



WFG Remediation
Alex Rothchild
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Sep 30, 2003 09:19

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

September 15, 2003

REPLY TO THE ATTENTION OF:

Jean Caufield
General Motors Corporation
Worldwide Facilities Group Remediation Team
Troy Tech Building A 1996 Technology Drive
Mail Code: 483-619-356
Troy, Michigan 48083

RE: Comments on GWNIAA and GSI Demonstrations for GM Truck Group,
Pontiac, Michigan

Dear Ms. Caufield:

On July 30, 2003, the Michigan DEQ Remedial Advisory Team (RAT) and U.S. EPA met in Kalamazoo, Michigan to provide comment on the Groundwater Not In An Aquifer (GWNIAA) and Groundwater/Surface Water (GSI) demonstrations submitted by General Motors (GM) for its Truck Group facility in East Pontiac, Michigan. Both demonstrations had already been reviewed by U.S. EPA and a preliminary determination made on them. The RAT was made aware of these determinations during the meeting.

After the meeting, the RAT was asked to provide its comments in writing and submit them to the U.S. EPA. I received the comments along with recommendations on September 11, 2003, and have enclosed them for your consideration. When reading the comments, you will quickly realize that the RAT considers both demonstrations to be woefully deficient in terms of data for addressing the criteria for the two demonstrations. The RAT also pointed out other available mechanisms to pursue instead of the GWNIAA and GSI demonstrations and actually recommended a land use restriction remedy as its preferred mechanism since there is no guarantee that satisfying the data needs will result in approved demonstrations.

Once you have reviewed the RAT submittal, I recommend we meet to discuss the options available to GM and come to an understanding on what is the best approach to take at this time given all of the circumstances that can effect the outcome.

If you have any questions about the above matter, please do not hesitate to call me at (312) 886-0656.

Sincerely,



Daniel Patulski
EPA Project Manager

Enclosure

cc: M. Chabria, USEPA/ORC

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Waste Management Division Remediation Advisory Team - Single Entry Report

Site: GM Truck/Pontiac E.

District: Southeast Michigan

County:

Review Type: Initial Consultation

Clean-up Type:

Program: Part 111 of 1994 P.A. 451

Meeting Date 7/30/2003

RA TEAM: Pat Brennan, De Montgomery, Deb Taylor, Margie Ring, Wes Sherman, Amy Merricle, Kim Tyson, Dan Patulski, EPA

Project Description: The GM Facility in Pontiac is located in the Southeast Michigan Interlobate Region. These interlobate areas are characterized by highly varied and complex landform surfaces that contain numerous lakes and swamps, have a hilly topography, and always contain an abundance of sand and gravel. U.S. EPA conducted a corrective action RCRA assessment of the GM facility in 1987. Seven SWMUs were identified during U.S. EPA's RCRA site assessment as needing further review during future IM or RFI activities.

- Notes:**
1. Consent Order signed in 1998 between U.S. EPA and GM, pursuant to RCRA Section 3008h.
 2. GM submitted a RFI Report in November, 2000. This report indicated that the perched shallow groundwater at the Facility did not meet the definition of an aquifer, and therefore the drinking water pathway was not relevant.
 3. U.S. EPA staff consulted with DEQ staff-person, Sharleen Getschman, on general Part 201 requirements and information required to make a GWNIAA determination.
 4. U.S. EPA provided comments on the RFI Report to GM in a memo dated December 19, 2002. This comment memo suggested that a GWNIAA Determination Report or deed restriction was required to eliminate the shallow perched groundwater drinking water pathway at the Site. RAT members had not reviewed the December 19, 2002 memo.
 5. GM provided an addendum to the RFI Report to address the shallow perched groundwater on-site. This addendum included a GWNIAA Determination Report and a GSI Pathway Elimination Report.
 6. An email was sent to Liane Shekter Smith, WHMD, from Hak Cho, U.S. EPA Region 5, requesting a RAT review of both reports. This email also indicated that, upon review of both reports, EPA had made a preliminary decision to approve both GM reports.
 7. Other information: Mirtha Chapiro indicated that GM had a previous BTEX plume on-site that may still be an issue and Dan Patulski stated that GM is in the process of parceling the property amongst lessees with possible intentions of future sale.
 8. Others in attendance included: Fred Sellers, Dan Patulski (EPA), Mirtha Capiro (EPA), Ron Stone, Dale Bridgford, Clay Spencer

Recommendations: **GENERAL:**

1. A GWNIAA demonstration and a GSI pathway elimination are not necessary in all instances and may not be appropriate under certain circumstances. There are other mechanisms available. GM may demonstrate compliance with applicable criteria for the drinking water and GSI pathways and/or demonstrate that the contamination is isolated and contained onsite either through natural processes or exposure controls. GM may pursue a limited remedy under Part 201 in which the groundwater is restricted for drinking water usage via a formal restrictive covenant on the property deed and monitored to ensure that it is not migrating beyond the property boundary in concentrations above applicable criteria. This is the preferred mechanism of the RAT. (restrict pathway usage rather than trying to demonstrate elimination of a pathway resource)
2. GM's GWNIAA and GSI Reports are considered inadequate at this time. Further information required to make this demonstration. See following bulleted items for deficiencies and recommendations.
3. GM should be cautioned that a GWNIAA determination is in no way related to the determination of the relevance of the GSI pathway. (There are two separate and distinct pathways and in fact the GWNIAA guide directs focus to GSI)
4. Classification from Western Michigan University's 1981 Hydrogeologic Atlas of Michigan is not appropriate for a GWNIAA demonstration, as this document was not intended for such purposes. It is very general (even at county size) and is out of date.
5. The shallow aquifer may be very unpredictable due to the highly variable geology in this interlobate region. For future redevelopment, particularly with consideration of when or if the pavement were ever

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removed, GM must evaluate whether the area would then be available for recharge and be a more prominent feature. This evaluation is important for establishing the necessary deed and resource restrictions for the drinking water pathway and for further evaluation of the GSI pathway.

GWNIAA DETERMINATION REPORT:

1. GM has attempted to demonstrate that the shallow aquifer is not useable as a water supply and made reference on several occasions to "intermittent and discontinuous saturated zones" in the shallow perched water table. GM did not provide enough data to conclude that the perched water table is laterally discontinuous and not interconnected to another aquifer. Cross sections that were provided did not have boring information to support some of the geological interpretations. Evaluation of interconnectedness is crucial to a GWNIAA demonstration. The GWNIAA demonstration is applicable to all aquifers potentially interconnected to groundwater impacted by the facility that may be used as a drinking water source. Data needs may be met by the installation of additional wells and a pump test, but any plan to install further wells should be reviewed by EPA (and the RAT) to determine adequacy.
2. If the shallow aquifer is truly discontinuous, recharge of the major drift aquifer that underlies the site must originate from another source. GM must identify the recharge area for the drift aquifer since this is a major aquifer and currently in use by the public as a drinking water supply.
3. GM has not fully evaluated the potential for off-site groundwater migration (whether for Drinking water criteria or for GSI or Direct Contact or other pathways). This is an important consideration for a GWNIAA demonstration since no long-term monitoring would be required.
4. GWNIAA is a very site-specific evaluation, therefore communication with the local unit of government (e.g., health department) is very important due to the highly variable geology. From the report, it appears that although an Oakland County Health Department staff-person indicated that a minimum flow rate of 10 gpm was preferred for all municipal wells, he did not make any statement that confirmed that the groundwater in this area is not a water supply. The health department also recommended that owners of wells that could not achieve such a pumping rate install a storage tank or several wells to supply the required volume. This recommendation further establishes the variability and exceptions to the typical requirements for well development in the area, thus increasing the need to evaluate this pathway more fully.
5. Several tools available to U.S. EPA to determine the relevance of the drinking water pathway, including communication with the local well authorizing agency, district geologist, DEQ Drinking Water staff, local well logs, wellhead protection program, and identification of municipal drinking water wells using Wellogic, the internet-based data entry program developed by the State of Michigan to provide an easy method for water well drilling and pump installation contractors to submit water well records. Michigan's Wellogic system may be accessed on the DEQ website at <http://www.michigan.gov/deq>, search word "wellogic". If EPA is unable to access information on Wellogic, DEQ staff could provide assistance.
6. GM GWNIAA Demonstration Criteria Worksheet (see attached worksheet)
 - a.) GM stated that the two monitoring wells tested stabilized at a pumping rate of 0.3 gpm. Therefore, GM did not meet the pumping rate criteria of 0.1 gpm. Two wells may not be adequate to demonstrate "insignificant yield" in a potentially variable geologic formation. Information obtained from the Oakland County Health Department indicating a minimum allowable sustainable flow rate of 10 gpm is not adequate. The rule cited is specific for new subdivision developments that are at least one acre in size and does not address existing wells on other types of properties or the potential for exceptions to these rules (see above comment).
 - b.) GM provided hydraulic conductivity of the till underlying the perched zone and not of the formation in question - the perched groundwater zone. Therefore GM does not meet the GWNIAA criteria.
 - c.) No pump test was performed, therefore GM does not meet the GWNIAA criteria.
7. Other bulleted considerations under #1.) The Subdivision of Land rules pertain to construction requirements for new wells only and provide circumstances for allowable exceptions. The Attorney General views the County Health Department as the only authorizing agency for uses and limitations of local aquifers. Contact with the County Health Department is necessary to determine the existence of any local ordinance limiting groundwater usage, crock wells, and other potential uses or limitations on the local aquifer. From the information provided in the GWNIAA Demonstration Report, it seems that the Oakland County Health Department authorizes a variety of high and low yield wells.

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8. The final bulleted item raises a question on the nature of the fill and the location of the interbedded sand aquifers. The GWNIAA Demonstration Report indicates that the regional aquifer(s) are separated from the perched groundwater by a "minimum of approximately 100 feet of glacial till." If this is the case, how are many of the off-site domestic water wells (80ft to >100ft) able to produce? Without more actual site data the integrity of this till unit and minimum thickness are not known with a high enough certainty for making a GWNIAA determination.

a.) GM did not provide sufficient information to be confident in the conclusion.

b.) No pump test performed. Hydraulic conductivity conducted for the till only, not the formation in question.

c.) GM has not sufficiently demonstrated a lack of lateral communication between the perched groundwater and the retention ponds or any potential off-site releases. Further, based on the information provided in this bullet, it appears that the GSI pathway must be considered a relevant pathway at this time. See later section of these notes on the GSI Pathway Elimination Report.

9. Other bulleted considerations under #2) The wellhead protection program is a voluntary program only. Therefore knowing only the nearest wellhead protection area is not sufficient. GM must determine all municipal water supply well locations.

GSI PATHWAY ELIMINATION REPORT:

1. Based upon GM's proximity to surface waters of the State on-site and off-site, the known hazardous substance concentrations in groundwater, the lack of information on the direction of groundwater movement, proximity of various county drains, and the potential for indirect discharge via artificial structures and storm water conveyances, the RAT has determined that, based on best professional judgment, the groundwater is reasonably expected to vent to off site surface water in concentrations exceeding GSI criteria. Therefore the RAT does not support GM's proposal to eliminate the GSI pathway. The GSI pathway must be considered a relevant pathway.

2. Well data and information on sewer lines and artificial structures from only a small portion of the site and encountering dry wells is not sufficient evidence to eliminate the GSI pathway. GM must consider how or if pavement is impacting the recharge of several of the wells that have been dry in the past. GM must also consider how or if removal of the pavement would impact this pathway.

3. The relevance of the GSI pathway is not dependant upon the existence of waters of the State located within the facility's property boundaries only.

4. GM states that the Hamlin Drain may not be considered waters of the State. However, the fact that discharges to the Amy Drain, the Levinson Drain, and the Hamlin Drain are permitted by the NPDES program signifies that these drains are considered waters of the State. GM states that on-site perched groundwater in the vicinity of SVMU's 3 and 31 "could potentially discharge into the South Retention Pond prior to discharging off-site via Hamlin Drain". This indicates that the GSI pathway is complete. GM may review the NPDES permits for the three outfalls to determine if the permit has identified venting groundwater as an "illicit discharge" to the outfall and requires monitoring for the hazardous substances identified in the groundwater at the facility. Monitoring requirements must achieve detection limits low enough to demonstrate compliance with the GSI criteria. Lack of non-compliance with the associated NPDES permits does not necessary indicate that storm water has not been impacted if illicit discharges of groundwater have not been considered. GM must also consider if there is potential for groundwater to reach these drains (or other surface waters) from areas other than the retention ponds and the permitted outfalls (e.g., venting directly to the drain, storm sewers, or ditches via infiltration).

5. Dissolved metals analysis is not appropriate for comparison to the Part 201 GSI criteria. Totals analysis is required.

6. GM has not provided enough evidence to determine that there is no hydraulic connection between the perched groundwater and surface water. Further information on groundwater flow and the continuity of the aquifer are required. Even in the absence of this information, hydraulic connection can be assumed based on the potential for groundwater to reach the Hamlin, Amy, or Levinson drains via direct discharge or indirectly from the North and South Retention ponds.

7. Any effects from dilution must be evaluated by the Water Division of the DEQ via a Mixing Zone Determination Request. Information on how to pursue a mixing zone may be obtained by contacting Ron

Stone, DEQ, at 517-373-7141.

8. Part 201, Rule 716(16) is applicable to groundwater venting indirectly to surface waters of the State through storm drainage systems.

Chair's Signature:

Patrick J Brennan

Date Signed: 8/28/2003

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