

Progress Update Kingsford Study Area

Ford Motor Company and The Kingsford Products Company have developed this Progress Update to share information regarding the investigations and activities being conducted in the Kingsford study area. Ford and Kingsford Products remain committed to working with the residents of Kingsford, the Michigan Department of Environmental Quality, and the City of Kingsford to address environmental conditions in the study area.

Ford and Kingsford Products understand that community members may have questions about the work that has been done to address environmental issues associated with the companies' historical operations, including methane and other substances in the Kingsford study area. This "Progress Update" provides details regarding the extensive investigation and response activities that Ford and Kingsford Products have undertaken over the past five years. Ford and Kingsford Products continue to monitor methane in the study area and to remove methane from the subsurface as it is located. Additionally, your municipal drinking water is safe.

For several years, Ford and Kingsford Products, working with the community and the Michigan Department of Environmental Quality (MDEQ), have made significant progress in addressing environmental issues in the area. ARCADIS, the engineering firm hired by Ford and Kingsford Products, has coordinated the investigation, response, and ongoing monitoring efforts. Key findings of our investigation have shown:

- Methane in the *study area* is being monitored and removed as it is located;
- The municipal water supply is safe and the municipal water wells are located outside the *study area*;
- Constituents in groundwater beneath residential and commercial areas is over 50 feet below the ground and presents no problems to residents;
- Ford and Kingsford Products' studies did not identify an impact to the biological community as a result of the groundwater discharging from the study area to the Menominee River; and

- Methane detected at Ford Airport is not related to Ford and Kingsford Products' operations.

Following are highlights of ongoing activities in the *study area* to ensure that methane and other substances are being effectively addressed.

INVESTIGATION & SAMPLING ACTIVITIES

Ford and Kingsford Products have undertaken an extensive investigation of soil and groundwater conditions in the *study area*, which generally is bordered on the north by Woodward Avenue, on the east by Hooper Street, and on the west and south by the Menominee River. Information from this investigation has been provided to MDEQ.

Conditions within the *study area* vary widely as a result of complex *geology* and *hydrogeology*. The investigation focused on identifying former waste disposal locations that may have been used by Ford and Kingsford Products as part of their former operations, as well as others. These waste disposal areas include the former Northeast Pit, the former Southwest Pit (Lodal Park), and the *Riverside Disposal Area (RDA)*. The former plant area as well as the former West Breen Avenue Disposal Area and the Charcoal Disposal Area have been investigated at the request of MDEQ. Information from the investigation has helped the companies understand potential soil and

COMMUNITY INFORMATION LINE

Ford and Kingsford Products understand that community members may have questions or concerns about work being conducted in the study area. We invite you to call our Community Information Line at 1-800-315-4288 with any questions you may have. This line operates between 7:30 a.m. and 4:30 p.m. Central Time, Monday through Friday. You may leave a message at this number during other hours. We will return your call as soon as possible.

groundwater issues associated with these areas, including the generation of methane.

The investigation determined that natural breakdown processes in the deep groundwater generate the majority of methane in the *study area*. Because of these natural processes, variations in *geology*, and groundwater flow, methane can move out of the groundwater into the ground as a gas.

There are underground silt/clay layers throughout much of the *study area* that can trap methane and prevent it from coming to the ground surface. However, where there are openings in the underground silt/clay layers, methane can move to the ground surface. In the areas identified, Ford and Kingsford Products are using venting to remove the methane.

RIVERSIDE DISPOSAL AREA

Ford and Kingsford Products have submitted an *Interim Response Action Plan (IRAP)* to MDEQ for the *RDA*, and are working with MDEQ to finalize the plan. The *RDA* is located in the northwest portion of the *study area* near the Menominee River. To expedite the response activities, ARCADIS is completing the construction of a *soil cover*, consisting of 30-inches of clean soil. The *soil cover* prevents contact with any of the materials in the *RDA*. ARCADIS also has installed a road, gutters, water main, and sewer lines in the area.

Methane in an area near the *RDA* is being captured with a venting system that removes the methane from below ground. The methane is approximately 70 feet below the ground surface, beneath a thick underground silt/clay layer.

The companies are working with the City of Kingsford to build a community soccer field at the *RDA*. ARCADIS expects to complete construction of the new soccer field by the end of 2003. Constructing a *soil cover* and reusing a former disposal area are common redevelopment practices across the United States.

LODAL PARK AREA AND NORTHEAST PIT

Based on the results of previous sampling, MDEQ has concluded that visiting or playing in Lodal Park (the former Southwest Pit) is safe. Materials present below ground in this area include mostly wood fragments, charred wood, and charcoal. A layer of soil between six inches and five feet thick covers these materials.

Ford and Kingsford Products have submitted an *IRAP* to MDEQ for the Lodal Park area, and are working to finalize the plan with MDEQ. The companies will provide details of the finalized plan to the community when approved by MDEQ.

The companies also submitted an *IRAP* to MDEQ for the former Northeast Pit, an area west of the old Ford and Kingsford Products plant site, and are working on finalizing this plan with MDEQ. In the late 1980s a considerable quantity of wood tar was removed from this area and the remaining materials were covered with clean fill material. Wood tar is among the waste wood products in the Northeast Pit. Occasionally wood tar remaining in the former Northeast Pit rises to the ground surface at portions of the pit. ARCADIS monitors the Northeast Pit area, and collects and disposes of any wood tar that may rise to the surface.

FORMER WEST BREEN AVENUE DISPOSAL AREA

The former West Breen Avenue Disposal Area is located at the western end of West Breen Avenue and was primarily used by residents of the City of Kingsford to dispose of household wastes. Groundwater samples collected from the base of the former disposal area indicate that constituents associated with Ford and Kingsford Products' former operations are not present in the groundwater. Testing confirms that this area is not a source of methane.

CHARCOAL DISPOSAL AREA

The Charcoal Disposal Area is located near Cowboy Lake outside of the *study area*. Sampling results have found charcoal, coal, and construction debris at and beneath the surface at this area. These materials are not releasing hazardous substances to the soil, groundwater, or air that are above Michigan standards for direct contact or drinking water.

METHANE REMOVAL AND MONITORING

Active and passive vents are operating at various locations in the *study area* to remove methane. Active venting systems are in place near the intersection of West Breen Avenue and Garfield Street, the intersection of Grant Street and Emmet Street, Lodal Park, and near the

RDA. A temporary portable active vent has been used, as needed, at a few additional locations.

Passive vents are also used at various locations to vent methane to the air. Passive vents use temporarily installed flagpoles as outlets for releasing methane, which are relocated as necessary. Active and passive vents operate under an *MDEQ* air permit, and meet air quality and safety guidelines.

MDEQ initiated a methane detector program in September 1997 to ensure that any potential methane in houses was identified long before a potential safety hazard could develop. *Methane detectors*, designed to sound long before a safety hazard exists, were placed in houses. Since fall 1999, the companies have continued this program.

Like smoke detectors, installation of *methane detectors* is a common practice. In addition to the *methane detectors*, methane checks are conducted periodically to verify conditions inside buildings.

From November 1999 through August 2000, Ford and Kingsford Products initiated a residential methane detector enhancement program to confirm that each house had the appropriate number of *methane detectors*, that the *methane detectors* were properly installed and functioning, and to determine whether methane was present. This program was conducted in cooperation with the *Kingsford Public Safety Department (KPSD)* and the *Breitung Township Fire Department (BTFD)*.

ARCADIS went door-to-door to more than 1,000 residences in the *study area*, accompanied by either a *KPSD* or *BTFD* officer. Methane was not detected above very low natural "background" levels in any of the houses, except for a few instances where ARCADIS found gas leaking from appliances such as gas hot water heaters, furnaces, and stoves. ARCADIS notified homeowners of such problems.

ARCADIS also worked with residents to replace or relocate *methane detectors*, as necessary. Information packets were provided to program participants to educate them about common household products that may cause a *methane detector* to sound, and provide techniques to help prevent unwanted gases, such as methane, from entering a house. As part of the

program, *KPSD* and *BTFD* were trained to respond to a house when a *methane detector* sounds. Should your *methane detector* sound, we urge you to call 911 from a neighbor's house as a safety precaution.

In addition to the residential program, ARCADIS created a methane monitoring program for commercial properties in the *study area*. This program includes the installation and monitoring of probes at the properties that monitor soil vapor.

ARCADIS continues to conduct routine *methane detector* checks at houses, businesses, and other buildings in the area as part of the methane monitoring program. If you have any questions about the methane programs or activities related to the *study area*, please call our community information line at 1-800-315-4288.

METHANE DETECTOR ORDINANCE

As you may know, the Kingsford City Council is considering a methane detector ordinance that would require all residential buildings in the *study area* to be equipped with *methane detectors*, which Ford and Kingsford Products will provide. This ordinance would help ensure that methane monitoring continues and that methane is detected and addressed well before a safety hazard could develop.

ACTIVITIES IN OTHER AREAS

WOODLAND ELEMENTARY SCHOOL

Ford and Kingsford Products continue to confirm that methane is not present in the Woodland Elementary School. Methane has been found to the east of the school at approximately 70 feet below the ground surface, beneath a thick underground silt/clay layer that prevents the methane from moving upward to the ground surface. The soil vapor extraction system that is operated near the *RDA* is removing this methane.

Methane detectors at the school are monitored and methane checks using hand-held instruments are conducted regularly. Soil vapor probes and monitoring wells also have been installed around the school and are monitored regularly for the presence of methane. An independent methane expert has visited the school and validated the companies' approach to monitoring for potential methane. Safety at the school is a top priority. We will continue to

closely monitor conditions in the area and coordinate our activities with school officials.

DELTA-DO-IT CENTER

Ford and Kingsford Products have been operating a temporary methane venting system outside the Delta-Do-It Center building to remove methane from soil located approximately 40 feet below the ground, in a limited area in the parking lot. This system has successfully reduced methane levels in this area and we are preparing to stop operating the system; however, methane monitoring will continue. ARCADIS conducted a number of methane checks as a precaution and confirmed that *methane detectors* present in the building have been functioning properly. No methane has ever been found in the building. In addition, four soil vapor monitoring probes are located around the building to provide information about methane in the shallow soil. MDEQ is kept informed of this work.

SOUTHERN AIRPORT AREA

In 2001 methane was discovered in the southern portion of the airport. Following an initial investigation, ARCADIS continued to inspect the interior of the airport buildings for methane over a three-month period. No methane was ever detected within the southern airport buildings or hangars.

ARCADIS monitored vapors in the soil outside the southern airport buildings. The results from field instrument readings and other tests indicate that the methane at the airport is from decaying organic material from tree removal and backfilling activities associated with the airport expansion in 1995. The methane at the airport is not related to Ford and Kingsford Products operations.

The results from groundwater samples collected by ARCADIS also show no detectable levels of methane in the groundwater at the southern airport area. ARCADIS has submitted all of its investigation results to MDEQ, officials with Dickinson County, the airport, and the City of Kingsford.

MDEQ conducted an independent investigation of the methane present in the southern airport area. Similar to ARCADIS'

results, MDEQ determined that the methane at the southern airport is not related to the methane in the *study area*. Analysis of MDEQ groundwater samples confirms that no methane is present in the groundwater in this area. MDEQ installed a passive vent at the southern airport to vent the shallow subsurface methane. Airport officials removed shallow soils containing the organic material that generated the methane.

GROUNDWATER AND SURFACE WATER

The City drinking water supply is safe. The City's well fields are located outside of the *study area*; the well fields have not and will not be affected by conditions in the *study area*. The municipal water supply serves all of the residents in the *study area*. Because the groundwater beneath the *study area* flows away from the well fields, the City wells are not affected by substances in the *study area*. The City regularly tests the drinking water supply to ensure that it meets federal and state drinking water standards.

The companies continue to monitor groundwater in the *study area*. Groundwater below residential areas containing methane and other constituents is deep (more than 50 feet). Residents will not come in contact with it in their yards.

Ford and Kingsford Products also have studied the Menominee River. The results of the studies did not identify an impact to the biological community as a result of the groundwater discharging from the study area to the Menominee River.

Notwithstanding the results of the Menominee River study, Ford and Kingsford Products, in coordination with MDEQ and the City, have built and are operating the second phase of a pilot groundwater treatment system near the Menominee River. Groundwater is collected and pre-treated to remove methane and reduce the concentration of organic substances. The treated groundwater is then sent to the Iron Mountain/Kingsford Wastewater Treatment Plant for final treatment.

Glossary of Terms

Breitung Township Fire Department (BTFD): Local fire department that is assisting Ford and Kingsford Products with the methane detector program.

Geology: A science dealing with the history of the earth, conditions below the ground surface, rocks, and other features.

Hydrogeology: A science dealing with the flow of water on and below the ground surface.

Interim Response Action Plan (IRAP): A clean-up plan based on technical information that is developed to address environmental issues in a certain area. The plan must be reviewed and approved by MDEQ before it is implemented.

Kingsford Public Safety Department (KPSD): Local public safety department that is assisting Ford and Kingsford Products with the methane detector program.

Methane detector: A small device, similar in size and operation to a smoke detector, that is placed in basements or the lowest level of a building to detect methane. Methane detectors are designed to sound long before a safety hazard exists.

Michigan Department of Environmental Quality (MDEQ): State environmental agency providing oversight of Ford and Kingsford Products' activities.

Riverside Disposal Area (RDA): Former disposal area located in the northwest portion of the study area near the Menominee River.

Soil cover/soil cap: A natural or constructed layer of soil of varying thickness that covers constituents and prevents contact with the constituents.

Study area: The area where Ford and Kingsford Products have undertaken an extensive investigation of soil and groundwater, and that generally is bordered on the north by Woodward Avenue, on the east by Hooper Street, and on the west and south by the Menominee River.

Answers to Commonly Asked Questions

Q: What is methane?

A: Methane is a natural compound used for heating and cooking. It is neither toxic, nor harmful to the body if one breathes it. Methane concentrations from 5 percent to 15 percent by volume in air in a confined area present a fire hazard. At higher levels, asphyxiation could occur in a confined space. Methane detectors are designed to sound long before a safety hazard could develop.

Q: What materials are present in the former disposal areas?

A: Materials present below ground in historic disposal areas in the study area include mostly wood fragments, charred wood, and household waste. Because of the conditions below ground and the locations of the former disposal areas, the exact composition of materials varies greatly. ARCADIS' investigation activities have helped provide a better understanding of the conditions and distribution of constituents in the waste material and groundwater.

Q: How is methane vented?

A: Venting is the process where methane is safely released from below ground into the air. Active venting releases methane with active soil vapor extraction systems that are mechanically driven. Passive venting uses pipes inserted into the ground to release methane from below ground. By releasing the methane into the air, the safety hazard is greatly reduced.

Q: What information has been collected in the study area?

A: Information about soil and groundwater conditions has been collected by ARCADIS and supplied to MDEQ. The work included drilling soil borings, digging test pits, and installing groundwater monitoring wells and soil vapor probes. Over 600 chemical samples and over 100 physical samples were taken, with approximately 250,000 data points collected from 320 soil borings, 101 groundwater monitoring wells, and 140 soil vapor probes. This thorough investigation was necessary because of the complex underground conditions that vary widely within the study area.

Q: How are you keeping the community informed about your activities?

A: ARCADIS, Ford, and Kingsford Products regularly update City and Township officials, local contacts, and MDEQ personnel regarding activities in the study area. The companies also meet individually, as needed, with community members who have specific questions. Other activities include periodic mailing of *Progress Updates* to the community and operation of a Community Information Line at 1-800-315-4288.

**Kingsford Study Area
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WELL ORDINANCE

Currently, no residents have active water supply wells. The Kingsford City Council is considering a water well ordinance prohibiting drilling new wells in the City within the *study area*. The ordinance will ensure that residents receive municipal drinking water that is regularly tested by the City to ensure that it continues to meet all federal and state drinking water standards. Breitung Township is considering a similar ordinance for the portion of the Township in the *study area*.