

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ATTORNEY GENERAL for the
STATE OF MICHIGAN, et al,
MICHIGAN NATURAL RESOURCES
COMMISSION, MICHIGAN WATER
RESOURCES COMMISSION, and
MICHIGAN DEPARTMENT OF NATURAL
RESOURCES,

Plaintiffs,

Case No. 88-34734-CE

vs

Hon. Donald E. Shelton

GELMAN SCIENCES INC.,
a Michigan corporation,

Defendant.

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**PALL LIFE SCIENCES' RESPONSE TO PLAINTIFF'S SUPPLEMENTAL
SUBMISSION REGARDING UNIT E REMEDIAL ACTION**

INTRODUCTION

Pall Life Sciences (PLS) submits this brief response to the Supplemental Submission Regarding the Unit E situation submitted by Plaintiff. The purpose of this response is to clarify several issues raised by Plaintiff in its submission. PLS also responds briefly to the City of Ann Arbor's submission.

I. Wagner Road

A. The DEQ's Decision to Require PLS to Capture the Entire Plume at Wagner Road is Arbitrary.

The DEQ continues to insist that PLS capture the entire width of the plume (above 85 ppb) at Wagner Road. PLS has proposed a mass reduction strategy at this location. As explained below, while there is no dispute that mass reduction is an appropriate response in the Wagner Road area, there is no basis for requiring PLS to also halt further migration above the 85 ppb cleanup level at this location.

As noted in PLS' supplemental submission, capturing the entire width of the plume at this location does nothing to speed the completion of the remedial action. (See PLS' Supplemental Submission, p. 8). This fact is simply a reflection of the accepted limitations of pump and treat technology and cannot be materially changed by simply purging more water. This is particularly true in this case because the proposed Wagner Road location is only a few hundred feet from the PLS property. Consequently, the DEQ's plan will not "cut off" a large portion of the plume. DEQ's position that establishing a hydraulic barrier "is inherently more efficient and reliable," (Plaintiff's Supplemental Submission, p. 7), is also contrary to the accepted literature. Such a barrier will result in a less efficient system that will interfere with

PLS' existing shallow aquifer remedial system. (See PLS Supplemental Submission, p. 8 regarding dispute filed because of conflict with C₃/D₂ cleanup).

The DEQ's other justifications for its remedial objective do not stand up to scrutiny. The DEQ claims that capturing the plume at Wagner Road will mitigate threats to private water wells, but in the same pleading acknowledges that there are no wells in the area affected by the Unit E plume now or in the future. (See Exhibit B to Plaintiff's Supplemental Submission). The DEQ similarly asserts that its Wagner Road remedy is needed because it will somehow "protect" the City's already out-of-commission Northwest Supply well. Again, the Decision Document contradicts this rationale by acknowledging that – to the extent the well is relevant – it is not "protected" under the DEQ's proposed remedy.¹

The DEQ's only justification for Wagner Road response actions that actually makes sense supports PLS' proposed mass reduction remedy. Plaintiff notes that "controlling groundwater contamination at or near its source, where the concentrations of contaminants is relatively high, is inherently more efficient and reliable than allowing the continued migration and dispersion of the pollution." (Plaintiff's Supplemental Submission, pp 7-8). This is precisely the rationale behind PLS' proposed response action – knock down the highest concentrations before they migrate off-site, or, in this case, beyond Wagner Road. That argument, however, does not support an artificial goal of capturing less concentrated contamination down to 85 ppb when there are no drinking water receptors to protect.

Although the Consent Judgment's "Core Area System" provisions are not applicable to this situation, they are instructive. Section V.B.1 of the Consent Judgment requires source

¹See Decision Document, p. 15 (acknowledging the potential impact to the Northwest Supply well is an issue under their proposed remedy).

control-type measures that are completely consistent with PLS' on-site/Wagner Road remedial strategy. That section requires PLS to capture the portion of the contamination in the C₃ aquifer that is above 500 ppb, not the entire plume. (See Consent Judgment, Section V.B.1).² The Consent Judgment reflects both the wisdom of efficiently purging highly concentrated groundwater near the source (as PLS has done since the Unit E contamination was discovered) and the foolishness of compromising that efficiency by also requiring the purging of modestly contaminated groundwater.

B. PLS Will Use Rotasonic Drilling at Wagner Road.

PLS wants to clarify its position on whether it should be required to use a rotasonic drilling technique in connection with one of the wells it is in the process of placing along Wagner Road. PLS reiterates that the DEQ has overstepped its authority in attempting to impose this requirement and is merely trying to micro-manage PLS' response actions in an effort to assuage third-party academics and critics. There are a host of technical reasons why this drilling technique is not necessary or even appropriate in many of the situations PLS is likely to face at this site. But given the magnitude of the other issues currently being discussed, and to avoid further delay, PLS has decided to go forward with its Wagner Road investigation and to use this drilling technique to install at least one of the monitoring wells, as requested by the DEQ. PLS is agreeing to do so without waiving its rights to dispute this requirement if it is imposed in the future at other locations.

²It should be noted that the 500 ppb source control standard was agreed upon at a time when the drinking water clean up criterion was 3 ppb.

II. PLS' Remedy is Protective of Drinking Water Receptors

The DEQ's discussion of the minor deficiencies in the existing institutional controls prohibiting use of the Unit E aquifer reveals how close the parties are on this issue.³ The "key issues" identified by the DEQ as not currently addressed by the Washtenaw County Rules are:

- The statutory requirement of 30-day notice to the DEQ prior to modification, lapsing or revocation of the rules.
- The lack of an objectively defined restricted area.
- The lack of a requirement that existing wells in the affected area be abandoned.

None of these "deficiencies" affect the protectiveness of PLS' remedy, and, to the extent they are relevant, they can be easily overcome. The 30 day notice requirement can easily be satisfied in a number of ways. This Court would be well within the authority provided by the RJA, MCL 600.611, to require Washtenaw County to provide that notice. Alternatively, PLS would stipulate to an order requiring PLS to monitor the status of the Washtenaw County Rules and to provide the required notice. Or, as suggested by PLS in its Supplemental Response, this Court could issue an order that would essentially serve as a stand-alone institutional control. That order could be drafted to include a notice provision that would satisfy the statutory requirement.

³PLS reiterates that the DEQ is authorized to approve PLS' proposed remedy without the necessity of an institutional control under MCL 324.20118(6)(c). The DEQ can approve PLS' under this section because the adverse environmental impact of implementing the DEQ's contingent remedy exceeds the environmental benefit of the plan. PLS' FS identified the significant adverse environmental impacts (not just community as Plaintiff suggests) of simply capturing the leading edge. (FS, pp. 75-79, Exhibit 1). The DEQ's contingent remedy, which involves three capture zones, would essentially triple the adverse impacts described in the FS.

As the DEQ has demonstrated with the submission of its conceptual delineation of a groundwater use restriction zone, the second deficiency is easily solved.⁴ The third deficiency is not an issue at all since there are no existing wells in the area that will be affected by the Unit E plume.⁵

III. Stochastic Modeling of Unit E Is Neither Feasible Nor Appropriate For the Unit E at this Time.

One of the elements of the DEQ's proposed approach is for PLS to hire an expert in stochastic groundwater modeling and to develop such a model for the Unit E.⁶ The DEQ claims the model would (1) provide information to monitor and assess the effectiveness of the Unit E plume response activities; (2) be available as a "tool" for the evaluation and the optimization of the Unit E plume response activities; and (3) provide information for the design and implementation for PLS' proposed alternative. (Decision Document, p. 15). It is not clear from this description what exactly PLS is to use the model for. The lack of defined objectives is particularly troubling in the context of this type of model because it is not typically used as part of remedial investigations.

Stochastic modeling is a *research* tool that has been developed to use probability and mathematics to simulate variations in geology. It is not commonly employed in Michigan or elsewhere in connection with selection of response actions.⁷ Consequently, PLS has had to

⁴PLS does not agree with the precise delineation depicted in the DEQ's Exhibit B, but believes the parties can come to agreement on an appropriate protected zone in short order.

⁵PLS disputes that the Northwest Supply well is properly included in an appropriate protected zone.

⁶More specifically, PLS is to hire a DEQ-approved expert who would provide an opinion as to whether the existing data are sufficient to conduct a stochastic modeling analysis. If sufficient data exist, PLS is to complete the model by April, 2005. The Decision Document does not indicate what would happen if the data set is inadequate, but presumably PLS would be required to gather more data. Decision Document, p 16.

⁷The DEQ's webpage has a fairly extensive discussion of the appropriate use of models in investigating and

contact a professional in this area just to determine what this type of model can do and what it takes to construct one.⁸ Based on discussions with PLS' expert, it is clear that the modeling requirement is not feasible, appropriate, or necessary.

First, the DEQ's requirement that PLS develop a stochastic groundwater model again reflects the undue influence that is being wielded by third-party academics. The City and a Scio Township-based citizens group, have retained the Technical Outreach Services for Communities ("TOSC") to essentially look over the shoulder of the parties. This organization retains professors from nearby universities with expertise (but not necessarily experience) in the technical areas relevant to the environmental issues faced by various communities. The group's purported goal is a better informed citizenry and community decision-makers. This group receives both federal and state funding and is prohibited from taking positions of advocacy.⁹

It was Dr. Lawrence Lemke, a Wayne State University professor retained by TOSC, that originally recommended that stochastic modeling be required at this site. Dr. Lemke readily acknowledges that he has virtually no actual field experience in conducting remedial investigations. He nevertheless recommended that a research tool be constructed for the Unit E:

remediating groundwater contamination sites. See: http://www.michigan.gov/deq/0,1607,7-135-3313_21698-55850--,00.html. Stochastic modeling is not mentioned in this discussion or anywhere else on the DEQ's webpage.

⁸Dr. Nevin Kresnic's curriculum vitae is attached as Exhibit 2. PLS has asked Dr. Kresnic to provide a letter report to explain to the Court what the DEQ's ill-considered requirement would actually entail and why it makes no sense. PLS will provide this letter as soon as it is available (within the next 10 days). PLS apologizes for the delay, but Dr. Kresnic is unable to provide this report sooner because of previously booked business-related travel plans.

⁹From PLS' perspective, TOSC has strayed considerably from this informational services role. The group previously held a public meeting regarding PLS' proposed in-situ field test on the Maple Village property. The "expert" retained by TOSC recklessly and irresponsibly claimed that PLS' testing could cause a dangerous buildup of heat and gases, similar to a site in North Carolina where a house exploded. She actually joked about looking for pictures of destroyed buildings to add to her power point presentation. Needless to say, more than one parent at that meeting went home unnecessarily frightened. Contrary to the "expert's" uninformed opinion (she hadn't actually read PLS' in-situ work plan), PLS' investigation went off without a hitch – the temperature in the wells actually declined during the injection process – although PLS believes that the unreasonable restrictions the DEQ placed on PLS' study based on TOSC's recommendations contributed to the unfavorable results.

A stochastic approach will rely upon geostatistical methods to generate multiple realizations of aquifer configurations that can be used to quantify the uncertainty in aquifer responses to remediation alternatives. Each of the realizations should honor the distribution of known aquifer properties at the position of monitoring wells and also honor the statistical description of spatial variability of aquifer properties (variograms). However, each realization will also include a random component to incorporate uncertainty derived from aquifer variability between control points.

(TOSC Comments at 13) (Exhibit 33 to Admin Record).

PLS does not believe that it is any coincidence that this type of modeling was the subject of Dr. Lemke's PhD dissertation.¹⁰ According to the expert PLS has contacted, it will take hundreds of new monitoring points in order to construct these "variograms" for a plume the size of Unit E.

Second, stochastic modeling is not necessary nor appropriate for any of the vaguely identified objectives. In terms of monitoring the "effectiveness" of response activities, as far as PLS has been able to determine, the DEQ has always relied on field data gathered through performance monitoring, not mathematics or statistics, to determine if performance objectives are met. A stochastic model, assuming one could even be constructed, would merely be a make weight. It is not useable as a "tool" for evaluating and designing response activities because (1) it is not possible to construct one as recommended by TOSC; (2) it would take years to develop, during which time remedial decisions will already be made based on field data; and (3) if constructed, there is no identified way to use it to make remediation decisions. For example, if a stochastic model could be constructed and it showed that there is a 75% chance that PLS' proposed Maple Road remedy would successfully capture the entire portion of the plume above 2,800 ppb, and performance monitoring results confirmed the plume is indeed being captured,

¹⁰Larry Lemke (Ph.D. candidate); Integrating deterministic and stochastic heterogeneity models in glacial aquifers: implications for uncertainty in flow and transport model predictions"; start: F-98, expected completion: W-03; former co-chair (chair: Dr. Linda Abriola).

what change would, could, or should be made with the modeling information? Or, if the monitoring data showed that the plume was *not* being captured, would PLS be entitled to hide behind the modeling results? Of course not. The actual field data from performance monitoring will be the evaluation tool to verify system performance. The model adds nothing to either remedy on the table.

Third, in terms of determining the migration pathway of the plume, stochastic modeling is purely an academic exercise. By the time you have collected enough field data to build a useable, valid model, you don't need the model. In a sense, it is most appropriate (if at all) if one were to use stochastic techniques to make decisions in the absence of data. PLS has not proposed to rely solely on a computer model, nor will the DEQ or the public accept a mathematical substitute for field data and professional judgment by experienced geologists.

Unfortunately, the community, and to some extent the DEQ, has come to view groundwater modeling as some kind of technical panacea. It is not. While deterministic models (such as the ones historically used at the site) have an accepted role, stochastic modeling is not of any real value to any of the issues we are currently facing. Even the existing numerical model for the D2/C3 aquifers has been of only limited use. That model took over eight months to construct using existing data. No one, certainly not the DEQ, knows how long it would take to gather the necessary data and to construct a stochastic model for the entire Unit E.

PLS' plan is to gather data that are sufficient to allow the parties to determine the migration pathway of the Unit E plume, not to satisfy an academic's desire to study every geological nuance of the aquifer system.¹¹ After PLS gathers this data, it is possible that there

¹¹PLS believes that Professor Lemke is a responsible, knowledgeable, and well intentioned individual with an excellent academic background. PLS, however, does not believe he has the experience to be driving such important

will be discrete and defined questions that this type of modeling could be used to help answer. But it makes no sense whatsoever to require PLS to simply “model the Unit E” with no clearly defined objectives, no realistic boundaries, and no reasonable expectation of developing any insights that are useable for making the pending remedial decisions.

IV. PLS Did Not Discover The Unit E Contamination During its Investigation of the Western System.

The DEQ’s Supplemental Submission also repeats a common misconception regarding the discovery of the Unit E plume. The DEQ claims that the Unit E groundwater plume is governed by the “Western System” portion of the Consent Judgment because PLS discovered the Unit E contamination as part of its investigation of the extent of the shallower Western System plume:

While the Unit E plume had not been identified when the Consent Judgment was entered, it was ultimately “discovered” in 2001 as a result of further investigation of the ‘Western System’ . . . [s]ince the Unit E contamination is traceable to a plume or plumes of groundwater contamination in the D-2 aquifer emanating from the PLS property that was located outside the Core Area and to the northwest, west, or south[west] [sic] of the PLS facility, it falls within the “Western System” requirements of Section V.C.1. of the Consent Judgment . . .”

(Plaintiff’s Supplemental Submission, p. 8, n. 4) (emphasis added).

Although PLS did install a nested set of monitoring wells (MW-56) at a location west of its property in 2001 as part of its delineation of the Western System, the Unit E was not contaminated at this location. MW-56d – the well screened in the deeper portion of the aquifer that would be considered the Unit E – tested non-detect for 1,4-dioxane when the well was installed and has never been above the cleanup standard. (See groundwater quality data for

remedial decisions.

MW-56d attached as Exhibit 3). Therefore, PLS did not discover the Unit E groundwater contamination as part of its Western System investigation.

What PLS did discover when it installed this well was that there was no clay layer between the contaminated shallower aquifers and the Unit E at this location. Until that point, the parties believed that a clay layer effectively protected the Unit E from the shallower contaminated groundwater throughout the site. The absence of the clay layer at this location revealed the possibility that other apertures on the PLS property might exist and that contaminated groundwater might potentially migrate downward into the Unit E. PLS' subsequent investigations *on its property* confirmed that this had indeed occurred. There are, however, no data supporting Plaintiff's theory that the groundwater contamination flowed west of the PLS property to the MW-56 aperture, down into the Unit E, and then back to the east or its conclusion that the Unit E is governed by the requirements of the Western System provisions of the Consent Judgment.

V. The City Does Not Have Standing to Challenge the Selected Remedy.

As the Court is aware, the City has sought to inject itself into the decision-making process regarding not only the Unit E, but in reality, the entire site. For example, the City has sued PLS, not just to recover the alleged money damages it claims to have incurred in connection with the Northwest Supply well, but also to obtain injunctive relief in the form of an order requiring remediation of all detectable groundwater contamination. In the past, the City has also interfered with and delayed implementation of important DEQ-approved response activities that it disagreed with by refusing to provide access and by challenging needed NPDES permit amendments.

This Court should reject the City's latest effort to exert control over the cleanup because, among other reasons, the City does not have standing to challenge the proposed remedy for the Unit E. Part 201 addresses the dangerous delays that would be caused by collateral challenges to remedial decisions like the City's in a direct and straightforward manner – it prohibits them. Section 37 of Part 201 bars the City from challenging the appropriateness of approved response activities:

(4) A state court does not have jurisdiction to review challenges to a response activity selected or approved by the department under this part or to review an administrative order issued under this part in any action except an action that is 1 of the following:

(a) An action to recover response costs, damages, or for contribution.

(b) An action by the state to enforce an administrative order under this part or by any other person under section 20135(1)(b) to enforce an administrative order or to recover a fine for violation of an order.

(c) An action pursuant to section 20119(5) for review of a decision by the department denying or limiting reimbursement.

(d) An action pursuant to section 20135 challenging a response activity selected or approved by the department, if the action is filed after the completion of the response activity.

(e) An action by the state pursuant to section 20126a(6) to compel response activity.

MCL 324.20137(4) (emphasis added).

None of the exceptions apply to the City's unsolicited challenge, and, therefore, it should be ignored.

PLS will refrain from providing a detailed response to the substance of the City's submission (unless one is requested by the Court). But in general, the City's alternative remedy and implementation timetable, like the DEQ's contingent remedy, ignores "the facts on the ground" in terms of feasibility. For instance, the City's proposal regarding Maple Road and the

associated implementation schedule ignore the zoning restrictions and the absence of vacant property suitable for installing a treatment system large enough to accomplish the City's twin remedial objectives of capture at two locations and discharge to the Huron River. With regard to the additional capture zone between Wagner Road and Maple Road, the City ignores the fact that, until you get so close to Maple Road that additional response activity would not make sense, the entire area east of Wagner Road consists of residential areas (which it says should be avoided), protected wetlands, lakes, and a cemetery.

Finally, the City provides no legal basis for its gratuitous invitation for this Court to order PLS to pay essentially everyone's alleged response costs. The City adds this request to its collateral attack on the proposed remedy even though its alleged costs are already the subject of the City's pending lawsuit. PLS stands ready to defend those claims *in that action*. It is inappropriate for the City to try to avoid its burden of proof and PLS' defenses in its lawsuit by asking this Court to order PLS to pay these still unidentified costs in an action to which it is not even a party. PLS would request the right to brief this matter further if this Court is going to seriously consider the City's request.

CONCLUSION

PLS asks this Court to allow PLS to implement its proposed Unit E remedy and to issue an order establishing the institutional control the DEQ believes is necessary for approval of PLS' remedy.

Respectfully submitted,

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