

MILLER, CANFIELD, PADDOCK AND STONE, PLC

EXHIBIT C – DOCUMENTS

PACKET #6



47 BUILDING
May 1, 2006

The Dow Chemical Company
Midland, Michigan 48874

Mr. George Bruchmann
Chief, Waste and Hazardous Materials Division
Michigan Department of Environmental Quality
Constitution Hall
525 W. Allegan Street
P.O. Box 30473
Lansing, MI 48909

Re: **Sampling Approach in Support of Bioavailability Study, Midland Area Soils**

Dear Mr. Bruchmann:

This letter sets forth the response of The Dow Chemical Company ("Dow") to the Michigan Department of Environmental Quality ("MDEQ")' March 2nd Notice of Deficiency (NOD), Comment 10 and MDEQ's April 13th Response to Comments and NOD Attachment 4 Comments. The attachment describes the approach for modification and resubmittal of the *Midland Representative Soils Sampling and Analysis Plan In Support of Bioavailability Study* (BSAP). The approach described in the attachment reflects the consensus reached between Dow, MDEQ, and U.S. Environmental Protection Agency (USEPA) Region 5 on April 20, 2006.

Your staff will be contacted shortly by CH2M Hill to arrange a meeting to select the final locations of the sample areas ("boxes") from which the final sampling plan will be built around. As discussed the final work plan will be submitted for MDEQ review and approval by June 1, 2006.

We look forward to working with you and the MDEQ staff to meet the goal of commencing field work for the summer season.

Regards,

Ben Baker
Senior Environmental Project Leader
Michigan Operations
47 Building
Midland, MI 48667

Attachment (1)

cc: Jack Bails, Public Sector Consultants
Greg Rudloff, US EPA
Jim Sygo, MDEQ

Sampling Approach in Support of Bioavailability Study, Midland Area Soils

This document sets forth the response of The Dow Chemical Company ("Dow") to the Michigan Department of Environmental Quality ("MDEQ") March 2nd Notice of Deficiency (NOD), Comment 10 and MDEQ's April 13th Response to Comments (NOD Attachment 4 Comments). This memorandum outlines the approach for modification and resubmittal of the *Midland Representative Soils Sampling and Analysis Plan In Support of Bioavailability Study* (BSAP). The approach described reflects the consensus reached between Dow, MDEQ, and U.S. Environmental Protection Agency (USEPA) Region 5 on April 20, 2006.

Study Objectives

The objectives of the BSAP are as follows:

- **Support Bioavailability Study**
 - Characterize the distribution of properties reported to influence bioavailability & guide sampling efforts to obtain representative soil samples for future bioavailability study
- **Provide Information on Hazardous Substances**
 - Develop additional info on the nature and extent of dioxin/furan concentrations in Midland Soils & perform preliminary screen of other hazardous substances
- **Consider Community Concerns**
 - Maintain the confidentiality of private property owners whose properties are sampled
- **Facilitate review of the final work plan and results by an Independent Science Advisory Panel (ISAP)**

General Sampling Design

The sampling pattern shown in Figure 1 consists of 23 radial transects extending from the Dow Midland Plant site. This design accounts for multiple sources at the site, with aerial deposition of hazardous constituents to surface soils as the primary transport mechanism. The sampling design is based on meeting the objective of providing additional information on hazardous substances in the study area, but is expected to also be sufficient for providing information on soil characteristics in support of the Bioavailability Study.

The basic elements of the design are:

- Potential major point and non-point sources (i.e. incinerator complex, power plants, brine electrocution, track-out, etc.) within the Dow Plant boundaries are combined to create an origin for the transects. The origin location was established by MDEQ.
- Sample locations are biased to collect more samples in the dominant downwind direction utilizing the wind rose from meteorological station No. 72639 to delineate

dominant wind directions (wind rose zone selected rays greater than 6% which in total represent 75% predominance of the wind direction during 1987 - 91).

- A minimum of 22 transects were selected based on S3TM guidance as calculated by MDEQ. Seventeen (17) of the twenty two (22) transects will be located to correspond to the 75% dominant wind direction with remaining transects distributed over the remaining area. An additional transect was added to increase coverage in the southwest for a total of 23 transects.
- Transects will extend to a distance of approximately 9,400 feet from the origin location and extend a minimum of 3,000 feet beyond the Dow Plant facility boundary. In order to ensure sufficient lateral coverage into residential areas for use in support of the bioavailability study, every other transect in the dominant wind direction extends to approximately 10,000 to 11,000 feet from the Dow Plant facility boundary.
- Samples are to be collected from within "sample stations" located every 950 feet along each transect beginning just beyond the Dow Midland Plant facility boundary. The distance between sampling stations was established by MDEQ.

General Sampling Design to Address Community Concerns

In order to address community concerns that sampling results not be associated with individual private property owners before site-specific cleanup criteria are approved, a sample "blinding" procedure has been developed. The basic elements of the procedure consist of the following:

- Sample stations will consist of a nominal 300 by 300 ft. square box that will be subdivided into approximately 9 subareas. Samples will be collected from 5 of the subareas and provided to an independent 3rd party, approved by the MDEQ, that will randomly select one of the samples and submit it for laboratory analyses. The sample selected for analysis by the 3rd party will not be revealed to Dow, MDEQ, or the public until after area wide cleanup criteria are approved. The 3rd party will provide the results to Dow and MDEQ along with the sample station identifier only.
- The sample station "boxes" will be adjusted based on actual site conditions to 1) ensure an adequate number of properties are included within the station to protect the anonymity of the property analyzed and 2) capture properties of a similar land use where possible. Figure 2 provides a conceptual example of how the sample station "boxes" might be adjusted. The final locations and extent of each sample station will be developed jointly with and approved by MDEQ.
- Sample stations that are completely contained within a parcel or parcels owned by a single property owner will have a single sample collected from within the "box" unless the owner requests multiple samples. However, if multiple samples are taken only one sample will be selected for analysis consistent with other random sample selection procedures.
- Under specific conditions (as described below) the exact sample locations and results will be revealed to MDEQ and Dow prior to approval of area wide cleanup criteria. These conditions are limited to locations where the soil dioxin/furan TEQ exceeds 1,000 part per trillion (ppt) or soil concentrations of other target analytes are found

that present an unacceptable exposure. Residential properties with TEQs exceeding 1,000 ppt would be eligible for an Interim Response Activity (IRA).

- Property owners would be permitted to contact the aforementioned 3rd party to obtain information on whether samples from their property were tested and, if so, obtain the test results. Neither MDEQ nor Dow would be informed of the identities of parties requesting this information or the specific property results.

Support for Bioavailability Study

Samples will be collected primarily from areas that are representative of conditions on residential or public areas and will be analyzed for dioxins, furans, and the selected bioavailability parameters that will be listed in the revised work plan. Samples will not be analyzed for bioavailability parameters where sample stations are located on water bodies, or fully developed industrial or commercial properties (e.g., sample stations at the Dow Corning Plant, Midland Cogeneration Venture cooling water ponds, and City of Midland wastewater treatment plant, etc.) because surface "soils" in these areas are highly disturbed or are not present. Figure 1 indicates the locations where these samples will be collected based on a preliminary review of the sample stations. Final sample locations will be developed in consultation with MDEQ prior to submittal of the revised BSAP.

Provide Information on Hazardous Substances

Samples in proximity (the first two sample stations along each transect regardless of the current land use) to the Dow Midland Plant will be analyzed for the purpose of developing an expanded Target Analyte List (TAL) of substances that may potentially be related to Dow operations. Samples will be collected and analyzed from two intervals: zero to one-inch and one to six inches below grade. Figure 1 indicates the locations where these samples will be collected based on a preliminary review of the sample stations. Final sample locations will be developed in consultation with and subject to the approval of MDEQ prior to submittal of the revised BSAP.

Schedule

The revised BSAP will be submitted to MDEQ for approval by June 1, 2006. Subsequent to MDEQ review the BSAP may be submitted to the Independent Science Advisory Panel.

Proposed Dioxin/Furan, Bioavailability and PCOI Sampling Strategy

Legend

- 9400 Foot Radius
- Downwind >6% of the time '87-91
- Downwind < 6% of the time '87-91
- 1320 and 2460 Foot Radii
- Property Boundaries from R299.9525 Deed Notices
- PCOI and D/F with Bioavailability
- Dioxin/Furan Samples w/ Bioavailability
- Priority One Areas

Identification of the nine individual subcells within the 300 x 300 foot sampling box. An example of a sample ID would be A2Σ, indicating the center cell of the second sampling box away from the centerpoint of the study area on the ray designated as "A".

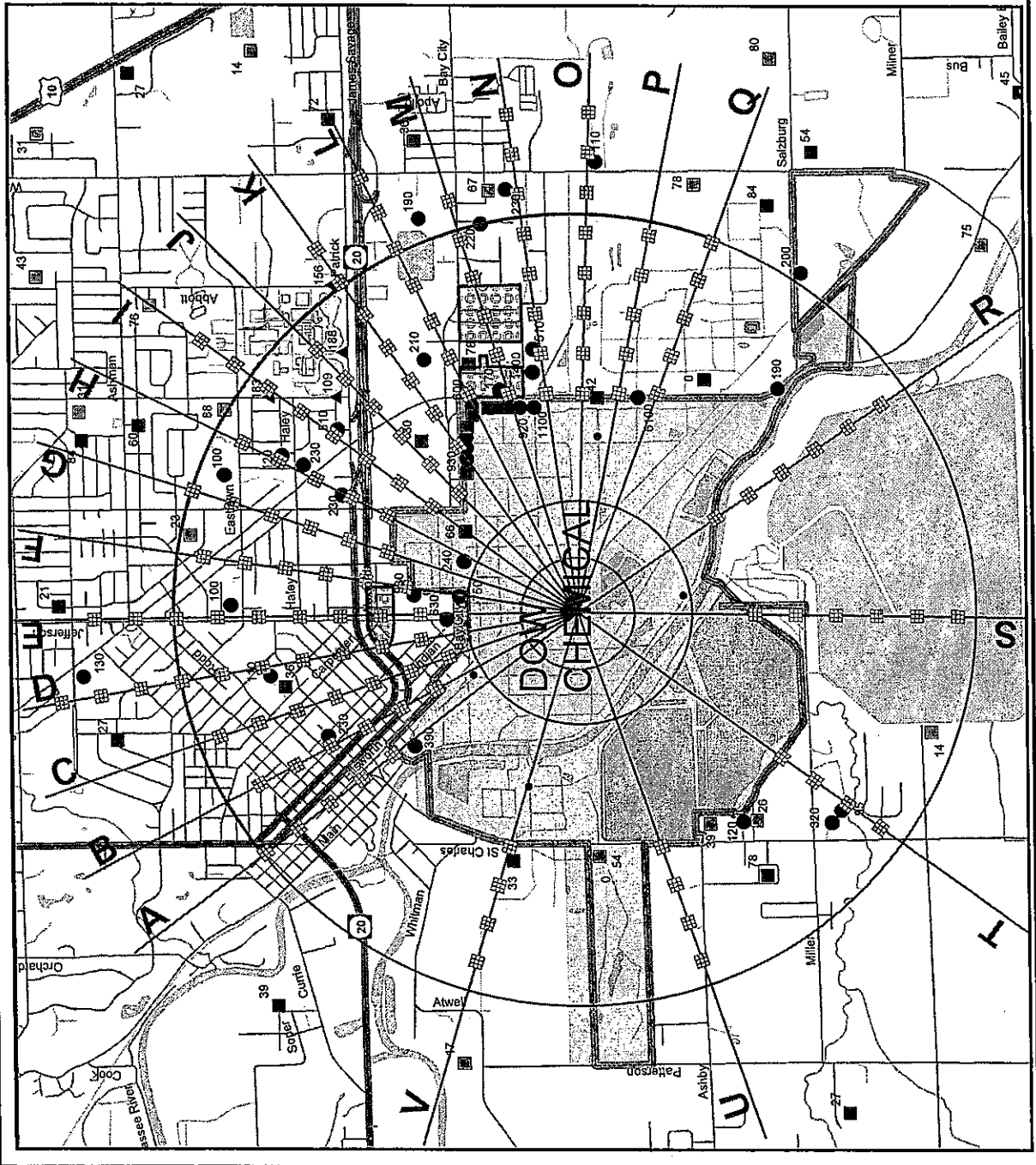


Summary of Dow, U.S. EPA & MDEQ Dioxin Data from 1983, 1984, 1986, and 1988

- Less than 90 ppt TEQ
 - Exceeds 90 ppt TEQ
 - ▲ Exceeds 50 ppt TEQ (Average of Multiple Samples)
- Note: 1983 and 1984 data is estimated using 2,3,7,8-TCDD concentrations and congener profile information.



April 14, 2006





Michigan Operations
August 10, 2006

The Dow Chemical Company
Midland, MI 48667

George W. Bruchmann, Chief
Waste and Hazardous Materials Division
State of Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan Street

Lansing, MI 48909-7741

Subject: Proposed Mailing Package to Potential Participants in Midland Representative
Soils Sampling and Analysis Plan in Support of Bioavailability Study

Dear Mr. Bruchmann:

Enclosed are the documents prepared for mailing to the owners and/or residents to obtain access from sample station locations where soil sampling is being proposed under the *Midland Representative Soils Sampling and Analysis Plan in Support of Bioavailability Study*.

The language in the proposed mailing package have been discussed and agreed upon by representatives of the City of Midland. If the Michigan Department of Environmental Quality (MDEQ) in their review of these documents believes changes are necessary The Dow Chemical Company (Dow) believes that any discussion on any proposed changes include City of Midland representatives.

Upon approval of these documents by the MDEQ and confirmation by the MDEQ that the locations of the sample stations are fixed for the samples proposed in the *Midland Representative Soils Sampling and Analysis Plan in Support of Bioavailability Study* these documents will be mailed to the potential study participants to obtain access to collect these samples.

Sincerely,

Ben Baker
Senior Environmental Project Leader
Michigan Operations
47 Building
Midland, MI 48667

Enclosure

cc: Thomas Phillips, Miller Canfield
Noel Bush, City of Midland
Gary Dyke, CH2M Hill

August xx, 2006

Landowner, A
123 County Rd
MIDLAND MI

Dear Landowner:

As part of The Dow Chemical Company's (Dow) obligations under its Operating License for the Midland Facility, Dow is evaluating if chemicals historically released from operations at its Midland Plant have affected area properties. The purpose of this letter is to request that you allow Dow and its contractors to collect a soil sample from your property at:

Property Address: 123 County Rd
City of Midland Property Tax Identification Number: 14-10-20-608

Dow is making this same request of other property owners in the City of Midland and surrounding areas.

This soil sampling and analysis (testing) is part of a plan developed jointly by Dow and the Michigan Department of Environmental Quality (MDEQ) to determine the types of soils typically found in the Midland area that have been affected by dioxins and furans, or other chemicals produced by Dow's operations (at selected locations). If you agree to allow Dow to sample your soil, Dow's contractor will take enough soil that would approximately fill a football from the top six inches of soil. This sample will be submitted to an independent third party, which will assign blind identification numbers to the soil samples so that Dow, MDEQ, and the laboratory handling the soil sample will not know the location where the sample was taken. The laboratory will test the soil to identify its type and determine whether it contains dioxins and furans and, if so, how much of those chemicals.

The results of this soil sampling and testing will be critical in selecting the soil types to be included in a bioavailability study Dow may conduct, which would help explain if or how dioxins and furans make their way from soil into the human body in a form that could potentially affect human health. When the results of a bioavailability study are added to information to be gathered regarding the health risks of exposure to these chemicals, Dow and MDEQ will be able to begin developing site-specific cleanup criteria. These criteria are the threshold amounts of dioxins and furans found in soil that would require Dow to conduct a cleanup in particular areas. The soil sampling and testing Dow is doing now will also help determine the location and amounts of dioxins and furans and other chemicals in the soil. Quick action will be taken to protect the public if this testing reveals a threat to health. The brochure included with this letter provides additional information concerning this soil sampling and analysis plan.

MDEQ and Dow, with input from the City of Midland and other interested parties, have worked hard to minimize the effects of soil sampling and analysis on property owners. MDEQ and Dow have agreed to keep the soil samples anonymous unless there is a health threat or until they develop a site-specific cleanup criteria. MDEQ and Dow have also agreed to release results from the group of properties that make up a sampling station without identifying the particular property tested. This allows owners to learn preliminary results while keeping the testing anonymous. For a property owner to obtain results from the "sample station" that contains his property they may contact the independent third party at XXXXXXXXXXXX (Will add this contact information to letter once received from third party prior to mailing.) Dow is committed to minimizing any inconvenience to you if you allow it to take a soil sample from your property and it will restore your property to its original condition after sampling. MDEQ has also provided its assurance that allowing Dow to sample your

property does not automatically mean that it is contaminated or that it will be labeled a "facility" under Michigan law.

Dow hopes that you will agree to allow it to take these soil samples by signing and returning the enclosed "License Agreement" to Dow's contractor CH2M HILL in the enclosed postage paid envelope. If you decide not to participate please contact us at 989-638-8121 to let us know of your decision. MDEQ requires Dow to use "best efforts" to obtain access to properties for this evaluation. If we do not receive a call or signed agreement from you we are required to attempt to contact you through various means (phone, home visits, etc.).

If you have any questions about the study, please contact one of the following individuals.

Contact	Phone Number	e-mail Address
Julie Clark, CH2M HILL	989-638-8121	jclark9@ch2m.com
Allan Taylor, MDEQ	517-335-4799	taylorab@michigan.gov
Cheryl Howe, MDEQ	517-373-9881	howec@michigan.gov
Garret Geer, Dow	989-636-9467	mjernst@dow.com

Sincerely,

The Dow Chemical Company
Attachments
Summary of Midland Representative Soils Study
License Agreement

License Agreement

This agreement is between (Owner Name) _____, the owner, whose mailing address is _____, (City) _____, (State) _____, (Zip Code) _____ and The Dow Chemical Company (Dow), a Delaware corporation with offices located at 1790 Building, Midland, Michigan 48674.

The purpose of this agreement is to allow Dow and its contractors to access the property described below so that the soil can be sampled. The soil collected from the property may be analyzed to determine whether it contains dioxins, furans, other contaminants, or other characteristics relevant to a bioavailability study Dow may conduct. Additional information regarding these activities are described in the brochure called *Midland Representative Soils Study Summary*.

This agreement also allows the Michigan Department of Environmental Quality (MDEQ) and an independent third party to access the property for the purpose of overseeing or monitoring Dow's activities.

By signing this agreement, the owner grants Dow, MDEQ, the independent third party, and their respective contractor's permission to access the property identified below:

The property is located at (Street Address) _____, (City) _____, Parcel number _____.

This agreement begins (date) _____. This agreement ends December 31, 2007 or earlier if requested by owner. Either party may terminate this agreement at any time.

Dow agrees to the following:

1. Dow will be responsible for proper disposal of any samples taken from the property.
2. Dow will repair any damage caused to the property by the activities allowed under this License Agreement.
3. Dow will notify resident or owner seven (7) days prior to accessing the property.
4. Dow will notify the resident or owner of test results if the dioxin and furan TEQ exceeds 1000 ppt or if other compounds are present at concentrations that pose an unacceptable exposure

To execute this agreement, please sign below:

OWNER/RESIDENT

THE DOW CHEMICAL COMPANY

By: _____
Sign Name

By: _____

Name: _____
Print

Name: _____

Title: _____

Date: _____

Date: _____

Contact Information

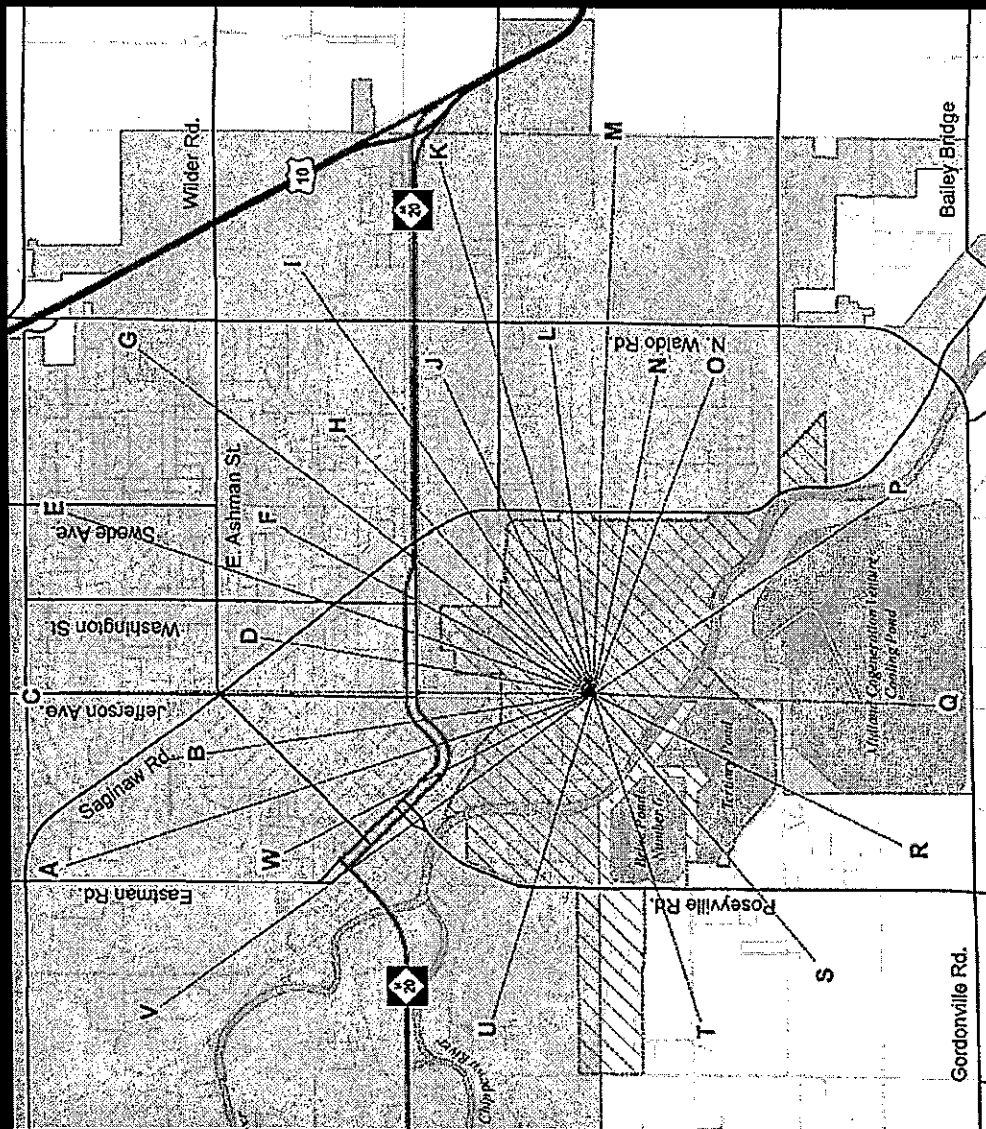
Owner's Name: _____ Phone Number: _____

Resident's Name *(if different)*: _____ Phone Number: _____

Property Address: _____

Owner's Mailing Address *(if different)*: _____

Midland Area Representative Soils Study Summary



Midland representative soils study area sampling transects shown

FOR MORE INFORMATION CONTACT:

Julie Clark, (989) 638-8121, CH2M HILL

Al Taylor, (517) 373-9881, or Cheryl Howe,

(517) 373-9881, MDEQ

Garret Geer (989) 636-9467, Dow

Midland Area Soil Study

The Dow Chemical Company, in collaboration with the Michigan Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (USEPA), will be conducting a detailed study of soil conditions in the Midland area.

This study intends to meet the following objectives:

- Characterize the local distribution of soil properties that might influence the bioavailability of dioxins and furans in the soil (bioavailability is the ability of a substance to be absorbed into the body).
- Develop additional information about the distribution of contamination in Midland area surface soil.
- Determine whether additional Dow-related hazardous substances are present in Midland area soil.
- Maintain anonymity of private property owners who participate in the study.

A detailed work plan describing the sampling and data evaluation efforts associated with this study is available at:

<http://www.deq.state.mi.us/documents/deq-whm-hw-dow-SAPSupportingBioStudy-Midland-612006.pdf>

Benefits of Study

The information generated by this study will be used as part of a process to develop site-specific cleanup criteria for dioxins and furans that are specific to the Midland area. The study will also provide information about the current levels of dioxins and furans, and possibly other Dow-related contamination in the community. This will allow Dow and MDEQ to make informed decisions about risks to human health.

Study Location

The study area encompasses residential, commercial, and industrial properties surrounding the Dow Plant, as shown in this brochure.

Sample Locations

Surface soil samples will be collected from 145 defined areas called "sample stations" at regularly spaced intervals along a series of lines radiating outward from the Dow Plant, as shown on the map on the back of this brochure. These lines were chosen because of wind patterns. Sample stations are positioned every 950 ft along each line and consist of a box approximately 300 x 300 ft.

Sample Collection Process

Samples from residential properties will be preferentially collected from a location in the central area in the front yard if possible. In most cases, the front of the house is the best place to collect samples because the soil there is less likely to be disturbed and the area is more easily accessible to the sampling team. There may be some properties where the samples will be taken from other areas because of conditions specific to the property.

Samples from commercial, industrial or public properties will be collected from undeveloped or vegetated areas, such as wood lots and grassy areas (if available).

Dow and its contractors will collect samples from the top six inches of soil and in most cases take no more soil than would fill a one quart container. They will use only hand tools, not heavy equipment, and will cause minimal disturbance to the property. It should take about 1 hour to collect a sample at each location.

Protecting the Anonymity of Property Owners

In response to community concerns, the sampling program has been designed to protect the anonymity of property owners where possible. This will be achieved by sampling multiple properties within a sample station, as shown below.

Example Sample Station
Consisting of 10 Properties

1	2	3	4	5
6	7	8	9	10

Properties randomly selected.
Sample collected, but not analyzed.
Sample collected and analyzed.



Where possible, samples will be collected from 5 properties within each sample station, but only one sample selected by the independent third party will be submitted for laboratory analysis. The independent third party will relabel the samples before sending them to the laboratory and will store and preserve the other samples that will not be tested. After the laboratory analyzes the soil samples, the results will be shared with Dow and MDEQ, and the independent third party. The independent third party will tell Dow and MDEQ the results for the sample stations, but will not identify the individual properties where the samples were taken or who owns the property in order to preserve the anonymity of this sampling plan. Participating property owners can request the data from the sample stations by contacting _____. However, if the results show that contaminants exceed action levels or pose other unacceptable risks of harm to human health, the independent third party will promptly identify the specific property and its owner for Dow and MDEQ so that they can determine the appropriate steps to take to address the contamination.

Schedule

The sampling program is scheduled to take place in the fall of 2006. Sampling may extend past then if there is bad weather or it takes a long time to obtain access to a sufficient number of properties.

Sample station test results will be available approximately 90 days after sampling.

Once an owner becomes aware of the results for his or her specific property, that will be sufficient knowledge to determine whether the property is a "facility" under Michigan law. Generally, a facility is any place where contamination is present in an amount greater than cleanup criteria. An owner of a facility has the obligation of (1) not making contamination more difficult or costly to cleanup, (2) providing written notice to a person acquiring any interest in the property, and (3) complying with restrictions on relocating contaminated soil. MDEQ has developed several brochures that can provide you with additional information regarding facility status and a facility owner's obligations that can be found at:

<http://www.michigan.gov/deq/0,1607,7-135-3307-29693-21234-115743--,00.html>

**Meeting Regarding
City of Midland Blinding Protocol**

Lansing, Michigan - September 21, 2006

AGENDA

1. **Introductions (Tom Phillips)**
2. **Dow's Understanding of the Blinding Protocol (Ben Baker)**
3. **Midland's Understanding of the Blinding Protocol**
4. **Major Issues and Possible Approaches**
5. **FTCH's Outline and Dow's Proposed Revisions**

**Meeting Regarding
City of Midland Blinding Protocol**

Midland, Michigan - September 29, 2006

AGENDA

- 1. Introductions (Tom Phillips)**
- 2. Midland's Proposal Regarding the Blinding Protocol**
- 3. MDEQ's Proposal To Combine Transects For Limited Geospatial Information**
- 4. Major Issues and Possible Approaches**

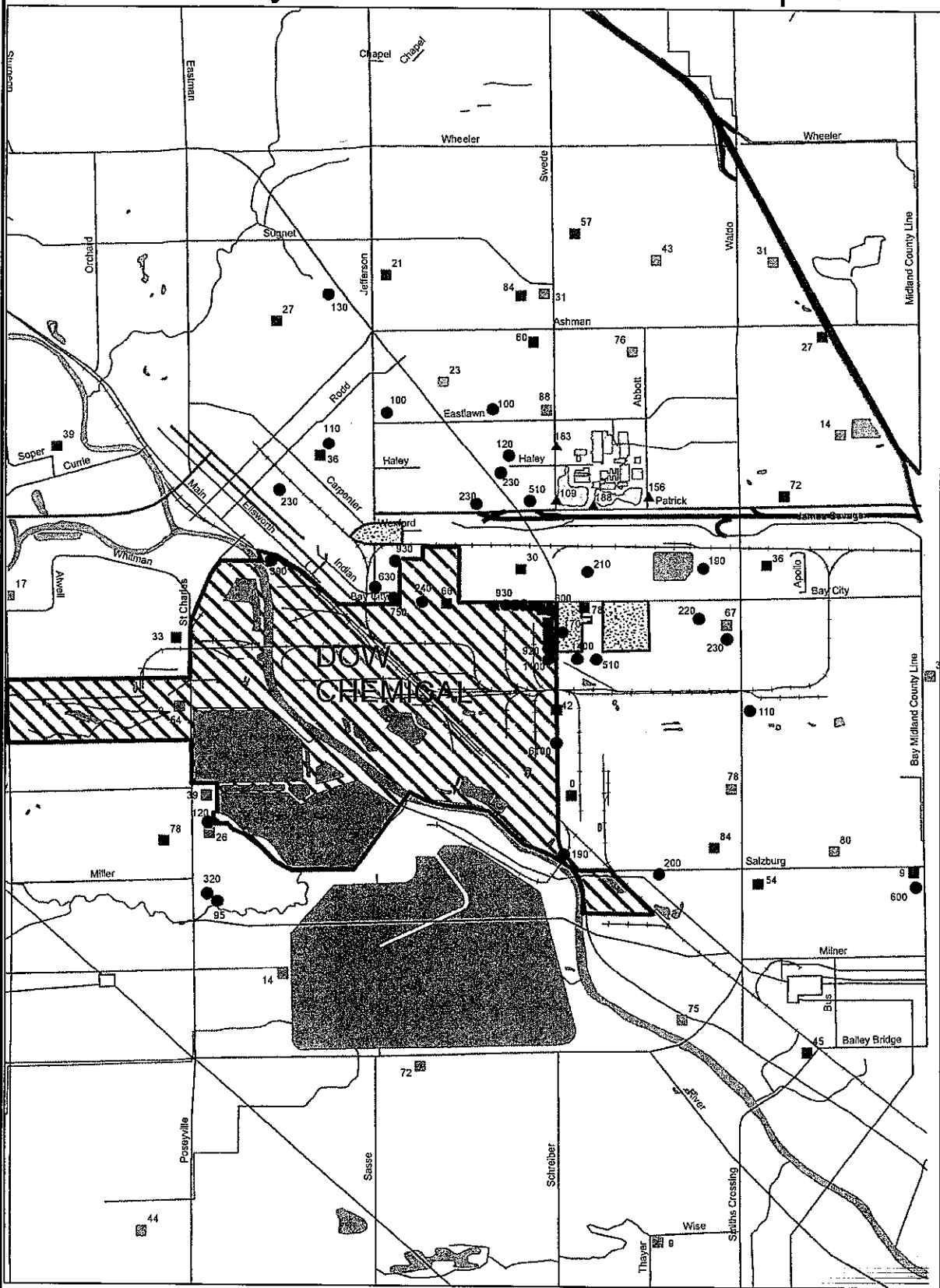
AGENDA
Meeting With Dow, MDEQ, FTCH and MCPS
December 20, 2006

- 1. Review Status of Notifications:**
 - A. Letter to Residents**
 - B. Responses from Residents**
 - C. Certification from CH2M Hill to Third Party**
 - D. Certification by TPC to Dow and MDEQ**
 - E. Certification from Laboratory to Dow/MDEQ/Third Party**

- 2. Data Mapping Process**
 - A. March 1, 2007 deadline for Dow report**
 - B. Mid-January 2007 beginning of requests for data plotting**
 - C. Date validated data will be forwarded to FTCH**
 - D. Date base map with soil characteristics/bioavailability characteristics, will be provided to FTCH.**
 - E. Form of requests**
 - F. Who submits requests?**
 - 1. MDEQ/Dow jointly? Either/both**
 - 2. ID decisionmaker/contact for making requests**
 - G. Who are requests submitted to**
 - H. Anticipated number of requests**
 - I. Requests are limited to plotting**

- J. Turnaround time for plotting data**
 - K. Access to maps**
 - L. Base map from bioavailability data**
 - M. Map size and format**
 - N. Map retention**
- 3. Process for Disclosing Station Information to Property Owners**
- A. Obtaining access agreements from Dow**
 - B. Verifying ownership of property**
 - C. Contents of cover letter to property owners**
 - D. Format for station data and explanation of information presented**
 - E. Authorization of notification**
 - F. Who will be sending out the notifications?**
- 4. Final Review of Anticipated Timeline for Future Activities**

Summary of Midland Area Dioxin Samples



Summary of Dow, U.S. EPA & MDEQ Dioxin Data from 1983, 1984, 1996, and 1998

- Less than 90 ppt TEQ
- Exceeds 90 ppt TEQ
- ▲ Exceeds 90 ppt TEQ (Average of Multiple Samples)

IRA Neighborhoods

Note: 1983 and 1984 data is estimated using 2,3,7,8-TCDD concentrations and congener profile information.



June 10, 2005