NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

In the Matter of the
Development and Implementation
of a Remedial Program for an
Inactive Hazardous Waste Disposal
Site under Article 27, Title 13
of the Environmental Conservation Law
by

Occidental Chemical Corporation
and
Bayer MaterialScience, LLC,

Respondents.

ORDER ON CONSENT
and
ADMINISTRATIVE
SETTLEMENT

Index # A1-0799-12-10

Site # 130004

WHEREAS,

1. A. The New York State Department of Environmental Conservation ("Department") is responsible for inactive hazardous waste disposal site remedial programs pursuant to Article 27, Title 13 of the Environmental Conservation Law ("ECL") and Part 375 of Title 6 of the Official Compilation of Codes, Rules and Regulations ("6 NYCRR") and may issue orders consistent with the authority granted to the Commissioner by such statute.

B. The Department is responsible for carrying out the policy of the State of New York to conserve, improve and protect its natural resources and environment and control water, land, and air pollution consistent with the authority granted to the Department and the Commissioner by Article 1, Title 3 of the ECL.

C. This Order on Consent and Administrative Settlement ("Order") is issued pursuant to the Department's authority under, inter alia, ECL Article 27, Title 13 and ECL 3-0301, and resolves Respondents' liability to the State as provided at 6 NYCRR 375-1.5(b)(5) and the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. Section 9601 et seq.

2. A. Respondent Bayer MaterialScience LLC ("BMS") is a foreign limited liability company authorized to do business in the State of New York.

B. Respondent Occidental Chemical Corporation is an active domestic business corporation authorized to do business in the State of New York.

C. From 1966 to 1982, Hooker Chemical and Plastic Corporation owned and operated a chemical manufacturing facility (the "Facility") located on 14 acres southeast of the intersection of

New South Road and Commerce Place in Nassau County, Town of Oyster Bay, City of Hicksville, New York (the "Site"). A map depicting the general boundaries of the Site and the tax parcels is attached hereto as Exhibit A.

D. Occidental Chemical Corporation implemented a series of CERCLA remedial actions at the Site pursuant to Administrative Orders with the United States Environmental Protection Agency, including the removal of contaminated soils and implementation of an ongoing groundwater remediation system.

E. Ruco Polymer Corporation purchased the Site in 1982 and owned and operated the Facility until 1988, when it was acquired by Sybron Chemical Corporation, which in turn owned and operated the Facility until 2000.

F. Sybron Chemical was acquired in 2000 by Bayer Corporation, which owned and operated the Facility until 2002 when the Facility was closed. BMS is the current owner of the Site.

G. It is alleged that as a result of Facility operations the Site was contaminated with chemical substances, including without limitation, polyvinyl chloride, latex and ester, resin solids, vinyl chloride, trichloroethylene and PCBs.

H. BMS or Bayer Corporation have conducted a series of RCRA corrective actions on the Site pursuant to Order on Consent #A1-0781-11-11 ("Prior Order") and under the oversight of the Department (the "RCRA Corrective Action"). BMS also conducted closure activities at the Site as described under the Prior Order including implementation and completion of remedial measures for the inactive Waste Site Number 130004.

I. The Site is listed as a class 2 site with a site number of 130004 in the *Registry of Inactive Hazardous Waste Disposal Sites in New York State.* The Site was first listed as a Class 2 Site in 1983.

J. This Order is for the investigation and remediation, if necessary, of off-Site soil vapor impacts resulting from activities on the Site pursuant to the Soil Vapor Investigation Work Plan approved by the Department on August 7, 2013 and attached hereto as Exhibit B.

K. Respondents consent to the issuance of this Order without (i) an admission or finding of responsibility, liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever; (ii) an acknowledgment that there has been a release or threatened release of hazardous waste at or from the Site; (iii) an acknowledgement that there has been a vapor impact resulting from activities on the Site; and/or (iv) an acknowledgment that a release or threatened release of hazardous waste at or from the Site constitutes a significant threat to the public health or environment.

L. Solely with regard to the matters set forth below, Respondents hereby waive any right to a hearing as may be provided by law, consent to the issuance and entry of this Order, and agree to

be bound by its terms. Respondents consent to and agree not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agree not to contest the validity of this Order or its terms or the validity of data submitted to the Department by Respondents pursuant to this Order.

NOW, having considered this matter and being duly advised, **IT IS ORDERED AND AGREED THAT:**

I. Initial Submittal

Not applicable for this Order

II. Development, Performance, and Reporting of Work Plans

A. Work Plans

All activities at the Site that comprise any element of an Inactive Hazardous Waste Disposal Site Remedial Program shall be conducted pursuant to one or more Department-approved work plans ("Work Plan" or "Work Plans") and this Order and all activities approved by the Department shall be deemed consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, as required under CERCLA, 42 U.S.C. § 9600 et seq. The Work Plan(s) under this Order shall address the investigation and possible remediation, if necessary, of off-Site soil vapor resulting from activities on the Site and shall be developed and implemented in accordance with 6 NYCRR § 375-1.6(a). All Department-approved Work Plans shall be incorporated into and become enforceable parts of this Order. Upon approval of a Work Plan by the Department, Respondents shall implement such Work Plan in accordance with the schedule contained therein. Nothing in this Subparagraph shall mandate that any particular Work Plan be submitted.

B. Submission/Implementation of Work Plans

1. (a) Within sixty (60) Days after the effective date of this Order, Respondents shall implement the Department approved Soil Vapor Investigation Work Plan ("SVI Work Plan"), attached as Exhibit B hereto and incorporated by reference herein, to determine off-Site soil vapor impacts, if any, resulting from activities on the Site.

(b) The Department may request that Respondents submit additional or supplemental Work Plans for investigation of off-Site soil vapor impacts resulting from activities on the Site. Within thirty (30) Days after the Department's written request, Respondents shall advise the Department in writing whether they will submit and implement the requested additional or supplemental Work Plan or whether they will seek Dispute Resolution pursuant to Paragraph XIIB or elect to terminate this Order pursuant to Paragraph XIII. If Respondents elect to submit and implement such Work Plan, Respondents shall submit the requested Work Plan within sixty (60) Days after such election. If Respondents elect to terminate this Order or fail to make a timely

election, this Order shall terminate pursuant to Paragraph XIII. If Respondents elect to initiate Dispute Resolution, Respondents shall thereafter identify their election to submit the Work Plan or terminate within thirty (30) days of receipt of a final agency determination and proceed under the provisions of this paragraph.

(c) Respondents may opt to propose one or more additional or supplemental Work Plans (including one or more IRM Work Plans) at any time, which the Department shall review for appropriateness and technical sufficiency.

(d) Any request made by the Department under Subparagraph II.B.1.(b) shall be subject to dispute resolution pursuant to Paragraph XII.

2. A Professional Engineer must stamp and sign all Work Plans other than Site Characterization or RI/FS Work Plans.

3. During all field activities conducted under this Order, Respondents shall have on-Site a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained by Respondents to perform such supervision as set forth in 6 NYCRR Part 375-1.6(a)(3).

C. Modifications to Work Plans

The Department shall notify Respondents in writing if the Department determines that any element of a Department-approved Work Plan needs to be modified in order to achieve the objectives of the Work Plan as set forth in Subparagraph II.A or to ensure that the Remedial Program otherwise protects human health and the environment from off-Site soil vapor impacts resulting from activities on the Site. Upon receipt of such notification, Respondents shall, subject to Respondents' right to terminate pursuant to Paragraph XIII, provide written notification as provided at 6 NYCRR 375-1.6(d)(3) as to whether it will modify the Work Plan, or invoke dispute resolution.

D. Submission of Final Reports and Annual Reports

1. In accordance with the schedule contained in a Work Plan, Respondents shall submit a final report as provided at 6 NYCRR 375-1.6(b) and a final engineering report as provided at 6 NYCRR 375-1.6(c), as necessary.

2. Any final report or final engineering report that includes construction activities shall include "as built" drawings showing any changes made to the remedial design or the IRM.

3. In the event that the final engineering report for the Site requires site management, Respondents shall submit an annual report by the 1st Day of the month following the anniversary of the start of the Site management. Such annual report shall be signed by a Professional Engineer or by such other qualified environmental professional as the Department may find

acceptable and shall contain a certification as provided at 6 NYCRR 375-1.8(h)(3). Respondents may petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a statement by a Professional Engineer that such controls are no longer necessary for the protection of public health and the environment. The Department shall not unreasonably withhold its approval of such petition.

E. Review of Submittals other than Progress Reports and Health and Safety Plans

1. The Department shall make a good faith effort to review and respond in writing to each submittal Respondents make pursuant to this Order within sixty (60) Days. The Department's response shall include an approval or disapproval of the submittal, in whole or in part. Respondents shall be entitled to an extension necessitated by receipt of the Department's response in excess of sixty (60) days.

2. If the Department disapproves a submittal, it shall specify the reasons for its disapproval. Within thirty (30) Days after the date of the Department's written notice that Respondents' submittal has been disapproved, Respondents shall, subject to Respondents' right to terminate pursuant to Paragraph XIII in the event the rejected submittal is a Work Plan submitted prior to the Department's approval of the RD/RA Work Plan, elect as provided at 6 NYCRR 375-1.6(d)(4). If Respondents elect to modify and accept the Department's modifications to the submittal, Respondents shall, within sixty (60) Days after such election, make a revised submittal that addresses all of the Department's stated reasons for disapproving the first submittal. In the event that Respondents' revised submittal is disapproved, the Department shall set forth its reasons for such disapproval in writing and Respondents shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XII and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

3. Within thirty (30) Days after the Department's approval of a final report, Respondents shall submit such final report, as well as all data gathered and drawings and submittals made pursuant to such Work Plan, in an electronic format acceptable to the Department. If any document cannot be converted into electronic format, Respondents shall submit such document in an alternative format acceptable to the Department.

F. Department's Issuance of a ROD

Respondents shall cooperate with the Department and provide reasonable assistance, consistent with the Citizen Participation Plan, in soliciting public comment on the proposed remedial action plan ("PRAP"), if any. After the close of the public comment period, the Department shall select a final remedial alternative for the Site in a ROD. Nothing in this Order shall be construed to abridge any rights of Respondents, as provided by law, to judicially challenge the Department's ROD.

G. Release and Covenant Not to Sue

Upon the Department's issuance of a Certificate of Completion which it shall issue with respect to any final report completed as a result of this Order, including approval of a final SVI report requiring no further mitigation or remedial action, as provided at 6 NYCRR 375-1.9 and 375-2.9, Respondents, and their parents, subsidiaries, shareholders, successors and assigns, shall obtain the benefits conferred by such provisions, subject to the terms and conditions described therein. This Order qualifies as an administrative settlement of liability for purposes of CERCLA pursuant to 42 U.S.C. 9613(f)(3)(B).

III. Progress Reports

Respondents shall submit written progress reports to the parties identified in Subparagraph XI.A.1 by the 10th Day of each month commencing with the month subsequent to the approval of the first Work Plan and ending with the Termination Date, unless a different frequency is set forth in an approved Work Plan. Such reports shall, at a minimum, include: all actions taken pursuant to this Order during the reporting period and those anticipated for the upcoming reporting period; all approved modifications to work plans and/or schedules; all results of sampling and tests and all other data received or generated by or on behalf of Respondents in connection with the Site during the reporting period, including quality assurance/quality control information; information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays; and information regarding activities undertaken in support of the Citizen Participation Plan during the reporting period and those anticipated for the upcoming reporting period.

IV. Penalties

A. 1. Respondents' failure to comply with any term of this Order constitutes a violation of this Order, the ECL, and 6 NYCRR 375-2.11(a)(4). Nothing herein abridges Respondents' right to contest any allegation that it has failed to comply with this Order.

2. Payment of any penalties shall not in any way alter Respondents' obligations under this Order.

B. 1. Respondents shall not suffer any penalties or be subject to any proceeding or action in the event it cannot comply with any requirement of this Order as a result of any Force Majeure Event as provided at 6 NYCRR 375-1.5(b)(4). Respondents must use best efforts to anticipate the potential Force Majeure Event, best efforts to address any such event as it is occurring, and best efforts following the Force Majeure Event to minimize delay to the greatest extent possible. "Force Majeure" does not include Respondents' economic inability to comply with any obligation, the failure of Respondents to make complete and timely application for any required approval or permit, and non-attainment of the goals, standards, and requirements of this Order.

2. Respondents shall notify the Department in writing within fifteen (15) Days of the onset of any Force Majeure Event. Failure to give such notice within such fifteen (15) Day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondents shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

3. Respondents shall have the burden of proving by a preponderance of the evidence that (i) the delay or anticipated delay has been or will be caused by a Force Majeure Event; (ii) the duration of the delay or the extension sought is warranted under the circumstances; (iii) best efforts were exercised to avoid and mitigate the effects of the delay; and (iv) Respondents complied with the requirements of Subparagraph IV.B.2 regarding timely notification.

4. If the Department agrees that the delay or anticipated delay is attributable to a Force Majeure Event, the time for performance of the obligations that are affected by the Force Majeure Event shall be extended for a period of time equivalent to the time lost because of the Force Majeure event, in accordance with 375-1.5(4).

5. If the Department rejects Respondents' assertion that an event provides a defense to non-compliance with this Order pursuant to Subparagraph IV.B, Respondents shall be in violation of this Order unless they invoke dispute resolution pursuant to Paragraph XII and Respondents' position prevails.

V. Entry upon Site

A. Respondent BMS hereby consents, upon reasonable notice under the circumstances presented, to entry upon the Site (or areas in the vicinity of the Site which may be under the control of Respondent BMS) by any duly designated officer or employee of the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Order, and by any agent, consultant, contractor, or other person so authorized by the Commissioner, all of whom shall abide by the health and safety rules in effect for the Site, for inspecting, sampling, copying records related to the contamination at the Site, testing, and any other activities necessary to ensure Respondents' compliance with this Order. Upon request, Respondent BMS shall (i) provide the Department with suitable work space at the Site, including access to a telephone, to the extent available, and (ii) permit the Department full access to all non-privileged records relating to matters addressed by this Order. Raw data is not considered privileged and that portion of any privileged document containing raw data must be provided to the Department. In the event Respondents are unable to obtain any authorization from third-party property owners necessary to perform its obligations under this Order, the Department may, consistent with its legal authority, assist in obtaining such authorizations.

B. The Department shall have the right to take its own samples and scientific measurements and the Department and Respondents shall each have the right to obtain split samples,

duplicate samples, or both, of all substances and materials sampled. The Department shall make the results of any such sampling and scientific measurements available to Respondents.

VI. Payment of State Costs

A. Within sixty (60) Days after receipt of an itemized invoice from the Department, Respondents shall pay to the Department a sum of money which shall represent reimbursement for State Costs, which shall include costs associated with negotiating the Order and the Soil Vapor Investigation Work Plan, and for all work performed in connection with this Order through and including the Termination Date, as provided at 6 NYCRR 375-1.5(b)(3).

B. Costs shall be documented as provided by 6 NYCRR 375-1.5(b)(3)(ii). The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law.

C. Such invoice shall be sent to Respondents at the following address:

Bayer MaterialScience, LLC
100 Bayer Road
Pittsburgh, PA 15205-9741

D. Each such payment shall be made payable to the New York State Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7012
Attn: Bureau Director

E. Each party shall provide written notification to the other within ninety (90) Days of any change in the foregoing addresses.

F. Respondents may contest invoiced costs as provided at 6 NYCRR 375-1.5(b)(3)(v) and (vi).

VII. Reservation of Rights

A. Except as provided at 6 NYCRR 375-1.9 and 375-2.9, nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of

further investigations and/or response action(s), to recover natural resource damages, and/or to exercise any summary abatement powers with respect to any person, including Respondents.

B. Except as otherwise provided in this Order, Respondents specifically reserve all rights and defenses under applicable law respecting any Departmental assertion of remedial liability and/or natural resource damages against Respondents, and further reserves all rights respecting the enforcement of this Order, including the rights to notice, to be heard, to appeal, and to any other due process. The existence of this Order or Respondents' compliance with it shall not be construed as an admission of liability, fault, wrongdoing, or breach of standard of care by Respondents, and shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action, which shall inure to the benefit of any third party. Further, Respondents reserve such rights as they may have to seek and obtain contribution, indemnification, and/or any other form of recovery from its insurers and from other potentially responsible parties or their insurers for past or future response and/or cleanup costs or such other costs or damages arising from the contamination at the Site as may be provided by law, including but not limited to rights of contribution under section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

VIII. Indemnification

Respondents shall indemnify and hold the Department, the State of New York, the Trustee of the State's natural resources, and their representatives and employees harmless as provided by 6 NYCRR 375-2.5(a)(3)(i) for work under this Order.

IX. Public Notice

A. Within thirty (30) Days after the effective date of this Order, Respondents shall provide notice as required by 6 NYCRR 375-1.5(a). Within sixty (60) Days of such filing, Respondents shall provide the Department with a copy of such instrument certified by the recording officer to be a true and faithful copy.

B. If Respondent BMS proposes to transfer by sale or lease the whole or any part of Respondent BMS's interest in the Site, or becomes aware of such transfer, Respondent BMS shall, not fewer than forty-five (45) Days before the date of transfer, or within forty-five (45) Days after becoming aware of such conveyance, notify the Department and Respondent Occidental Chemical Corporation in writing of the identity of the transferee and of the nature and proposed or actual date of the conveyance, and shall notify the transferee in writing, with a copy to the Department and Respondent Occidental Chemical Corporation, of the applicability of this Order. However, such obligation shall not extend to a conveyance by means of a corporate reorganization or merger or the granting of any rights under any mortgage, deed, trust, assignment, judgment, lien, pledge, security agreement, lease, or any other right accruing to a person not affiliated with Respondent BMS to secure the repayment of money or the performance of a duty or obligation.

X. Environmental Easement

A. If a Department-approved final engineering report for the Site relies upon one or more institutional and/or engineering controls, Respondents (or the owner of the Site) shall submit to the Department for approval an Environmental Easement to run with the land in favor of the State which complies with the requirements of ECL Article 71, Title 36, and 6 NYCRR 375-1.8(h)(2). Upon acceptance of Environmental Easement by the State, Respondent BMS shall comply with the requirements of 6 NYCRR 375-1.8(h)(2).

B. If the ROD provides for no action other than implementation of one or more institutional controls, Respondents shall cause an Environmental Easement to be recorded under the provisions of Subparagraph X.A. If Respondents do not cause such Environmental Easement to be recorded in accordance with 6 NYCRR 375-1.8(h)(2), Respondents will not be entitled to the benefits conferred by 6 NYCRR 375-1.9 and 375-2.9.

XI. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

1. Communication from Respondents shall be sent to:

Steven Scharf, Project Manager
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233
sxscharf@gw.dec.state.ny.us

Note: three hard copies (one unbound) of work plans are required, as well as one electronic copy.

with copies to:

Krista Anders
Bureau of Environmental Exposure Investigation
New York State Department of Health
Bureau of Environmental Exposure Investigation
Empire State Plaza - Corning Tower, Room 1787
Albany, NY 12237
kma06@health.state.ny.us

Dena Putnick, Esq., Project Attorney
New York State Department of Environmental Conservation
Office of General Counsel

625 Broadway, 14th Floor
Albany, New York 12233-1500
dnputnic@gw.dec.state.ny.us
Correspondence only

2. Communication to be made from the Department shall be sent to:

Stephen E. Fitzgerald
Environmental Counsel
Glenn Springs Holdings, Inc.
Occidental Tower
5005 LBJ Freeway
Dallas, Texas 75244
Stephen_Fitzgerald@oxy.com

Bayer MaterialScience, LLC
c/o Chintan K. Amin
Sr. Counsel
Bayer Corporation
100 Bayer Road
Pittsburgh, PA 15205-9741
Chintan.amin@bayer.com

B. The Department and Respondents reserve the right to designate additional or different addressees for communication upon written notice to the other.

C. Each party shall notify the other within ninety (90) Days after any change in the addresses in this Paragraph XI or in Paragraph VI.

XII. Dispute Resolution

A. In the event disputes arise under this Order, Respondents may, within thirty (30) Days after Respondents knew or should have known of the facts which are the basis of the dispute, initiate dispute resolution in accordance with the provisions of 6 NYCRR 375-1.5(b)(2). Nothing contained in this Order shall be construed to authorize Respondents to invoke dispute resolution with respect to the remedy selected by the Department in the ROD or any element of such remedy, nor to impair any right of Respondents to seek judicial review of the Department's selection of any remedy.

B. Notwithstanding the above, upon completion of the Soil Vapor Investigation Work Plan approved by the Department on or about August 7, 2013, attached as Appendix A hereto and incorporated by reference herein, by submission of the Soil Vapor Investigation Report and review and comment by the Department and the New York State Department of Health ("NYSDOH"), if additional investigation, mitigation, or remediation is directed by the

Department or NYSDOH, Respondents shall have the right to initiate dispute resolution pursuant to 6 NYCRR 375-1.5(b)(2) and receive a final agency determination with a right for such determination to be reviewed pursuant to CPLR, article 78.

XIII. Termination or Modification of Order

A. This Order will terminate upon the earlier of the following events:

1. Either Respondent may elect to terminate their interest in this Order on Consent pursuant to Subparagraphs II.B.1.b, II.C or II.E.2 so long as such election is made prior to the Department's approval of the RD/RA Work Plan. In the event of termination in accordance with this Subparagraph XIII.A.1, this Order shall terminate for the Respondent who elected termination effective the 5th Day after the Department's receipt of the written notification terminating this Order or the 5th Day after the time for such Respondent(s) to make its election has expired, whichever is earlier, provided, however, that if there are one or more Work Plan(s) for which a final report has not been approved at the time of such Respondent's notification of its election to terminate this Order pursuant to Subparagraphs II.B.1.b or II.E.2 or its failure to timely make such an election pursuant to Subparagraphs II.B.1.b or II.E.2, Respondents shall promptly complete the activities required by such previously approved Work Plan(s)consistent with the schedules contained therein. Thereafter, this Order shall terminate for the Respondent who elected termination effective the 5th Day after the Department's approval of the final report for all previously approved Work Plans. Upon the election to terminate by only one of the two Respondents herein, this Order shall continue in full force and effect as to the remaining Respondent; or

2. The Department's written determination that Respondents have completed all applicable phases of this Order, in which event a Certificate of Completion shall be issued and the termination shall be effective on the 5th Day after the date of the Department's approval of the final report relating to the final phase of the work under this Order.

B. Notwithstanding the foregoing, the provisions contained in Paragraphs VI and VIII shall survive the termination of this Order and any violation of such surviving Paragraphs shall be a violation of this Order, the ECL, and 6 NYCRR 375-2.11(a)(4), subjecting Respondents to penalties as provided under Paragraph IV so long as such obligations accrued on or prior to the Termination Date, subject to any right Respondents may have under law or this Order to invoke Dispute Resolution.

C. If the Order is terminated pursuant to Subparagraph XIII.A.1, neither this Order nor its termination shall affect any liability of Respondents for remediation of the Site and/or for payment of State Costs, including implementation of removal and remedial actions, interest, enforcement, and any and all other response costs as defined under CERCLA, nor shall it affect any defenses to such liability that may be asserted by Respondents. Respondents shall also ensure that they do not leave the Site in a condition, from the perspective of human health and environmental protection, worse than that which existed before any activities under this Order were commenced.

D. In the event Respondents actions establish that there are multiple sources of the off-Site soil vapor, Respondents reserve their rights t to terminate the order and the Department shall also reserve any and all of its rights.

XIV. Miscellaneous

A. Respondents agree to comply with and be bound by the provisions of 6 NYCRR Subparts 375-1 and 375-2; the provisions of such Subparts that are referenced herein are referenced for clarity and convenience only and the failure of this Order to specifically reference any particular regulatory provision is not intended to imply that such provision is not applicable to activities performed under this Order.

B. The Department may exempt Respondents from the requirement to obtain any state or local permit or other authorization for any activity conducted pursuant to this Order in accordance with 6 NYCRR 375-1.12(b), (c), and (d).

C. 1. Respondents shall use best efforts to obtain all Site access, permits, easements, approvals, institutional controls, and/or authorizations necessary to perform Respondents' obligations under this Order, including all Department-approved Work Plans and the schedules contained therein. If, despite Respondents' best efforts, any access, permits, easements, approvals, institutional controls, or authorizations cannot be obtained, Respondents shall promptly notify the Department and include a summary of the steps taken. The Department may, as it deems appropriate and within its authority, assist Respondents in obtaining same.

2. If an interest in property is needed to implement an institutional control required by a Work Plan and such interest cannot be obtained, the Department may require Respondents to modify the Work Plan pursuant to 6 NYCRR 375-1.6(d)(3) to reflect changes necessitated by Respondents' inability to obtain such interest.

D. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Order.

E. 1. The terms of this Order shall constitute the complete and entire agreement between the Department and Respondents concerning the implementation of the activities required by this Order. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department shall be construed as relieving Respondents of Respondents' obligation to obtain such formal approvals as may be required by this Order. In the event of a conflict between the terms of this Order and any Work Plan submitted pursuant to this Order, the terms of this Order shall control over the terms of the Work Plan(s). Respondents consent to and agree not to contest the authority and jurisdiction of the Department to enter into or enforce this Order.

2. i. Except as set forth herein, if Respondents desire that any provision of this Order be changed, Respondents shall make timely written application to the Commissioner with copies to the parties listed in Subparagraph XI.A.1.

ii. If Respondents seek to modify an approved Work Plan, a written request shall be made to the Department's project manager, with copies to the parties listed in Subparagraph XI.A.1.

iii. Requests for a change to a time frame set forth in this Order shall be made in writing to the Department's project attorney and project manager; such requests shall not be unreasonably denied and a written response to such requests shall be sent to Respondents promptly.

F. 1. With the exception of Paragraph XIII.A.1 herein, the term "Respondent" shall be read in the plural, the obligations of each such party under this Order are joint and several, and the insolvency of or failure by any Respondent to implement any obligations under this Order shall not affect the obligations of the remaining Respondent(s) under this Order.

2. If Respondent is a partnership, the obligations of all general partners (including limited partners who act as general partners) under this Order are joint and several and the insolvency or failure of any general partner to implement any obligations under this Order shall not affect the obligations of the remaining partner(s) under this Order.

3. Notwithstanding the foregoing Subparagraphs XIV.F.1 and 2, if multiple parties sign this Order as Respondents but not all of the signing parties elect to implement a Work Plan, all Respondents are jointly and severally liable for each and every obligation under this Order through the completion of activities in such Work Plan that all such parties consented to; thereafter, only those Respondents electing to perform additional work shall be jointly and severally liable under this Order for the obligations and activities under such additional Work Plan(s). The parties electing not to implement the additional Work Plan(s) shall have no obligations under this Order relative to the activities set forth in such Work Plan(s).

G. Respondents shall be entitled to receive contribution protection and/or to seek contribution to the extent authorized by CERCLA, the ECL, 6 NYCRR 375-1.5(b)(5), or common law.

H. Unless otherwise expressly provided herein, terms used in this Order which are defined in ECL Article 27 or in regulations promulgated thereunder shall have the meaning assigned to them under said statute or regulations.

I. Respondents' obligations under this Order represent payment for or reimbursement of response costs, and shall not be deemed to constitute any type of fine or penalty.

J. Respondents and Respondents' successors and assigns shall be bound by and inure to the benefits of this Order. Any change in ownership or corporate status of Respondents shall in no way alter Respondents' responsibilities under this Order.

K. This Order may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which shall be deemed to have the status of an executed original and all of which shall together constitute one and the same.

L. The effective date of this Order is the 10th Day after it is signed by the Commissioner or the Commissioner's designee.

DATED:

SEP 20 2013

JOSEPH MARTENS
COMMISSIONER
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

By: _____
Robert Schick, Director
Division of Environmental Remediation

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

Occidental Chemical Corporation

By: _____

Title: Vice President

Date: 8/22/2013

STATE OF TEXAS §
§
COUNTY OF DALLAS §

The foregoing instrument was acknowledged before me this 22nd day of August, 2013, by Mike Anderson, Vice President of Occidental Chemical Corporation, a New York corporation, on behalf of said corporation.

VICTORIA LYNN SMITH
Notary Public, State of Texas
My Commission Expires
September 11, 2013

Victoria Lynn Smith
Notary Public in and for the State of Texas

My Commission Expires:

9/11/2013

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

Bayer MaterialScience LLC

By: _____
Christine A. Bryant

Title: Senior Vice President, CAS NAFTA Commercial Operations

Date: 9/3/2013

COMMONWEALTH OF PENNSYLVANIA)
) ss:
COUNTY OF ALLEGHENY)

On the 3rd day of September, 2013, before me, the undersigned, personally appeared Christine A. Bryant, Senior Vice President CAS NAFTA Commercial Operations, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same on behalf of said Company.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Barbara J. Enrietti, Notary Public
Robinson Twp., Allegheny County
My Commission Expires April 23, 2015
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

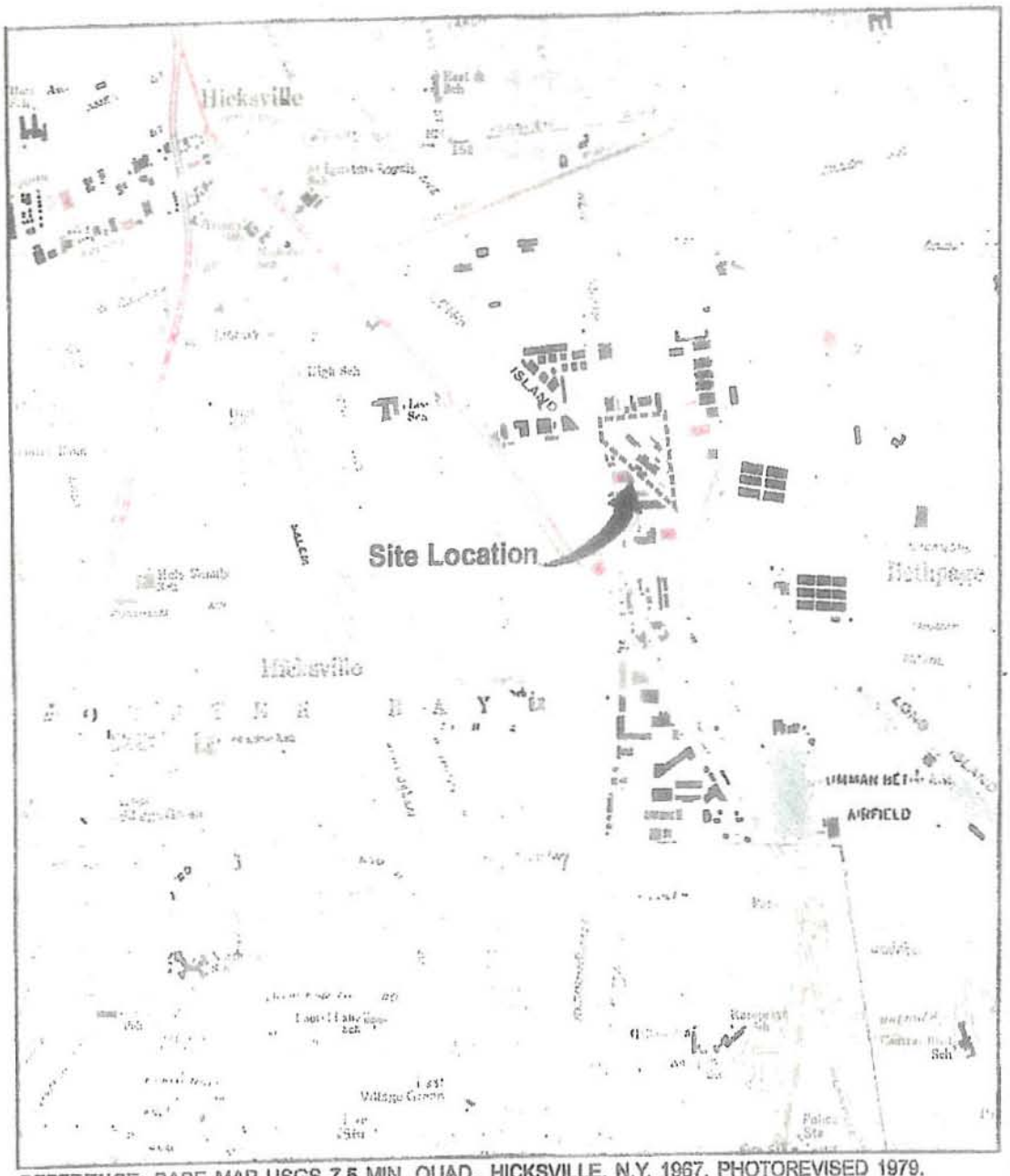
_____
Notary Public, Commonwealth of Pennsylvania

My Commission Expires:

April 23, 2015

EXHIBIT "A"

Map of Site



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., HICKSVILLE, N.Y. 1967, PHOTOREVISED 1979.

2000' 0 2000'

Approximate Scale: 1" = 2000'

BAYER MATERIALSCIENCE LLC
125 NEW SOUTH ROAD
HICKSVILLE, NEW YORK

SITE LOCATION MAP

ARCADIS

FIGURE 1

01/27/09 SYRACUSE-NY-ENV141-04

Exhibit B

Soil Vapor Investigation Work Plan

CONESTOGA-ROVERS
& ASSOCIATES

651 Colby Drive, Waterloo, Ontario, N2V 1C2
Telephone: (519) 884-0510 Fax: (519) 884-0525
www.CRAworld.com

July 24, 2013 Reference No. 081618

Mr. Stephen Scharf
New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Solid Waste and Corrective Action
625 Broadway
Albany, NY 12233-7258

Dear Mr. Scharf:

Re: Bayer Material Science LLC 125 New South Road Hicksville, New York
USEPA ID#: NYD002920312
Soil Vapor Investigation Work Plan-Revision No. 2

On behalf of Bayer Material Science LLC (Bayer) and Glenn Springs Holdings, Inc. (GSH), this letter presents a revised Work Plan for a soil vapor investigation to identify the current potential for off-site migration of soil vapor from the former Bayer facility in Hicksville, New York. This Work Plan is being presented to the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) pursuant to ongoing discussions regarding soil vapor and in response to the NYSDEC/NYSDOH comments dated April 25, 2013 and July 18, 2013. If the following approach is acceptable to the Departments, the Work Plan will be implemented on an expedited schedule by Bayer and GSH pursuant to an Order on Consent.

As described in this document, numerous activities have occurred at the site since 2004 that have reduced the concentrations of on-site volatile organic compounds (VOCs) thereby reducing the current possibility of off-site migration of soil vapors from the site and any residual off-site soil vapor that may have been sourced by the site in the past. This letter summarizes relevant information from soil, soil vapor, and groundwater investigations and remediation activities performed to date, and propose a Work Plan to determine current soil vapor conditions and to evaluate the potential for soil vapors to migrate off-site. The planned actions described in this Work Plan follow the protocols and procedures outlined in NYSDOH 2006 Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (Guidance), and are consistent with the soil vapor investigations previously approved by NYSDEC/NYSDOH for this site.

GROUNDWATER INVESTIGATIONS

The groundwater beneath the site has been investigated extensively over the past 30 years. The investigations have demonstrated that the groundwater flows in a southerly direction and that the groundwater table is about 50 feet below the ground surface (ft bgs). Thus, the vadose zone is about 50 feet thick. The results of the groundwater sample analyses have confirmed that, with limited exception, the groundwater immediately beneath the site meets New York State Class GA drinking quality groundwater standards. Additionally, the highest concentrations of PCE, TCE, and vinyl chloride recorded at the site in the past 15 years were low (85 µg/L for PCE in 2002; 14 µg/L for TCE in 1998; and 17 µg/L for vinyl chloride in 2002). Now, 12 to 15 years later, the concentrations of these VOCs are expected to be at or below the Class GA drinking quality groundwater standards due to natural attenuation processes. Therefore, the focus of the soil vapor investigation should be vadose zone soils.

SOIL INVESTIGATIONS

Under NYSDEC's RCRA program, the vadose zone soils across the site were extensively investigated through a comprehensive series of seven successive phases of study over the period from 2004 to 2009. Initial phases of the investigations did not assess soils under the on-site buildings and structures existing at that time. However, the most recent sampling investigations (Phases IV through VII) were performed after the buildings were removed, providing access to all of the site soils. Soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. Consequently, over the course of the seven phases of soil investigation, a thorough assessment of the presence of VOCs and VOC-impacted soil that could contribute to soil vapors has been completed. Moreover, of particular significance, when an area of VOC-impacted soil was identified, the horizontal and vertical extent of such impacted area was delineated and the soils removed as a RCRA Interim Corrective Measure.

During these seven phases, soil samples from over 450 locations have been analyzed for VOCs. The results of the VOC sampling events identified only two areas in the middle of the site, one beneath former Plant 1 and one immediately east of Plant 1, where VOC concentrations in excess of 1 mg/kg were present. Subsequent additional sampling was performed in these areas to fully delineate the horizontal and vertical extent of the elevated VOC concentrations. The primary VOCs present in these areas were tetrachloroethene (PCE) and trichloroethene (TCE). Figures 1 and 2 provide a color-coded depiction of the PCE and TCE concentrations found in the soil samples.

As previously stated, the primary VOCs were PCE and TCE. Additionally, cis-1,2-dichloroethene (a product of PCE and TCE degradation) was also present in some of the PCE and TCE impacted soil locations. Methylene chloride, toluene, MIBK, and styrene were present in four, two, one, and one sample locations respectively in the former Plant 1 area at concentrations greater than 1 mg/kg. Outside the Plant 1 areas, no VOCs, other than acetone (a common laboratory artifact) were detected in soils at concentrations exceeding the soil guidance values presented in the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) titled "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046, dated January 24,1994 (TAGM 4046) or above current 6 NYCRR Part 375 soil cleanup objectives. The identified elevated VOC-impacted soils in the former Plant 1 area were removed in 2009 as a RCRA Interim Corrective Measure.

There are no known remaining areas of soil with elevated concentrations of VOCs on the site. Other than five locations in the vicinity of former Plant 1 where PCE concentrations ranged from 0.05 to 1 mg/kg, the total VOC concentrations were either less than 0.05 mg/kg or were non-detect across the remainder of the site. Given that more than 450 sample locations have been tested, it is not expected that there are any residual sources of VOCs s that remain in soil on the site. Figures 1 and 2 illustrate the limited pre-remedial areal extent of VOCs in soil and indicate that the localized areas of elevated concentrations of PCE and TCE were removed in 2009. With this known source removed, it is expected that any residual soil vapors will have begun to reduce in concentration and mass through natural attenuation processes including biodegradation, advection, dispersion, and diffusion since the last on-site soil vapor sampling events in 2009.

Details of the VOC soil sampling programs are included in the following documents, which have been reviewed and approved by the NYSDEC:

- RCRA Facility Investigation Report (ARCADIS BBL, June 2004)
- Phase II RFI Report contained in a letter from ARCADIS BBL to the NYSDEC dated January 5, 2005
- Interim Corrective Measure Certification Report (ARCADIS BBL, November 2005)
- Phase III soil results letter report, May 2006
- Phase IV Sampling Plan contained in a letter from ARCADIS BBL to the NYSDEC dated July 6, 2006
- Phase IV soil sample results and Proposed Phase V Scope Report, October 2006
- Phase V soil results letter report, October 2006
- Phase VI soil results letter report, June 2007

- Phase VII soil results letter report, June 2008

SOIL VAPOR INVESTIGATIONS

Soil vapor samples were first collected in 1989 during the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation at 55 locations across the site, except for areas covered by pavement or buildings at the time. Soil vapor field screening was performed using a photoionization detector (PID) and confirmatory soil vapor analysis for site-related VOCs, including TCE, PCE, trans-1,2- dichloroethene, and vinyl chloride was performed using portable gas chromatography. Based on the analytical results, PCE was the only VOC detected in the soil vapor samples, and then only in two sampling locations; one location southeast of Plant 1 and one location northwest of Plant 2. Details of this soil vapor sampling program are presented in the Remedial Investigation Report (Leggette, Brashears & Graham, Inc., revised August 1992).

Between September 2008 and August 2009, Bayer collected soil vapor samples from 28 sampling locations (locations SG-1 through SG-28, shown on Figure 3). The sampling locations were approved by NYSDEC/NYSDOH and selected to provide coverage across the site, including areas within/near the footprints of the former plant buildings and the various paved areas. Several samples were also collected along the entire property boundary to measure the soil vapors adjacent to neighboring properties. The results of the soil vapor sampling were presented in the reports submitted in 2007 through 2009. The results indicate that elevated VOC concentrations were present in the middle of the site, primarily in the location of former Plant 1. This finding is consistent with the results of the soil sampling program. Also consistent with the VOC concentrations in the soil, the highest soil vapor concentrations were those for PCE and TCE. Figures 3 and 4 show the historical soil vapor concentration contours for PCE and TCE respectively, and as can be seen on the figures, the elevated concentrations of PCE and TCE are centered in the former VOC source area in the soils beneath the former Plant 1 area that were removed in May through August 2009.

With regard to the prior soil vapor samples that were collected from along the property boundaries, the following conditions were identified:

- There were no exceedances of the NYSDOH Indoor Air Guidance Values along the north property boundary.
- There was one location (SG-21) with a PCE concentration of 430 $\mu g/m^3$ and TCE concentration of 170 $\mu g/m^3$ near the southwest corner of the site. However, follow-up sampling at four additional locations around this location identified no VOC concentrations

greater than the NYSDOH Indoor Air Guidance Values at these four locations, confirming that the one identified location is isolated and of limited areal extent.

- There was one other location with elevated VOC concentrations (at SG-11 the PCE concentration was 3,000 µg/m³ and the TCE concentration was 32 µg/m³) along the southwest property boundary proximal to the former Plant 1 source area.
- The sampling on the eastern property boundary did identify some locations of elevated VOC concentrations with the highest VOC concentration being PCE at 8,100 µg/m³.

In April 2011, a supplemental soil vapor investigation was conducted beneath and inside the neighboring warehouse located to the east of the site. This investigation determined that while soil vapors were detected in some of the sub-slab areas beneath the building, no soil vapors were detected at actionable levels within the indoor air when compared to the NYSDOH soil vapor intrusion matrices. Some of the sub-slab soil vapor concentrations were higher than those observed on the Bayer property (with the highest VOC concentration being PCE at 32,000 µg/m³ vs. the highest east property boundary on-site concentration of 8,100 µg/m³), indicating that there are potential VOC sources on the warehouse property contributing to soil vapor in these areas. Also, considerable variability in the sub-slab samples was observed which is indicative that multiple sources exist. The results of this supplemental investigation were submitted to the NYSDEC in the report entitled "Vapor Intrusion Investigation Summary Report" (August 2011). Based upon a holistic evaluation of the existing soil vapor data, it is possible that VOC sources on the warehouse property are affecting the east side of the Bayer property.

The results of these investigations have been discussed with the NYSDEC and NYSDOH. This Work Plan proposes additional investigation to assess current soil vapor conditions at the site and the potential for off-site soil vapor migration.

REMEDIAL ACTION AND OTHER RELEVANT FACTORS

Since the start of the on-site soil vapor assessment in 2007, several activities have been performed that have the potential to reduce the on-site VOC concentrations. These activities have also reduced the potential for the presence of off-site vapor related to the site. The significant activities that have taken place include the following:

- In 2009, Bayer removed the only known pockets of elevated VOC-impacted soil from the site. Considering that over 450 soil samples were analyzed for VOCs, it is expected that any remaining pockets of soil with elevated VOC concentrations would be small and of limited extent. The 2009 remedial action removed approximately 1,450 cubic yards of soil primarily

impacted with PCBs and the VOCs PCE and TCE. Removal of this material eliminated the only known locations of elevated VOCs in soil that would be contributing to soil vapors. This removal action will have had a significant effect on soil vapor concentrations and is expected to have substantially eliminated the generation of new soil vapors. This was confirmed by a subsequent soil gas sample collected in the area that was non-detect (see Figure 3). With the source removed, residual soil vapor concentrations in the surrounding areas will continue to dissipate and new soil vapor generation potential will have been minimalized. Given that the last on-site soil vapor samples were collected only 1 or 2 months after the 2009 removal activities, and almost 4 years ago, they are not believed to be representative of current concentrations.

- In 2009, a number of soil excavation projects were completed, primarily for PCBs. The opening of excavations to remove these soils promoted soil vapor movement in the immediate vicinity of the excavations. The degree of enhanced soil vapor movement depends on the size of the excavation, the duration for which the excavation remains open, and the fluctuations in the atmospheric conditions (wind, barometric pressure, temperature, etc.). Since the removal action, the subsurface conditions have had a few years to stabilize. Therefore the soil vapor concentrations detected in the last sampling event may not be representative of current conditions.
- In 2006, the former building foundations and floor slabs on the site were removed and, in the process, some of the pavement areas were broken up by the heavy equipment and some of the pavement was removed. The removal of the floor slabs and disturbance/removal of the pavement opens the pathway for soil vapor release to the atmosphere and for replenishment of clean air into the soil. The exposed soil is also subject to diurnal and seasonal variations in temperature and pressure that promotes vertical movement of soil vapor. The 2009 soil vapor samples were collected only 3 years after the removal of the relatively impervious cover layer across large areas of the site. Seven years have now passed and it is expected that the soil vapor concentrations will have decreased since the time of the last sampling event.

Based upon these events and circumstances, soil vapor migration/generation theory suggests that it would be most appropriate to collect a set of additional on-site soil vapor samples to provide a clearer understanding of current site conditions relevant to assessing the potential for off-site migration of soil vapor and to determine the most appropriate locations for certain off-Site soil vapor sampling locations (i.e., biased locations in areas of greatest potential impact). There are no underground utilities (i.e., electric, gas, etc.) that cross the east or southwest property boundaries that could provide a preferential pathway for off-site migration of soil vapors. Clearly, (1) the lack of any identifiable preferential pathway such as a utility corridor that would allow soil vapors to migrate onto the neighboring property and (2) the presence of

the soil vapor concentrations that are higher on the neighboring property to the east than along the eastern property boundary, make it necessary to obtain current data from the site. Evaluation of these data may resolve the question of whether on-site soil vapor has the potential to affect off-site property and whether the off-site soil vapors beneath the warehouse east of the property are related to past activities at the site.

PROPOSED PLAN

The proposed plan of investigation has been developed with a phased implementation approach to allow for the best decisions to be made with respect to sample location selection. The phased approach will begin with a set of on-site and off-site samples being collected to determine the current conditions across the site, more particularly along the property boundaries and to the east of the commercial building located east of the site. Based on the results of the first sample phase, the appropriate locations for sampling on adjacent properties to the west/southwest will be selected. The intent will be to locate the westerly/southwesterly off-site sampling stations adjacent to on-site locations that exhibit the highest soil vapor concentrations, thereby biasing the off-site sampling stations in the area of highest probabilities of detecting soil vapor emanating from the site.

At the conclusion of each phase of sampling, and prior to issuance of a formal report, the NYSDEC and NYSDOH will receive the final soil vapor analytical data and a figure showing the sampling locations in a monthly progress report. Bayer and GSH will evaluate the data and make a written recommendation to the NYSDEC/NYSDOH with regard to the appropriate next actions. After reviewing the data, NYSDEC / NYSDOH can, as needed, provide their recommendations. To expedite the completion of this work, it is recommended that a conference call be held by the parties, one week after each such submittal to review the recommendations and to move to the next phase as expeditiously as possible. At the conclusion of Phase II, a formal soil vapor investigation report will be presented to NYSDEC / NYSDOH.

The details of the proposed sampling program are as follows:

PHASE I

- Collection of vadose zone soil vapor samples from along the perimeter of the site as shown on Figure 5. The samples will be collected from locations spaced approximately 150 ft apart along the eastern and southwestern property boundaries. To the extent practical, the sampling locations will match those locations that were sampled in 2009 to help determine

whether the passage of time and the completed on-site remediation work have resulted in any improvement in soil vapor conditions. Consistent with the 2009 investigation, the probes will be installed with a screened interval that is 5 to 5.5 ft bgs.

- Collection of three soil vapor samples in the previously identified high soil concentration areas to help assess the changes that have occurred as a result of the on-site remediation work. Comparison to the historic data should demonstrate the effect of the remedial actions that have been performed. The locations of these three sampling points are also shown on Figure 5.
- Collection of pairs of soil vapor samples at three of the perimeter locations to help assess the potential for off-site migration of soil vapors. One of the probes will be installed immediately adjacent to the property boundary and the other probe will be installed 20 ft inward, perpendicular to the property boundary. Comparison of the results obtained at each probe pair will help assess whether there is a concentration gradient leading onto the adjacent neighboring properties off-site. The locations of these probe pairs are shown on Figure 5.
- Three of the sampling locations will be installed as vertical pairs to help assess the concentration gradients with depth. The shallow soil vapor probe of each pair will be installed at a depth of 5 to 5.5 ft to match the zone measured at all of the other probe locations. The deeper soil vapor probe will be installed and screened to collect samples from a depth of 15 to 15.5 ft bgs. The locations of these deep probes are shown on Figure 5.
- Collection of soil vapor samples from three off-site locations to the east of the commercial building bordering the east property boundary. The locations of these probes are shown on Figure 5.

PHASE II

- Based on the results of the first phase of sampling, appropriate additional off-site sample locations will be selected from areas adjacent to the on-site sample locations that exhibit elevated soil vapor concentrations. It is planned that three off-site sample locations will be completed along each of the following property boundaries (a total of six additional off-site sample locations):
  - Three off-site samples on the commercial property to the southwest of the railroad trenches
  - Three off-site samples along New South Road between the site and the residential neighborhood

- Tentative locations for the above off-site sampling are presented on Figure 5. It is noted that these locations are tentative and may be adjusted as necessary based upon the on-site concentrations of soil vapors and to accommodate property owner access permission and utility locations. In the event that no significant on-site concentrations of VOCs are detected, the proposed locations on Figure 5 will be utilized to provide sufficient coverage for the targeted off-site investigation.
  - Each off-site sample will be collected from the 5 to 5.5 foot depth below ground surface (bgs) to be consistent with the 2009 investigation.

Following receipt of final analytical data, a monthly progress report will be submitted to NYSDEC / NYSDOH containing a site map, the final analytical data received during the reporting period, an evaluation of the data, and recommendations. A final soil vapor investigation report will be prepared at the conclusion of Phase II as provided by the Order on Consent. The report will include a comparison of previous data to the current data to evaluate the impact of the completed remedial activities on the site and to assess potential migration of vapors. The report will also include comparison of the soil vapor data to the NYSDOH Indoor Air Guidance values. Based on these comparisons and other relevant scientific principles and concepts, the report will include a recommendation for consideration of NYSDEC / NYSDOH as to the next appropriate action under the Order on Consent.

The analytical data will include a Data Usability Summary.

SAMPLING PROCEDURES AND PROTOCOLS

Before the soil vapor sampling begins, a field survey crew will field- identify the proposed sampling locations using coordinates obtained from the sampling locations map. The sampling locations will be adjusted in the field, if needed, for equipment access and to match as closely as possible with previous sampling locations, where appropriate. Each proposed final sampling location will then be located and recorded utilizing latitude/longitude GPS coordinates and marked using a flagged, wooden stake.

The methods for collecting soil vapor and ambient air samples are detailed in the Standard Operating Procedures (SOPs) provided in Attachments 1 and 2, respectively. The NYSDOH's Guidance was considered in the development of these SOPs. In accordance with the NYSDOH's Guidance, samples will be collected at depths greater than 5 ft bgs to reduce the likelihood of atmospheric air being introduced into the samples. Sample collection is proposed for the 5.0 to 5.5-foot interval bgs at each shallow location. The deep soil vapor probes will be set at a depth of 15 to 15.5 ft bgs. The sampling interval will be limited to approximately 6 inches to reduce

potential sample dilution that could otherwise occur across a larger interval. To the extent that any soils are returned to the surface during the installation process, they will be screened using a photoionization detection unit (PID) to provide an indication of the vertical profile of the VOC content within the soils encountered.

At each proposed soil vapor sampling location, the Geoprobe® rig will be used to advance an assembly consisting of interconnected 4-foot lengths of 1.25"-diameter steel probe rod, affixed with an expendable point holder and expendable point at the downhole end, to the desired sampling depth (5.5/15.5 ft bgs). Hydrated bentonite will be used to seal the annular space (if any) between the steel rod and borehole wall to isolate the subsurface interval from the atmospheric air. After the target depth is reached, the expendable point will be disengaged by hydraulically retracting the steel probe rods upwards approximately 0.5 feet to create a void in the subsurface soil for soil vapor collection. A high-density polyethylene (HDPE) or fluoropolymer sample delivery tube (3/16" or 1/4" inside diameter) with an attached Post-Run-Tubing (PRT) threaded adapter will be lowered through the 1.25"-diameter steel rod and threaded into the expendable point holder. Digital photos will be taken to document the soil gas probe installations.

An initial gas draw (purging) will be performed immediately prior to sampling. At the ground surface, the sample delivery tube will be attached to an air sampling pump, and a minimum of one volume will be evacuated from the sampling system. An electronic flow sensor will be used to measure pump flow rate (not to exceed 100 milliliters per minute [mL/min] during purging activities), and the desired volume will be purged based on pumping duration. After one full purge volume (equivalent to 1½ times the volume inside the sampling line) has been expelled from the sampling system, the pump will be disconnected and a PID equipped with a 10.6 electron volt lamp will be attached to the tubing to measure approximate total organic vapor levels. A Swagelock™ valve will be closed prior to disconnecting the pump and connecting the PID to prevent atmospheric air from entering the tubing.

Sample collection and analysis will be conducted in accordance with USEPA Compendium Method TO-15, titled "Determination of VOCs in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)" and the USEPA Method TO-15 Standard Operating Procedure. At each sampling location, a pre-cleaned stainless-steel canister (a 6-liter SUMMA® canister) with an attached flow regulator will be connected to the sample tubing and slowly opened to collect the soil vapor sample. Batch-certified-clean canisters will be provided by the laboratory with an initial vacuum of at least 26 inches of mercury. Flow regulators will be pre-set to draw soil vapor at a flow rate of 200 mL/min. Each soil vapor sample will be collected over an approximately 30-minute period. When the canister vacuum reaches approximately 2 inches of mercury, the valve on the canister will be closed,

leaving a vacuum in the canister as a means for the laboratory to verify the canister does not leak while in transit. Four sets of vacuum readings will be obtained in connection with sampling and analysis:

1. Following canister cleaning for shipping to the field
2. Prior to sampling, with all the connections and leak checks completed
3. At the end of sampling
4. Prior to analysis in the laboratory

A tracer gas (helium) will be used in connection with the soil vapor sampling to provide a means to evaluate whether the soil vapor samples are diluted by surface air. A 5-gallon plastic pail will be placed over the soil vapor sampling location, and hydrated bentonite will be used to create a seal between the pail and the ground surface and penetration for the downhole tooling (at the top of the pail) to create a containment unit within the pail. Prior to sampling, helium will be introduced into the pail through a fitting on the side of the pail to create a minimum 50 percent helium content level within the pail. The helium levels in the purge gas and in the pail (prior to and immediately after sampling) will be measured using a gas detector. In the event that the helium meter measures a helium content within the sampling assembly of greater than 10 percent of the helium content measured within the containment unit (e.g., 5 percent for 50 percent helium in the containment unit), the soil gas probe will be considered to permit significant leakage such that the collected soil gas sample will not be considered reliable or representative of soil gas concentrations. In such case, the sample will be recollected following appropriate remedial steps to eliminate surface air inclusion in the sample.

An upwind ambient air sample will be collected each day of soil vapor sampling. Consistent with the soil vapor sampling approach, the proposed air sampling will also involve use of a pre-cleaned 6-liter SUMMA® canister with an attached flow regulator. However, the regulator for the soil vapor sampling will be adjusted by the laboratory to provide uniform sample collection over an approximate 8-hour sampling period.

Prior to moving to the next sampling location, the sampling location will be confirmed by measurement to the survey marker and all down-hole equipment (i.e., steel rods, expendable point holder) will be decontaminated. Following completion of the sampling activities, the boreholes will be backfilled with bentonite grout. Soil sample liners, recovered soil samples, and used soil vapor sample tubing will be placed in steel 55-gallon drums for off-site transportation and disposal.

The air sample and soil vapor sample Summa canisters will be submitted to TestAmerica Laboratories, Inc. located in Burlington, Vermont for laboratory analysis for VOCs in accordance with USEPA Compendium Method TO-15. The samples will be analyzed for the complete VOC TO-15 analyte list and tentatively identified compounds (TICs). These constituents and their associated detection limits are identified in Table 1. Soil vapor samples from the Summa canisters will also be analyzed for helium using American Society for Testing and Materials (ASTM) Method D1946 to determine if surface air infiltration has occurred. TestAmerica is certified in the State of New York to perform air sample analyses. Laboratory analysis will be performed on a standard turnaround for reporting of analytical results (i.e., 3 to 4 weeks following sample collection).

REPORTING

As provided in the Order on Consent, written progress reports will be provided by the 10th day of each month. Following completion of the second phase of the investigation, a final soil vapor investigation report will be prepared. The final report will include:

- A summary of work activities performed and analytical results obtained for the soil vapor investigation
- An evaluation of the soil vapor results to the NYSDOH Indoor Air Guidance values
- Data tables presenting laboratory analytical results
- Figures showing the surveyed air and soil vapor sampling locations and corresponding laboratory analytical results
- Copies of the full laboratory report (including a Data Usability Summary)
- A CD containing the full laboratory analytical data reports
- An assessment of the results
- A review of any NYSDEC / NYSDOH preliminary recommendations
- Proposed future actions under the Order on Consent

The report will be submitted to the NYSDEC/NYSDOH approximately 6 weeks after receipt of the final analytical data from the laboratory.

ANTICIPATED SCHEDULE

Bayer/GSH is prepared to implement the proposed soil vapor sampling activities within 60 days following NYSDEC/NYSDOH approval of this sampling plan and execution of the Order on Consent. The proposed field activities for the first phase will take approximately 2 weeks to arrange and 2 weeks to complete. Preliminary laboratory analytical results for the soil vapor sampling activities will be available approximately 3 to 4 weeks following sampling. As indicated above, a progress report will be submitted to the NYSDEC/NYSDOH after receipt of the final laboratory analytical data. Thereafter, arrangements for the second phase of sampling will be made and implemented.

We request NYSDEC/NYSDOH approval of the proposed soil vapor sampling activities. Please do not hesitate to contact David Schnelzer of Bayer at 412-777-7603 or Roger Smith at GSH at 972-687-7516 if you have any questions or require additional information.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

James K. Kay, P. Eng.

JK/mg/2
Encl.

cc: Thomas Taccone, USEPA
Mark Fisher, The ELM Group
Roger Smith, GSH
David Schnelzer, Bayer

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, 12th Floor
625 Broadway, Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9627
Website: www.dec.ny.gov

Joe Martens
Commissioner

August 7, 2013

Roger Smith
Sr. Project Manager
Glenn Springs Holdings, Inc.
A Subsidiary of Occidental Petroleum Corporation
5005 LBJ Freeway
Suite 1350
Dallas, TX 75244-5119

David Schnelzer
Manager-Health Environment Safety & Security Governance
Bayer Technology Services
100 Bayer Road
Pittsburgh, PA 15205-9741

Re: Bayer OXY-Hooker rUCO Polymers Site,
Hicksville, NY; Site No. 130004

Dear Mr. Smith and Mr. Schnelzer,

The New York State Department of Environmental Conservation (NYSDEC), in conjunction with the New York State Department of Health (NYSDOH), have reviewed the Operable unit 5 (OU5) revised work plan entitled "Soil Vapor Investigation (SVI) Work Plan, Revision No. 2, July 24, 2013.". This revised plan has been submitted by Conestoga Rovers Associates (CRA) on behalf of Glen Springs Holdings and the Bayer MaterialScience Corp. The July 24, 2013 SVI Work Plan is, with this letter is hereby approved. Once the OU5 Order on consent has been fully executed, the work plan can be accepted as final and field work can commence.

Should you have any questions, please contact me at 518-402-9620.

Sincerely,

Steven M. Scharf, P.E.
Project Engineer
Remedial Bureau A
Division of Environmental Remediation

ec: J. Swartwout
D. Putnick, Esq.
W. Parish, Region 1
T. Taccone, USEPA
R. Okerby, NYSDOH
J. Brussel, ARCADIS
J. Kay, CRA
EDOCS: Letter.hw130004.2013-08-07.Bayer-OXY-OU5_SVI_Workplan_Approval