or subsurface drains and utility perforations through building foundations. A 24-hour outdoor/ambient air sample will be collected concurrent with the indoor air sampling.

The samples will be analyzed concurrently (per NYSDEC request) by IAL for TCL VOCs by USEPA Method TO-15. Per NYSDEC request, IAL will conduct these analyses to achieve a

detection limit of 1 µg/m^3 for each constituent, with detection limits of 0.25 µg/m^3 achieved for trichloroethylene and carbon tetrachloride for the indoor and ambient air samples. The need for any additional actions will be evaluated based on all of the data obtained as part of the overall vapor intrusion evaluation.

Sun Chemical and ENVIRON are prepared to proceed with arrangements for the proposed exterior sampling, including requesting access to the property. If NYSDEC or NYSDOH has any questions regarding this RIWPA, please do not hesitate to contact me.

Sincerely,

William D. Kraft, III
Senior Manager

WDK:cas
21-16443A:PRIN_WP/34173/v1

Enclosures

cc: G. Andrzejewski, Sun Chemical Corporation
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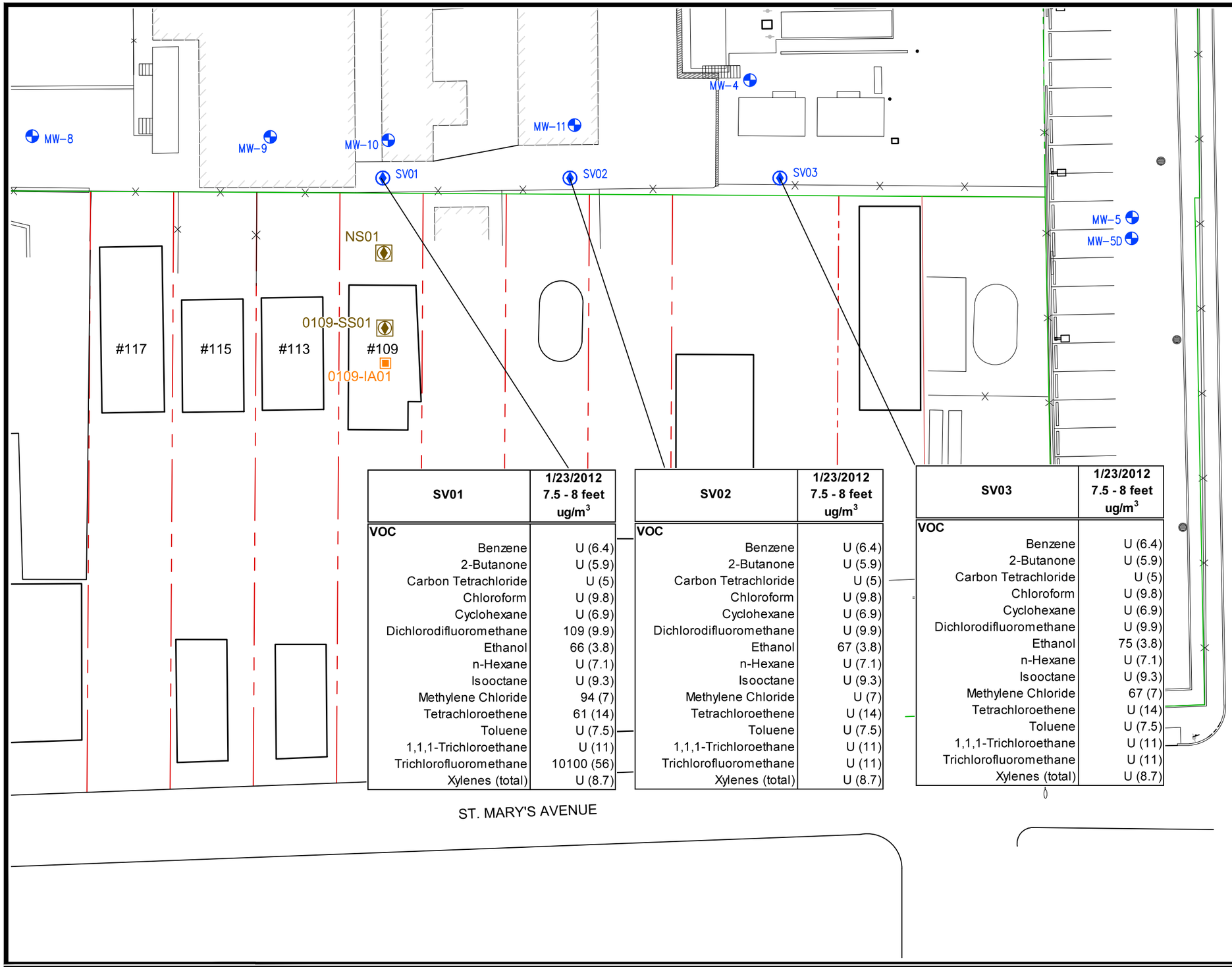

SV01	1/23/2012 7.5 - 8 feet ug/m^3
VOC	
Benzene	U (6.4)
2-Butanone	U (5.9)
Carbon Tetrachloride	U (5)
Chloroform	U (9.8)
Cyclohexane	U (6.9)
Dichlorodifluoromethane	109 (9.9)
Ethanol	66 (3.8)
n-Hexane	U (7.1)
Isooctane	U (9.3)
Methylene Chloride	94 (7)
Tetrachloroethene	61 (14)
Toluene	U (7.5)
1,1,1-Trichloroethane	U (11)
Trichlorofluoromethane	10100 (56)
Xylenes (total)	U (8.7)

SV02	1/23/2012 7.5 - 8 feet ug/m^3
VOC	
Benzene	U (6.4)
2-Butanone	U (5.9)
Carbon Tetrachloride	U (5)
Chloroform	U (9.8)
Cyclohexane	U (6.9)
Dichlorodifluoromethane	U (9.9)
Ethanol	67 (3.8)
n-Hexane	U (7.1)
Isooctane	U (9.3)
Methylene Chloride	U (7)
Tetrachloroethene	U (14)
Toluene	U (7.5)
1,1,1-Trichloroethane	U (11)
Trichlorofluoromethane	U (11)
Xylenes (total)	U (8.7)

SV03	1/23/2012 7.5 - 8 feet ug/m^3
VOC	
Benzene	U (6.4)
2-Butanone	U (5.9)
Carbon Tetrachloride	U (5)
Chloroform	U (9.8)
Cyclohexane	U (6.9)
Dichlorodifluoromethane	U (9.9)
Ethanol	75 (3.8)
n-Hexane	U (7.1)
Isooctane	U (9.3)
Methylene Chloride	67 (7)
Tetrachloroethene	U (14)
Toluene	U (7.5)
1,1,1-Trichloroethane	U (11)
Trichlorofluoromethane	U (11)
Xylenes (total)	U (8.7)

LEGEND

- APPROX. PROPERTY BOUNDARY
- FORMER BUILDING WALL/FOOTER
- FORMER LOCATION OF FOUNDATION RETAINING WALL
- FENCE
- MONITORING WELL
- PRIOR SOIL VAPOR INVESTIGATION SAMPLING POINTS
- PROPOSED INDOOR AIR SAMPLE
- PROPOSED SOIL VAPOR INVESTIGATION SAMPLING POINTS

All results provided in ug/m^3. Non-detected results shown as U (6.4), with detection limit shown parenthetically.

0 30
SCALE IN FEET

ENVIRON

DRAFTED BY: MSB | DATE: 07/03/2012

PROPOSED OFF-SITE VAPOR INTRUSION INVESTIGATION
109 ST. MARY'S AVENUE, STATEN ISLAND, NY
RELATED TO SUN CHEMICAL CORPORATION-ROSEBANK FACILITY
441 TOMPKINS AVE., STATEN ISLAND, NY

FIGURE
1
2116443A

KPM 10/8/12 [2116443_PROP_OFFSITE_VI]
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