

Transmitted Via E-Mail & U.S. Mail

March 9, 2006

Ms. Alicia Barraza
New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Solid Waste and Corrective Action
625 Broadway
Albany, New York 12233-7258

Re: Bayer MaterialScience LLC
125 New South Road – Hicksville, New York
USEPA ID#: NYD002920312
AOC 45 ICM Soil Removal Work Plan
Response to NYSDEC Comments
BBL Project #: 2302.32303 #5

Dear Ms. Barraza:

On behalf of Bayer MaterialScience LLC (Bayer), this letter responds to New York State Department of Environmental Conservation (NYSDEC) comments on the Area of Concern (AOC) 45 Interim Corrective Measure (ICM) Soil Removal Work Plan (“the Work Plan”) for the above-referenced site. The Work Plan is presented in a letter from Blasland, Bouck & Lee, Inc. (BBL) to the NYSDEC dated January 5, 2006. The NYSDEC comments are provided in your e-mail correspondence dated February 23, 2006. For ease of presentation, each NYSDEC comment is presented below, followed by Bayer’s response.

Comments on Proposed Approach

Comment 1

Bayer proposes to remove a very large quantity of PCB contaminated soil and dispose of it off-site. Other remedial technologies should be explored, as off-site disposal is the least desirable remedial technology, particularly in such large quantities.

Response 1

Bayer has explored other remedial technologies as potential alternatives to the proposed excavation and offsite disposal of the polychlorinated biphenyl- (PCB-) impacted soils in AOC 45. One of these technologies is the extraction/destruction technology identified in your e-mail correspondence dated January 10, 2006, whereby a proprietary process involving sonic energy (the Sonoprocess™) is used to extract and destroy PCBs in soils. This technology is currently being developed and marketed by Sonic

Environmental Solutions, Inc. (Sonic) in Canada. However, the Sonoprocess™ extraction/destruction technology and other PCB treatment technologies essentially remain in the demonstration phase and have not yet been proven to be a cost-effective, readily-available, large-scale alternative to excavation and offsite disposal.

Bayer has selected excavation and offsite disposal because it will result in the permanent removal of PCB-impacted soils from AOC 45 and attainment of the ICM cleanup objectives in a relatively short timeframe (i.e., within a few weeks time following mobilization). Excavated soils exhibiting PCBs at concentrations above 10 parts per million (ppm) will be transported to a properly permitted engineered landfill(s). The estimated quantity of PCB-impacted soils proposed to be excavated and transported for offsite disposal (i.e., 750 tons) is consistent with quantities of PCB-impacted soils/sediments commonly handled in the same manner at many sites. To put the 750 tons in perspective to the previous removal actions performed at the site, approximately 3,000 tons of PCB-impacted soils were removed in 1993 and another 320 tons were removed in a supplemental removal action in 2001/2002. Thus, the 750 tons represents only 25% of the soil volume previously removed from the site.



Comment 2

The work plan states that post-excavation verification soil sampling will not be performed, based on extensive pre-excavation delineation/verification soil sampling data already available. DEC disagrees with this proposal, as end point sampling must be performed to verify that PCB contaminated soils >50 ppm have been removed at the excavation limits.

Response 2

As an alternative to the post-excavation sampling requested by the NYSDEC, Bayer proposes to expand the previously-proposed excavation limits outward in all directions to coincide with the first line of pre-excavation verification soil sampling locations where existing data already shows that PCB concentrations are less than the 50 ppm ICM soil cleanup objective. Note that the excavation limits shown on Figure 5 of the Work Plan were based on “mid-point” distances between those sampling locations exhibiting PCBs at concentrations above 50 ppm and the nearest sampling locations exhibiting PCBs at concentrations below 50 ppm. The proposed new excavation limits (which are now based on “end-point” data) are shown on the attached, revised version of Figure 5 from the Work Plan. As shown on the revised figure, Bayer is also now proposing to excavate soils from a 25-square foot area directly west of AOC 45. This proposed “second” excavation area will be centered around existing sampling location VS-45-4 where PCBs were identified in soils at the 4.5- to 5.0-foot depth interval at a concentration of 45 ppm. Soils from this “second” area will be removed to a depth of 6.5 feet below ground surface (bgs). Based on the existing analytical data, the soils to remain at the bottom of the excavation contain PCBs at an estimated concentration of 11.5 ppm. As a conservative measure, the impacted soils from this second excavation area will be transported for offsite disposal as a Toxic Substances Control Act- (TSCA-) regulated PCB waste and New York State hazardous waste (Waste Code B007).

Please note that if a sheetpile wall is used as the excavation sidewall support system for the larger excavation area, it will not be feasible to expand the excavation horizontally once the support system is in-place (the steel surface of the sheetpile wall will not allow horizontal expansion of the excavation). In

addition, it will not be possible to expand the excavation vertically beyond the design limits for the sheetpile wall (the wall embedment will support removal to the required depth). Likewise, given the considerable depth of proposed excavation, it would be difficult to expand the excavation horizontally or vertically if sloping/benching were to be used for sidewall support.

As shown on Figure 5, a total of 14 boreholes were drilled and sampled within the 26-foot by 27-foot area that defines where PCB concentrations are greater than 50 ppm. This is equivalent to one borehole for every 50 square feet (i.e., approximately a 7-foot by 7-foot area). Furthermore, the PCB concentrations identified in the soils along the proposed new excavation limits are not only well-below the 50 ppm ICM cleanup objective, but they are also well-below the 10 ppm subsurface soil cleanup objective presented in the NYSDEC Technical Administrative Guidance Memorandum titled "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046, dated January 24, 1994 (TAGM 4046). Similarly, the PCB concentrations identified in soils at each of the next closest sampling locations continuing away from the excavation are also well-below the 10 ppm TAGM 4046 subsurface soil guidance value. The notable concentration differences between the inside and outside of the proposed excavation (high concentrations inside vs. consistently low concentrations everywhere outside) and the high density of delineation further support that post-excavation verification sampling is not needed.

It is important to remember that the proposed removal action is merely a follow-up to the 3,000 ton removal that was performed in 1993. At that time, soils extending beyond each side of the Pilot Plant were removed to depths ranging upwards of 10 feet bgs. Removal of soil beneath the Pilot Plant was not viable at that time because this was an operational facility. This planned supplemental removal is simply the excavation of the material that was inaccessible in 1993 due to its location beneath the Pilot Plant building. Based on the verification soil sampling performed at that time and the delineation/verification soil sampling performed in 2005, the areal limits are well-defined, particularly with the number and density of the sampling locations that have gone into the delineation of the remaining "hot spot."

Finally, based on the constraints inherent in either of the contemplated sidewall support systems and considering that "end-point" PCB analytical data is already available, Bayer requests NYSDEC concurrence that post-excavation verification sampling is not needed.



Comment on Pre-Construction Activities

Comment 3

Material staging areas will be constructed, as needed, for temporary staging of excavated soils prior to offsite transportation and disposal. Specify where the staging areas will be located and how long they will remain in place. Each staging area should also be covered when not in use.

Response 3

It is anticipated that the proposed material staging areas will be constructed as close to the excavation areas as practical to minimize the distance needed to move PCB-impacted soils from the excavations to the staging location. In this way, the impacted soil removal and transfer to the staging area could potentially be performed using one excavator (perhaps eliminating the need and added expense for an

additional piece of equipment such as a loader). It would be desirable to have the staging areas as close to the excavations as possible, regardless of the excavation sidewall support system selected (sloping/benching vs. sheetpile wall). The final location of the material staging area(s) will be determined by the Contractor that Bayer selects to implement the ICM activities.

The staging areas will remain in-place until the excavated PCB-impacted soils are transported for offsite disposal. The loading and offsite transportation will be completed under the same mobilization as the excavation activities. Impacted soils placed within the staging areas and awaiting offsite transportation and disposal will be covered (with a low-permeability material such as 20-mil polyethylene sheeting) whenever soils are not actively being placed into/removed from the staging area, during overnight/weekend hours, during periods of precipitation, or whenever dust action levels are exceeded.



Comments on PCB-Impacted Soil Removal

Comment 4

The excavation sidewalls will be supported in accordance with OSHA requirements for excavation as outlined in 29 CFR 1926 Subpart P. Bayer must also comply with applicable requirements set forth by the NYS Department of Labor (DOL) Industrial and obtain any necessary approvals from DOL.

Response 4

Acknowledged.



Comment 5

It is anticipated that the remaining soils which exhibit PCB concentrations less than 10 ppm will be used as subsurface fill material (greater than 1 foot below the ground surface) within the excavation area. All soil to be used as subsurface fill material within the excavation area must be verified that it is below 10 ppm. Explain how this will be accomplished.

Response 5

This comment only applies to excavation activities performed where sidewall support is provided by sloping/benching. This would not be an issue if sheetpile were used to support the sidewalls rather than sloping.

Based on the existing PCB soil analytical data, PCBs were not identified at concentrations exceeding 10 ppm anywhere in the soils horizontally outside the proposed new excavation limits. Additionally, PCBs were not identified at concentrations exceeding 10 ppm anywhere in soils vertically below the proposed new excavation limits, except at soil sampling locations VS-45-2 (34-36'), VS-45-4 (6.5-7.5'), and VS-45-11 (22-24'). Accordingly, soils excavated for sloping purposes from areas where PCBs have been found at concentrations exceeding 10 ppm [such as below soil sampling locations VS-45-4 (6.5-7.5') and VS-45-11 (22-24')] or from areas where PCBs could potentially be present at concentrations exceeding

10 ppm [such as below sampling location VS-45-1 (8.8-9.8')], would be placed in separate stockpiles from the remaining soils removed outside the excavation boundaries shown on Figure 5. These soils that may be excavated for sloping purposes and are known to contain, or could potentially contain, PCBs at concentrations exceeding 10 ppm include: (1) soils excavated below a depth of 10 feet within the western one-third of the targeted "larger" excavation area; (2) soils excavated below a depth of 20 feet within the eastern one-third of the targeted "larger" excavation area; and (3) soils excavated below a depth of 7.5 feet within the targeted "smaller" excavation area. These soils would be transported for proper offsite disposal.

The high density of the existing delineation/verification soil sampling locations outside the targeted excavation areas, the favorable PCB analytical results for samples collected from these locations, and the considerable extent of the soil removal activities performed in 1993 support that PCBs are not present in the soils that would (under a sidewall sloping scenario) be removed from outside the targeted excavation limits. Therefore, further sampling of soils outside the targeted excavation limits is not proposed unless discoloration, staining, or odors are encountered during the removal activities. If discoloration, staining, or odors were noticed in the soils, they would be transported for proper offsite disposal and the NYSDEC would be contacted to discuss characterization of the surrounding soils.



Comments on Equipment Decontamination

Comment 6

After the excavator removes or handles impacted soils, field personnel will visually check the excavator bucket for the presence of adhered soils. If adhered soils are observed, they will be removed using a shovel/broom and managed with the excavated impacted soils. First, it is not clear how many times per day the excavator will alternate between removing clean soils and impacted soils. Second, when adhered soils are removed from the excavator bucket, this event should be recorded or somehow monitored to prevent cross-contamination of soils. Third, necessary precautions should be in place to ensure that the worker removing the adhered soils is not exposed to PCBs.

Response 6

Responses to the three parts of the above comment are presented below.

1. It is currently unknown how many times per day (if sloping/benching is used as the excavation support system) the Contractor would alternate between removing clean soils and impacted soils. However, it is expected that the Contractor would limit such alternation to minimize the number of times the equipment needs to be decontaminated.
2. An onsite observer will be present to monitor the progress of the excavation activities and compliance with the Work Plan. This individual will check to see that decontamination is performed, where needed, and will document when decontamination takes place.
3. All onsite Contractor work, including decontamination, shall be performed in accordance with the provisions of a site-specific Health and Safety Plan to be prepared by the Contractor.

Note that the soils to be excavated are sands, which are non-cohesive and will not typically adhere to the excavator bucket. However, if soils do adhere to the bucket, the soils can easily be removed by brushing.

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Comment 7

Project equipment that comes in contact with impacted site media will be decontaminated prior to being demobilized from the site and prior to being used for re-grading clean soils around the excavation area. Explain the decontamination procedures that will be used for the project equipment.

Response 7

The decontamination procedure to be used for project equipment (e.g., excavator, loader) prior to being demobilized and prior to be used for re-grading clean soils is as follows:

- Adhered soils will be removed from the bucket using a shovel/broom and will be managed with the excavated impacted soils; and
- The bucket will be further cleaned to remove residual staining (if encountered) by wiping using a cloth and detergent and by steam-cleaning/pressure washing, if needed.
- Decontamination fluids will be collected and containerized for proper offsite treatment/disposal.

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Comments on Site Restoration

Comment 8

Site restoration activities will consist of placing excavated soils that do not exhibit PCBs at concentrations above 10 ppm as subsurface backfill material. Clarify if this backfill material will be used one foot below the ground surface.

Response 8

Correct. Soils that do not exhibit PCBs at concentrations greater than 10 ppm and are designated for use as onsite backfill material will be placed at least one foot below the surrounding ground surface. A minimum one-foot thick layer of clean soils or crushed “exempt” C&D debris (which do not exhibit PCBs at concentrations greater than 1 ppm) will be placed over these soils.

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Comment 9

The lab results for the fill material, found in Appendix 1, should specify the analytical method that was used for each sample. In addition, the result for arsenic (12.3 mg/kg) is slightly above the New York State background (12 mg/kg), which precludes it from surficial use.

Response 9

The methods used for laboratory analysis of the fill material sample are identified in the laboratory sample delivery group (SDG) narratives that precede the analytical results pages. These methods are also listed in the table below.

Analyte	USEPA SW-846 Method
PCBs	8082
Volatile Organic Compounds (VOCs)	8260B
Semi-Volatile Organic Compounds (SVOCs)	8270C
Inorganic Constituents	6010B & 7471

As indicated by the results of the recent statewide *Survey to Describe Concentration Ranges for Selected Analytes in Rural New York State Surface Soils* (the “Rural Soil Survey”) conducted jointly by the NYSDEC and New York State Department of Health (NYSDOH) and summarized in Appendix D to the Public Review Draft of the New York State Brownfield Cleanup Program “Technical Support Document” for the development of soil cleanup objectives (November 2005), arsenic is found in background soils across New York State as follows:

- in “source-distant” locations at concentrations ranging from less than 0.2 ppm to 69 ppm, with a 95% upper confidence limit concentration of 14 ppm [refer to Table 6a of the Rural Soil Survey]. The source distant locations identified by the NYSDEC include areas that were “reasonable points of human contact with soil, such as yards and trails, but at least five meters distant from potential pollution sources such as trash, roads, driveways or structures.”
- in “remote/habitat” areas at concentrations ranging from less than 0.3 ppm to 28.1 ppm, with a 95% upper confidence limit concentration of 16.7 ppm [refer to Table 6b of the Rural Soil Survey]. The habitat areas identified by the NYSDEC include a subset of remote areas that were “at least 20 paces (about 15 meters) distant from margins of human activity.”

The NYSDEC developed Unrestricted Use and Restricted Use Soil Cleanup Objectives (Track 1 and Track 2 objectives) for inorganic constituents taking into consideration the results of the Rural Soil Survey. The proposed Track 1 and Track 2 arsenic soil cleanup objectives for protection of public health are both 16 ppm. The proposed Track 1 and 2 arsenic soil cleanup objectives for the protection of ecological resources are both 13 ppm.

Based on the results of the Rural Soil Survey and the outcome of the soil cleanup objective development process, it seems reasonable that the proposed excess clean fill material obtained from offsite, which contains arsenic only slightly above the 12 ppm background value reported in TAGM 4046, could be used as either surface or subsurface fill material.



Comments on ICM Certification Report

Comment 10

The report should be signed and stamped by a New York State PE.

Response 10

Acknowledged.



Comment 11

In the report, specify the amounts of PCB contaminated soils that were excavated, the amounts that were used as backfill material, and the amounts that were sent for offsite disposal.

Response 11

Per this request, the report will identify the following:

- the approximate total volume of PCB-impacted soils that were excavated, including a breakdown of the volume of soils containing PCBs at concentrations ≥ 50 ppm, 10 ppm to < 50 ppm, and < 10 ppm;
- the approximate total volume of soils exhibiting PCBs at concentrations less than 10 ppm that were used as backfill material (and the volume, if any, transported for offsite disposal); and
- the approximate volume and weight of PCB-impacted soils transported for offsite disposal, including a breakdown of the volume and weight of soils characterized as a TSCA-regulated PCB waste and New York State hazardous waste (Waste Code B007), and the volume and weight of soils characterized as a non-hazardous waste.

Waste manifests/certificates of disposal for the offsite transportation and disposal of the PCB-impacted soils will be included as an appendix to the report.



Comments on Schedule

Comment 12

Prior to implementation of ICM activities, the Department should be informed of the excavation support system that will be used.

Response 12

After Bayer selects a Contractor to implement the proposed additional ICM work activities and prior to Contractor mobilization, the NYSDEC will be informed of the excavation support system to be used by the Contractor.

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Comment 13

The schedule should be updated as necessary, based on Bayer's responses to the Department's comments.

Response 13

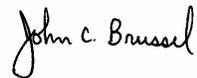
An updated project schedule will be submitted to the NYSDEC after the Contractor bidding and award process is completed.

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We trust that the above responses will be acceptable to the NYSDEC and we are prepared to implement the proposed ICM activities shortly following NYSDEC approval. Joel Robinson of Bayer and I will contact you next week to discuss any comments on the responses above. In the meantime, please do not hesitate to contact Joel at (412) 777-4871 [joel.robinson@bayerbms.com] or me at (315) 671-9441 [JCB@ BBL-inc.com] if you have any questions or require additional information.

Sincerely,

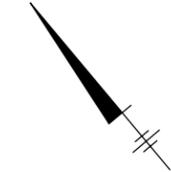
BLASLAND, BOUCK & LEE, INC.



John C. Brussel, P.E.
Sr. Engineer I

JCB/ams
Enclosure

- cc: Ms. Katy Murphy, New York State Department of Environmental Conservation – Region 1 (1 copy)
Mr. Paul Olivo, United States Environmental Protection Agency – Region II (1 copy)
Mr. Joel E. Robinson, Bayer MaterialScience LLC (5 copies)
Mr. Joseph Molina, III, P.E., Blasland, Bouck & Lee, Inc. (1 copy)

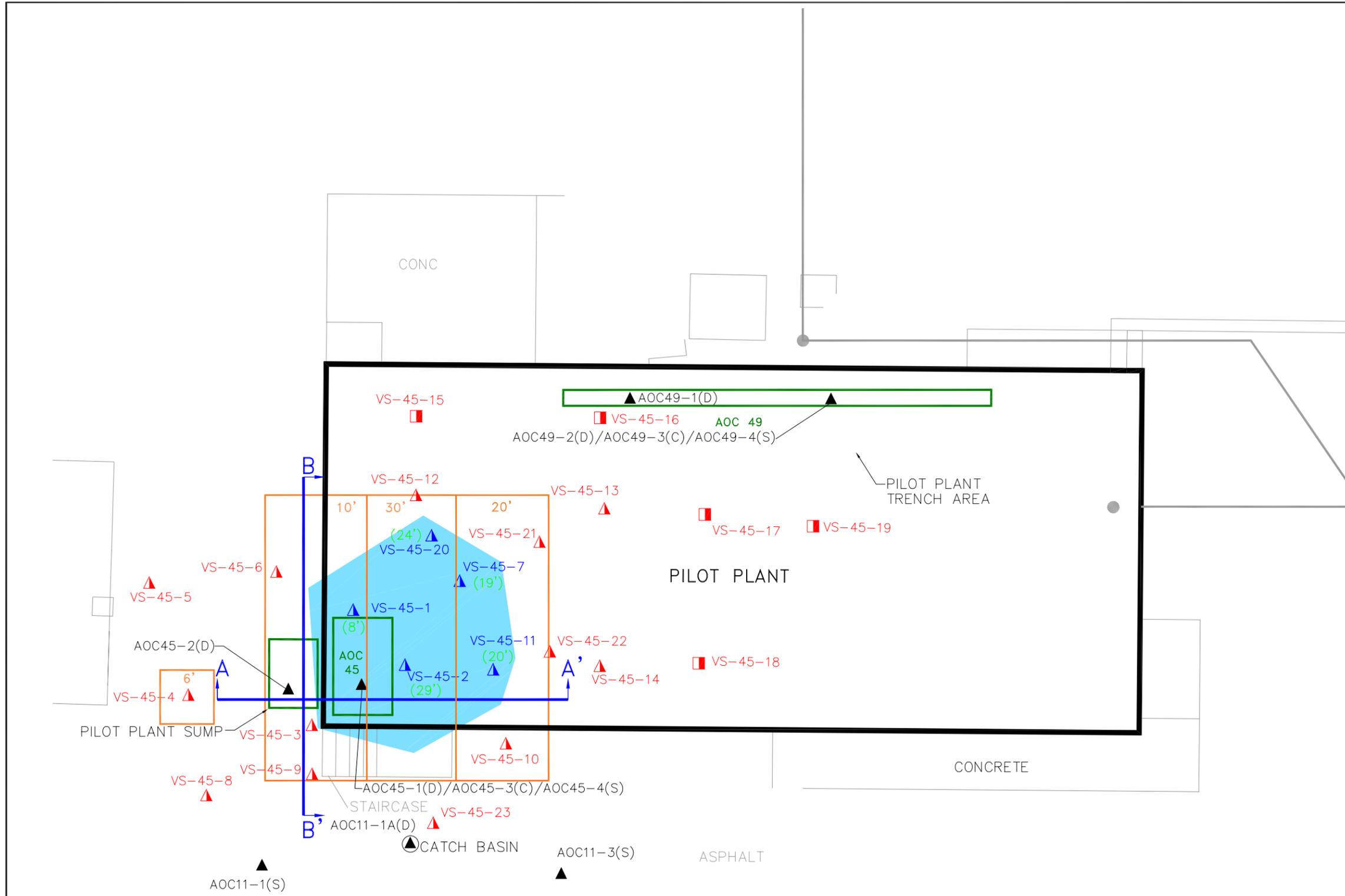
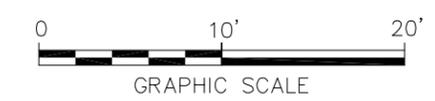


LEGEND:

- PROPOSED EXCAVATION LIMITS
- 20' PROPOSED EXCAVATION DEPTH
- ICM PRE-EXCAVATION VERIFICATION SAMPLING LOCATION (ALL SAMPLES ARCHIVED)
- ▲ ICM PRE-EXCAVATION VERIFICATION SAMPLING LOCATION EXHIBITING PCBs AT CONCENTRATIONS <50 PPM
- ▲ ICM PRE-EXCAVATION VERIFICATION SAMPLING LOCATION EXHIBITING PCBs AT CONCENTRATIONS >50 PPM
- ▲ RFI SAMPLING LOCATION
- HORIZONTAL EXTENT OF SOILS EXHIBITING PCBs > 50 PPM
- (19') DEPTH OF SOILS EXHIBITING PCBs AT CONCENTRATION > 50 PPM
- AOC 45 AREA OF CONCERN
- LEACHATE PIT
- A A' CROSS SECTION LOCATION (SEE FIGURE 4 FOR SECTION)

NOTES:

1. BASE MAP ADAPTED FROM A DRAWING ENTITLED "AREA OF CONCERN MAP", FIGURE 1-2, BY ENSR CORPORATION, PISCATAWAY, NJ, AT A SCALE OF 1"=60', DATED 2/14/03.
2. RFI SAMPLING LOCATIONS WERE SURVEYED BY BBL, INC. DURING FEBRUARY 2004 AND OCTOBER 2004. ICM SAMPLING LOCATIONS WERE SURVEYED BY BBL, INC. DURING AUGUST 2005.
3. RFI = RCRA FACILITY INVESTIGATION.
4. ICM = INTERIM CORRECTIVE MEASURE.
5. PCBs = POLYCHLORINATED BIPHENYLS.



BAYER MATERIALSCIENCE LLC
125 NEW SOUTH ROAD
HICKSVILLE, NEW YORK

**PROPOSED SOIL REMOVAL AND
VERIFICATION SOIL SAMPLING
LOCATION**



FIGURE
5

L: ON=*, OFF=REF
P: PAGESET/SYR-DL
3/07/06 SYR-85-RCB WLJ RCB
32303011/32306B02.DWG