STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN, ex rel, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY,

Plaintiffs,

v

GELMAN SCIENCES, INC., a Michigan corporation,

Defendant.

File No. 88-34734-CE

Honorable Donald E. Shelton

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PLAINTIFF'S SUPPLEMENTAL SUBMISSION REGARDING UNIT E REMEDIAL ACTION

INTRODUCTION

Plaintiffs, the Attorney General of the State of Michigan and the Michigan Department of Environmental Quality (MDEQ), by their undersigned counsel, make this Supplemental Submission Regarding Unit E Remedial Action pursuant to the Court's invitation at the

September 8, 2004 status hearing. It supplements Plaintiffs' September 2, 2004 correspondence and enclosed September 1, 2004 MDEQ Decision Document.

This Submission has three purposes. First, it is intended to reiterate and clarify the MDEQ's position on how this Court should require Pall Life Sciences, Inc. (PLS) (successor to Defendant Gelman Sciences, Inc.) to proceed with remedying the so-called "Unit E" groundwater contamination emanating from the PLS property. That position is reflected both in the September 1, 2004 Decision Document and the MDEQ's September 20, 2004 correspondence to PLS regarding Wagner Road Interim Response. (Attachment A hereto.)

Second, in the course of outlining MDEQ's decision, Plaintiffs respond to specific questions raised by the Court regarding conditions for approval of PLS's proposed remedial alternative identified at pages 15-16 of the MDEQ's Decision Document.

Finally, this Submission reviews the legal framework for this Court's decision regarding remedial action. Plaintiffs respectfully submit that under both the Consent Judgment entered in this case and the relevant provisions of state environmental law, Part 201 of the Natural Resources and Environmental Protection Act (NREPA), MCL 324.20101 *et seq* (Part 201), this Court need not and should not decide, *de novo*, what remedial action should be implemented. Instead, both the Consent Judgment and Part 201 vest the MDEQ with the primary responsibility to select and approve remedial actions at this site, subject to judicial dispute resolution. To the extent PLS challenges or disputes MDEQ's September 1, 2004 and September 20, 2004 remedial decisions, this Court need only decide, based upon the administrative record,[1] whether PLS can

[1] The MDEQ has compiled and is separately filing the Administrative Record relating to its September 1, 2004 and September 20, 2004 decisions. The index to that Administrative Record is attached hereto as Attachment C. The Administrative Record (AR) consistent of 78 numbered exhibits in three volumes, comprised of 1060 consequently numbered pages. Plaintiffs cite the Administrative Record as "AR," Ex ___, page number ____.

demonstrate that the MDEQ's September 1, 2004 and September 20, 2004 decisions are unlawful, arbitrary, or capricious. Because PLS cannot make such a showing, the Court should uphold the MDEQ's response activity decisions and order PLS to comply with therein.

ARGUMENT

I. THE COURT SHOULD ORDER PLS TO IMPLEMENT REMEDIAL ACTION FOR UNIT E CONSISTENT WITH MDEQ'S SEPTEMBER 1, 2004 DECISION DOCUMENT AND SEPTEMBER 20, 2004 PROPOSED RESOLUTION OF DISPUTE.

As noted above, MDEQ's overall analysis and conclusions regarding remedial action for Unit E is reflected in the September 1, 2004 Decision Document. (AR, Ex 50.) To clearly understand MDEQ's approach, it is useful to look at the "Unit E" contamination in two geographic parts: (1) the contamination source area at and immediately adjacent to the PLS facility in Scio Township; and (2) the remainder of the Unit E plume that has already migrated to the east of Wagner Road and into the City of Ann Arbor.

With respect to the first segment of the Unit E plume – the source area – MDEQ has decided that PLS should immediately take steps to completely capture and treat that portion of the plume near Wagner Road. (*See* Section I.A. below.) In MDEQ's view, that action can and should be taken under any circumstances, that is, regardless of the remedial approach ultimately taken for the remainder of the Unit E plume. As explained below, that MDEQ decision is embodied in: (1) a June 29, 2004 letter directing PLS to perform that work as an "interim response activity" (AR, Ex 19); (2) an element of the final remedial action in the September 1, 2004 Decision Document; and (3) a September 20, 2004 letter (Attachment A hereto) to PLS communicating MDEQ's final decision in the dispute resolution process invoked by PLS in the June 29, 2004 letter.

With respect to the remaining segment of the Unit E plume – east of Wagner Road – MDEQ has concluded that two tracks or paths of remediation should be pursued simultaneously to ensure that an adequate remedy is implemented in a timely fashion. (*See* Section I.B. below.) The first "track" is to satisfy the conditions identified by MDEQ for approval of PLS's proposed remedial approach. That approach relies primarily upon monitoring the dilution of the plume and upon institutional controls to prevent human exposure to contaminated groundwater, together with purging, treatment, and reinjection near Maple Road that would reduce the mass of contamination and prevent contaminated groundwater that ultimately vents or discharges to the Huron River from exceeding the applicable "groundwater-surface water interface" (GSI) cleanup criterion for 1,4-dioxane, 2800 parts per billion (ppb), under Part 201.

Because it is not certain that PLS will be able to satisfy the MDEQ's conditions for approval, MDEQ has concluded that PLS should simultaneously pursue a second remedial "track." That is, begin planning for, but not yet implementing, a remedy that would include capturing and treating the entire plume of contaminated groundwater, both near Maple Road and the "leading edge" of the plume. Actual construction and operation of the necessary wells, treatment systems, and pipelines would begin if, and only if, PLS failed to satisfy the conditions identified by MDEQ within a reasonable time, i.e., by September 2005.

The MDEQ respectfully submits that its decisions regarding Unit E are sound, supported by the record and applicable law, and should be enforced by the Court.

A. PLS CAN AND SHOULD PROMPTLY CAPTURE THE UNIT E PLUME NEAR WAGNER ROAD.

As the Court knows from previous presentations by the parties, MDEQ and PLS agree that PLS should take steps to extract additional contaminated groundwater from Unit E near

Wagner Road, close to the contamination source(s) on PLS's property. It appears that the parties disagree about: (1) the goal of the additional purging in this area (MDEQ determined that the entire width of the plume above 88 ppb 1,4-dioxane should be hydraulically captured, while PLS proposes merely to reduce the mass of contamination in that area); (2) whether it is feasible to capture the plume at that location; and (3) technical details of the drilling methods to be used for one of the wells in the area.

1. The goal should be capturing the plume, not merely removing some contamination.

Beginning at least early 2004, MDEQ informally suggested and, since June 2004, specifically directed PLS to take steps needed to capture the Unit E plume at or near Wagner Road. MDEQ suggested this goal of cutting off further migration of the contamination near its source in a March 11, 2004 conference call, a March 22, 2004 letter (AR, Ex 12) responding to PLS's February 24, 2004 Work Plan for the Installation of Two Extraction Wells in the Unit E Aquifer (AR, Ex 10), and an April 13, 2004 letter responding to PLS's Interim Feasibility Study. (AR, Ex 13.)

By letter dated June 29, 2004, MDEQ directed PLS, as an "interim response activity" under Part 201, to "submit a work plan, by July 23, 2004, to install extraction wells near Wagner Road with the performance objective of intercepting the entire width of the Unit E 1,4-dioxane plume." That direction was made pursuant to MCL 324.20114(1)(h), which provides, in part:

> (1) [A]n owner or operator of property who has knowledge that the property is a facility and who is liable under section 20126 shall do all of the following:
>
> * * *
>
> (h) Upon written request of the department, take the following actions:
>
> (i) Provide a plan for and undertake interim response activities.

The MDEQ summarized the reasons for the decision under Part 201, the Part 201 administrative rules, and the Consent Judgment as follows:

> Under Section 20114(1)(g), PLS is required to diligently pursue response activities necessary to achieve the cleanup criteria established under Part 201. In addition, under the 1992 Consent Judgment in *Attorney General v Gelman Sciences, Inc*., PLS, as the successor to Gelman, is required to implement DEQ-approved plans to contain and remedy groundwater contamination emanating from the PLS property.
>
> The continued uncontrolled migration of contaminated groundwater in the Unit E aquifer away from the PLS property threatens public health, welfare and the environment. This plume of 1,4-dioxane contamination is a continuing source of pollution of a useable aquifer including, ultimately, a designated wellhead protection area established for the City of Ann Arbor's Montgomery Well, and potentially, private water supply wells.
>
> Prompt action by PLS to cut off migration of that portion of the Unit E plume closest to its property would mitigate those threats, and contribute to the effectiveness, reliability and timely completion of the ultimate remedial action to address the Unit E plume as a whole. Moreover, such interim response activity is both technically feasible and promptly implementable given the proximity to PLS's existing groundwater treatment system and the availability of some treatment and discharge capacity under the current NPDES permit.
>
> Under these circumstances, consideration of relevant factors under Rule 526(1) supports the conclusion that interim response activity to contain the Unit E plume near Wagner Road is appropriate. These factors include actual contamination of a usable aquifer and threats to a designated wellhead protection area [see Rule 526(1)(a) and (b)], the feasibility of implementing this response activity independent of other more complex response activities [see Rule 526(1)(h)] and the fact that this interim response activity would speed the completion of remedial action [see Rule 526(1)(i)]. Performance of this interim response activity is consistent with PLS's obligation to diligently pursue response activity under Section 20114(1)(g), as reflected in Rules 520(1), (2), (5)(b), (c), (e) and (f). [AR, Ex 19.]

In a July 12, 2004 letter (AR, Ex 24), PLS responded by outlining its disagreement with MDEQ on certain issues and initiating the dispute resolution process under Section XVI of the Consent Judgment. During a July 26, 2004 telephone conference (AR, Ex 29), the parties agreed to extend the period of informal negotiations on the dispute until further notice, while PLS

submitted and implemented a work plan for additional hydrogeologic investigation in the Wagner Road area. As agreed, PLS submitted a Work Plan on August 1, 2004. (AR, Ex 32.) MDEQ conditionally approved the Work Plan on August 19, 2004. (AR, Ex 44.)

The MDEQ's September 1, 2004 Decision Document incorporated into the final remedy for Unit E the requirement of halting further migration of the contaminant plume in the vicinity of Wagner Road. (AR, Ex 51, p 1086.) It also specified that PLS should submit a schedule that specifies the implementation of interim response measures that will result in achieving capture of 1,4-dioxane in excess of 85 ppb at Wagner Road by March 1, 2005. (AR, Ex 51, p 1089.)

In light of the Court's statement at the September 8, 2004 hearing that it intended to issue a revised order within 60 days regarding Unit E remediation, the MDEQ notified PLS that it wanted to conclude the informal, administrative stage of the dispute resolution process regarding Wagner Road interim response measures so that judicial resolution of the dispute could be incorporated in the Court's anticipated ruling. In a letter dated September 20, 2004 (Attachment A hereto), MDEQ issued its proposed resolution of the dispute which, under Section XVI.B. of the Consent Judgment, is binding upon PLS unless PLS files a petition for dispute resolution with the Court.[2] After considering the arguments presented by PLS, the MDEQ reiterated its earlier decision that PLS can and should implement a work plan to install and operate extraction wells to capture the entire width of the Unit E plume near Wagner Road. (Attachment A.)

As noted above, several reasons support MDEQ's decision on that issue. First, controlling groundwater contamination at or near its source, where the concentration of contaminants is relatively high, is inherently more efficient and reliable than allowing the

[2] Counsel for MDEQ and PLS have agreed that in the interest of efficiency, PLS need not separately and formally file petitions under Section XVI.B. disputing either the September 1, 2004 Decision Document or the September 20, 2004 MDEQ letter. Instead, the parties agreed to submit their positions on those issues in their respective supplemental submissions to the Court.

continued migration and dispersion of the pollution. Second, as outlined in the June 29, 2004 letter, controlling contamination near its source is consistent with the requirements of Part 201[3] and the Part 201 Rules, as well as the overall objectives of the Consent Judgment.[4] Third, contrary to PLS's assertions, and as discussed below, capturing the Unit E plume at Wagner Road is feasible. Finally, that response activity can be promptly implemented using PLS's existing treatment system and surface water discharge permit.

2. Capturing the Unit E plume at Wager Road is feasible.

In disputing MDEQ's June 29, 2004 directive to capture the Unit E plume at Wagner Road, PLS has suggested that achieving objectives may not be feasible and would inevitably conflict with the requirements of the July 2000 Remediation Enforcement Order. (AR, Ex 22.) Neither suggestion is true.

Groundwater extraction is a well-demonstrated technology at this site. PLS's existing treatment infrastructure at its Scio Township property is located a relatively short distance away

[3] PLS mistakenly claims that Part 201 limits MDEQ's authority to require "source control" measures only to releases of hazardous substances that occurred after the effective date of the 1995 amendments to Part 201. The subsection cited by PLS, MCL 324.20114(1)(d), imposed a new, affirmative obligation to "immediately" implement source control measures, even in the absence of a MDEQ request, for post-1995 releases. That provision neither states nor implies that source control measures cannot be required for other releases.

[4] The Consent Judgment provides for capturing plumes of groundwater contamination emanating from the PLS property. (*See* Section V, p 6.) 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" prompted by Plaintiffs' 2000 Motion to Enforce Consent Judgment. Since 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 southeast of the PLS facility, it falls within the "Western System" requirements of Section V.C.1. of the Consent Judgment, notwithstanding the fact that once that contamination moved downward into Unit E, it thereafter migrated eastward with the groundwater flow in Unit E.

from the Wagner Road corridor. Connection of new extraction wells in that area to the treatment infrastructure would not impact any residential areas. PLS is not currently using all of the 1300 gallon per minute (gpm) surface water discharge capacity authorized by its existing NPDES permit. (*See* September 20, 2004 letter, p 2.)

Capturing the Unit E plume at Wagner Road would not necessarily compromise remedial efforts in the shallower aquifers nor would it inevitably conflict with the Remediation Enforcement Order. The pumping rate(s) needed to create a hydraulic barrier at Wagner Road can and will be determined through the hydrogeologic investigation proposed by PLS (AR, Ex 32) and conditionally approved by MDEQ. (AR, Ex 44.) If needed, pumping rates in the two existing Unit E extraction wells on PLS's property (TW-11 and TW-17) could be somewhat reduced to allow increased purging of the likely more contaminated groundwater near Wagner Road. Finally, if that proved insufficient, pumping rates in some extraction wells in the shallower groundwater units could, as necessary, be adjusted in order to contain the Unit E plume. Under those circumstances, as indicated in the Decision Document, MDEQ would support any needed modification of the Remediation Enforcement Order. (AR, Ex 51, p 1086.)

3. The Court should uphold MDEQ's decision requiring use of rotosonic drilling.

In its June 29, 2004 directive and its September 20, 2004 decision, MDEQ specified that as part of PLS's planned hydrogeologic investigation in the Wagner Road area, that PLS use a particular technique – called rotosonic drilling – in at least one of the planned subsurface borings, rather than the "hollow stem auger" technique it has typically used.

In response to PLS's questions on this subject, MDEQ explained that rotosonic drilling has been used at other contamination sites to help better understand the subsurface geology and

groundwater contamination, and its use would be appropriate for helping to determine the complex geology at the site and planning remedial actions:

> The rotosonic drilling method can provide a continuous core that can be visually described and correlated with the response from the gamma logs. Continuous cores from several locations (near Wagner Road, in the area of Maple Village, near the leading edge of the plume) will better document the geology at these locations. This in turn will improve the geological interpretation of the gamma logs from the boreholes installed using hollow stem augers (HSA), and help document the areal subsurface geology. Proper characterization of the subsurface at the PLS facility will help shed light on the fate and transport of the 1,4-dioxane plumes.
>
> Almost all of the drilling to date at the facility has been conducted using HSA with a soil sample obtained every five feet. In optimal cases, these soil samples have been two feet in length, but have often been shorter due to sampling problems inherent in the sampling method. This has resulted in the need to interpolate the make-up of the subsurface stratigraphy for significant portions of the borehole and added uncertainty to the correlation of the gamma logs and the subsurface samples.
>
> Rotosonic drilling has been used at a number of state-funded and liable party-funded investigations in Michigan. It has been a useful drilling method to help better understand the geology and determine the extent of groundwater contamination. This request for application of the rotosonic method at the PLS facility is a logical attempt at gaining a better understanding of the complex geological conditions and movement of the 1,4 dioxane. Gaining such understanding should help reduce uncertainty in making remedial decisions at the site. [Attachment A.]

To the extent, if any, that PLS continues to dispute MDEQ's decision on this specific technical issue, there is a rational basis for the State's position. It should be upheld by the Court for the reasons further discussed in Section II below.

In sum, with respect to the portion of the Unit E plume located west of Wagner Road, the Court should enforce MDEQ's September 20, 2004 decision requiring PLS to:

- Perform the investigation described in the August 1, 2004 Work Plan for Test Boring/Well Installation and Aquifer Testing in the Wagner Road Area, as modified by the DEQ's letter of August 19, 2004, including the use of rotosonic drilling for at least one boring.

- Submit a report on the investigation to this office within 30 days of completion of the aquifer performance test.
- Submit a work plan to the DEQ within 60 days of completion of the aquifer performance test that will, when implemented, create a hydraulic barrier near Wagner Road to prevent further migration of groundwater contamination above 85 parts per billion from migrating east of Wagner Road.
- Implement the work plan to create a hydraulic barrier near Wagner Road upon approval by the DEQ.

B. WITH RESPECT TO THE REMAINDER OF THE UNIT E PLUME LOCATED EAST OF WAGNER ROAD, THE COURT SHOULD UPHOLD MDEQ'S DECISION ALLOWING PLS A LIMITED PERIOD TO SATISFY THE CONDITIONS FOR APPROVAL OF PLS'S REMEDIAL APPROACH, WHILE REQUIRING PLS TO CONCURRENTLY PLAN FOR CAPTURING THE ENTIRE PLUME, IF NECESSARY.

Because the basis for MDEQ's "two-track" approach to the portion of the Unit E aquifer east of Wagner Road was discussed at length in the MDEQ's September 1, 2004 Decision Document and supporting documents, it will not be repeated in detail here.

The MDEQ recognizes and appreciates the Court's strong concern that remedial action for the Unit E plume move forward promptly. Indeed, the MDEQ has been and remains committed to requiring PLS to take timely and effective remedial action at the site as a whole. Nevertheless, with all due respect to the Court's stated concerns, most recently reiterated at the September 8, 2004 status hearing, the MDEQ continues to believe, as stated in its Decision Document, that PLS should be afforded a limited but reasonable opportunity to satisfy the MDEQ's conditions for approval of its proposed remedial alternative while it concurrently implements interim measures, especially at Wagner Road, and plans for capturing the entire plume, if necessary.

1. MDEQ conditions for PLS's remedial approach.

The MDEQ's Decision Document identified six conditions that must be met in order for PLS's remedial approach (which would not capture the leading edge of the plume) to satisfy the requirements of Part 201. (AR, Ex 51, pp 1088-89.) Those conditions are briefly reviewed here, in part to address questions raised by the Court.[5]

1. Abandonment of Northwest Water Supply Well and associated wellhead protection area.

1,4-Dioxane has been detected, albeit at relatively low concentrations, in the City of Ann Arbor's Northwest Water Supply (or "Montgomery") Well. Although the City has voluntarily stopped using the well, it remains potentially useable and is threatened by further migration of the Unit E plume. Indeed, the Unit E plume has already impacted the designated wellhead protection area associated with that well.

PLS has suggested that because both 1,4-dioxane and arsenic have been detected in the aquifer at that location, use of the Northwest Water Supply Well has already been precluded, so that the well need not be formally abandoned. That is not true. As a regulatory matter, there is not currently any federal or state "maximum contaminant level" (MCL) for 1,4-dioxane in municipal water systems. Even if such a MCL existed, it would not be applied at an individual municipal water supply well. Instead, the compliance point for any MCL is at the water treatment plant tap (where it enters the distribution system to the public). In Ann Arbor, water from the Northwest Water Supply Well has been mixed with (and diluted by) much larger volumes of water from the Huron River before it enters the distribution system. Similarly, while

[5] To avoid potential confusion with text of the Decision Document, the numbering of the six conditions in the Decision Document is repeated here.

a MCL of 10 ppb arsenic is scheduled to take effect in 2006, use of the Northwest Water Supply Well at its previous volume would not cause an exceedance of that standard at the plant tap. (AR, Ex 48, p 1028.)

As the Court is well aware, the City of Ann Arbor has separately sued PLS regarding the Northwest Water Supply Well. As a practical matter, any negotiated settlement of that action is likely to address the issue of formal abandonment/replacement of that well.

2. Preventing further migration of 1,4-dioxane beyond Maple Road in excess of 2800 ppb (the surface water protection criteria under Part 201).

It is undisputed that if the leading edge of the Unit E plume is not captured, it will eventually "vent" or discharge into the Huron River, consistent with general groundwater flow patterns in the area. The "groundwater-surface water interface (GSI) criterion for 1,4-dioxane, i.e., the concentration of 1,4-dioxane considered sufficient to protect surface water, is 2800 ppb. Given the uncertainty about the precise fate of the plume as it migrates east of Maple Road, containment of contamination in excess of 2800 ppb is a reasonable performance objective. (AR, Ex 48, p 1028.) Although PLS has questioned this objective, it has also stated that under its proposed interim response activity of purging and reinjecting 200 gpm at Maple Road, that objective will be easily met. (AR, Ex 48, pp 1021-27.)

3. Acceptable institutional control to reliably restrict exposure to contaminated groundwater.

Under PLS's proposed remedial alternative, the plume of groundwater contaminated with concentrations of 1,4-dioxane well above the 85 ppb generic residential cleanup criterion for groundwater would continue to expand into the City of Ann Arbor. Consequently, that remedial

alternative would not satisfy the requirements of Part 201 Rules 299.5705(5) and 5705(6). Those rules specify that remedial actions not allow contaminated groundwater plumes to expand once a remedial action is initiated and provide for active removal of hazardous substances from the contaminated groundwater.

Part 201 allows MDEQ to make exceptions to or "waive" the requirements of those particular rules under certain limited circumstances identified in MCL 324.20118(5) and (6). The only potentially applicable basis for such a "waiver" here is specified in MCL 324.20118(6)(d),[6] which requires the following:

> (d) The remedial action provides for the reduction of hazardous substance concentrations in the aquifer through a naturally occurring process that is documented to occur at the facility and both of the following conditions are met:
>
> > (i) It has been demonstrated that there will be no adverse impact on the environment as the result of migration of the hazardous substances during the remedial action, except for that part of the aquifer specified in and approved by the department in the remedial action plan.
> >
> > (ii) The remedial action includes *enforceable land use restrictions or other institutional controls necessary to prevent unacceptable risk from exposure to the hazardous substances*, as defined by the cleanup criteria approved as part of the remedial action plan. [Emphasis added.]

Where, as here, a proposed remedial action depends upon resource (groundwater) use restrictions, Part 201 requires that such restrictions be embodied either in restrictive covenants on individual properties affected, MCL 324.20120b(4), or on "institutional control" that reliably restricts exposures to hazardous substances as specified in MCL 324.20120b(5):

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[6] PLS has asserted that a waiver of R 299.5705(5) could be justified based on MCL 324.20118(6)(c), which allows a waiver where "the adverse <u>environmental impact</u> of implementing a remedial action to satisfy R 299.5705(5) or R 299.5705(6), or both . . . would exceed the environmental benefit of the remedial action." (Emphasis added.) MDEQ does not agree. PLS has not established that active remediation of the entire plume would create any negative environmental impact. Temporary impacts to the community due to installation of pipelines or extraction wells do not constitute adverse environmental impacts. (AR, Ex 48, p 1028.)

> (5) If the department determines that exposure to hazardous substances may be *reliably restricted by an institutional control* in lieu of a restrictive covenant, and that imposition of land use or resource use restrictions through restrictive covenants is impractical, the department may approve of a remedial action plan under section 20120a(1)(f) to (j) or (2) that relies on such institutional control. *Mechanisms that may be considered under this subsection include, but are not limited to, an ordinance that prohibits the use of groundwater or an aquifer in a manner and to a degree that protects against unacceptable exposures as defined by the cleanup criteria approved as part of the remedial action plan*. An ordinance that serves as an exposure control pursuant to this subsection shall be published and maintained in the same manner as zoning ordinances and shall include a requirement that the local unit of government notify the department at least 30 days prior to adopting a modification to the ordinance, or to the lapsing of revocation of the ordinance. [Emphasis added.]

PLS has asserted that the existing Washtenaw County Rules and Regulations for the Protection of Groundwater adopted February 4, 2004 (Washtenaw County Rules) (AR, Ex 9), in combination with other unspecified "institutional controls," such as court orders constitute an acceptable "institutional control" for purposes of Part 201. PLS has not specified the proposed terms of any such court order(s) nor any source of legal authority for issuing orders prohibiting private or public entities from using groundwater.[7]

In any event, an acceptable institutional control must address the deficiencies in the Washtenaw County Rules identified in the Decision Document and August 18, 2004 MDEQ memorandum attached as Appendix C to that Document. (AR, Ex 42.) As outlined in that memorandum, key issues that need to be addressed include the following:

a. The Washtenaw County Rules do not satisfy the requirement of MCL 324.20120b(5) that MDEQ must be notified at least 30 days prior to modification, lapsing or revocation of the regulation.

[7] Assuming such court orders could lawfully be issued, and were sufficient to reliably restrict exposure to contaminated groundwater, they arguably could constitute part of an acceptable "institutional control" within the meaning of MCL 324.20120b(5).

b. Although the Washtenaw County Rules prohibit the installation of new wells anywhere in the County under some conditions, they do not objectively define, by reference to a map or geographic boundaries, a specific area or zone where well installation is prohibited that corresponds to the identified groundwater contamination plume its projected flow path, and an appropriate buffer zone.

c. The Washtenaw County Rules do not address any existing wells which may be within or threatened by the groundwater contamination plume. There is no requirement that any such wells be abandoned and a permanent replacement water supply provided.

To most reliably establish any specific groundwater use restriction zone or area, as referenced in item "b" above, further hydrogeologic investigation of the extent and fate of the Unit E contaminant plume is needed. Such further investigation is an element of PLS's remedial alternative and should, in any event, be required. However, in anticipation of the possibility of further discussions with PLS and the Court on this subject, MDEQ staff have prepared a conceptual delineation of a groundwater use restriction zone, based upon the currently available data water quality and hydrogeologic information in the area. A draft of that delineation and a copy of a Site Map from the Feasibility Study are attached hereto as Attachment B for the Court's information.

With respect to item "c" above, at least one well, the City of Ann Arbor's Northwest Water Supply Well, currently exists within the zone where MDEQ currently projects that groundwater use would need to be prohibited under PLS's remedial alternative. As noted above, that well and any other existing wells in the relevant area would need to be abandoned and replaced to reliably restrict unacceptable exposures to contamination under Part 201.

4. MDEQ-approved plan for monitoring any water supply wells outside the area covered by the institutional control and a contingency plan to prevent unacceptable exposure if water supply wells are affected.

This condition is directly related to and follows from condition number 3 above. As discussed above, any acceptable institutional control would necessarily cover and apply to a defined geographic area or zone where groundwater use is restricted. To ensure the long-term effectiveness and reliability of the remedial action, specific monitoring and contingency plans would be needed to detect the potential migration of groundwater contamination beyond the defined "restricted" area, and to permit any unacceptable exposure to contaminated groundwater outside that defined area.

5. MDEQ-approved monitoring plan to ensure that 1,4-dioxane contamination above the generic residential cleanup criteria (85 ppb) does not underflow the Huron River, with a contingency plan to address any such contamination.

As noted above, it is undisputed that the leading edge of Unit E groundwater contamination plume, unless captured, will migrate toward the Huron River, a regional groundwater discharge area. PLS's Feasibility Study projected that all contaminated groundwater in Unit E will discharge or "vent" to the Huron River. MDEQ agrees that such discharge of contaminated groundwater is likely. However, the existing hydrogeologic data are not sufficient to prove that all such contaminated groundwater will discharge into the Huron River; there is at least a possibility that some contaminated groundwater could flow under the Huron River.

Accordingly, consistent with conditions 3 and 4 above, MDEQ has determined that PLS should be required to include within its long-term monitoring plans provisions to detect any such "underflow" of contaminated groundwater, to have an MDEQ-approved contingency plan to

prevent any unacceptable exposure to contaminated groundwater on the other side of the Huron River.

6. Provide for acceptable disposal of the treated groundwater from the Maple Road interim response by providing sufficient hydrogeological information to resolve concerns about reinjection and/or by shifting to an alternate means of disposal.

PLS's proposed interim response activity at Maple Road relies on reinjection of treated groundwater into the Unit E plume. Both the MDEQ and some members of the public who commented on that proposal (AR, Ex 48, p 1020) have expressed concerns about use of groundwater reinjection at that location. In broad terms, there are two types of concerns: (1) the hydrogeologic effects of reinjection; and (2) the reliability of reinjection as a disposal method.

On the first point, specific concerns include the fact that even if groundwater extraction and reinjection rates are equal, reinjection tends to create localized groundwater "mounding" that could affect the flow of groundwater and widen the groundwater plume. (AR, Ex 48, p 1020.) At a minimum, reinjection has the potential to further complicate understanding of the already complicated hydrogeologic conditions in the area, making it more difficult to monitor the aquifer and effects of response activities. Although PLS submitted a hydrogeologic model simulation of its reinjection proposal, that simulation relied upon such simplified assumptions that it does not necessarily accurately predict the effects of the proposed reinjection. (AR, Exhibit 46, p 1011.)

However, <u>if</u> it is assumed that PLS's remedial alternative rather than active remediation of the entire Unit E plume is to be implemented as the final remedy, MDEQ's concerns about changing the width of the plume would not be as great. Under those circumstances, the potential for localized changes in groundwater flow and contaminant distribution are not likely to significantly affect the reliability or effectiveness of the remedial approach.

Even under that scenario, PLS should be required to develop and implement a MDEQ-approved monitoring plan for its proposed interim response activity at Maple Road. Such a monitoring plan should include sufficient data points both upgradient and downgradient of the extraction and reinjection wells to enable PLS to demonstrate that its system will consistently meet the performance objective specified in condition 2 above, i.e., preventing the migration east of Maple Road of groundwater contaminating more than 2800 pbb 1,4-dioxane.

In addition, as described in the Decision Document (AR, Ex 51, pp 1088-89), PLS should be required to have a MDEQ-approved expert consulting firm assess the development of a more sophisticated, so-called "stochastic" groundwater modeling analysis. (AR, Ex 33, pp 744-746.) Such a groundwater model could provide important information for the design, implementation, and monitoring of PLS's remedial alternative.

The second concern with reinjection, involving its reliability, is illustrated by PLS's recurrent operational difficulties in the past with reinjection wells it installed in the Evergreen Subdivision area. On several occasions, those reinjection wells were shut down because of plugging of well screens or other problems. Accordingly, PLS should be required, as a part of its interim response plan for Maple Road, to develop and implement an operation and maintenance plan for its reinjection that will minimize the risk of operational problems. Further, as stated in the Decision Document, PLS should continue to explore and apply, if available, alternative groundwater discharge options involving possible use of sanitary or storm sewers.

Finally, it is important to note that the MDEQ's conditions for approval of a modified form of PLS's remedial alternatives also presupposes, and depends upon, PLS's implementation of other elements of its plan. Most significantly, those include: (1) the development and implementation of a MDEQ-approved work plan to further determine the nature, extent, and fate

of groundwater contamination; and (2) the development and implementation of MDEQ-approved long-term groundwater monitoring plans.

B. UNLESS AND UNTIL PLS SATISFIES MDEQ'S CONDITIONS FOR APPROVAL OF ITS REMEDIAL ALTERNATIVE, PLS SHOULD BE REQUIRED TO CONCURRENTLY IMPLEMENT INTERIM RESPONSE MEASURES AND PLAN FOR AN ALTERNATIVE REMEDY THAT WOULD SATISFY PART 201 BY CAPTURING THE ENTIRE UNIT E PLUME.

The MDEQ believes, as explained above and in the Decision Document, that PLS should be afforded a reasonable, but limited, opportunity to satisfy MDEQ's conditions for approval of PLS's remedial alternative. Among other things, that approach would avoid potentially unnecessary disruption of residential neighborhoods in Ann Arbor.

Nevertheless, until those conditions and the requirements of Part 201 are satisfied, the possibility remains that PLS will need to implement the alternative remedial action identified in the Decision Document. (AR, Ex 51, pp 1086-90.) Accordingly, to avoid undue delay in implementation of an acceptable remedial action, PLS should be required to implement the interim response and planning measures specified in items 1 through 6 at page 16 of the Decision Document. (AR, Ex 51, p 1089.)

II. UNDER BOTH THE CONSENT JUDGMENT AND PART 201, JUDICIAL REVIEW OF ANY CHALLENGE BY PLS TO MDEQ'S RESPONSE ACTIVITY DECISIONS IS LIMITED TO THE ADMINISTRATIVE RECORD. THE COURT SHOULD UPHOLD MDEQ'S DECISIONS BECAUSE PLS CANNOT DEMONSTRATE THAT MDEQ'S DECISIONS ARE UNLAWFUL, ARBITRARY, OR CAPRICIOUS.

The Court's jurisdiction and legal authority in this matter are framed by the provisions of the Consent Judgment and applicable state law, Part 201 of the NREPA, MCL 324.20101 *et seq*. As outlined below, under both those legal frameworks, the Court need not decide, *de novo*, what response activities are to be implemented at the site. Instead, both the Consent Judgment and Part 201 vest MDEQ with primary authority to select and approve response activities, limit any judicial review of MDEQ's decisions to the administrative record, and provide that the Court is to uphold the MDEQ's decision unless unlawful, arbitrary, or capricious.

The MDEQ has compiled the administrative record relating to its September 1, 2004 Decision Document. That record also includes, with the exception of the MDEQ's September 20, 2004 letter to PLS (Attachment A hereto), the documentary record relevant to MDEQ's decisions regarding interim response at Wagner Road. The index to the Administrative Record is attached hereto as Attachment C. The record itself, comprised of three volumes of 1160 consequently numbered pages, is being separately transmitted to the Court because of its length.

A. CONSENT JUDGMENT.

As noted above (page 8, note 4), Plaintiffs maintain that the 1992 Consent Judgment applies to and requires MDEQ-approved remediation of all groundwater contamination emanating from PLS property, including the subsequently discovered "Unit E" contamination plume. (*See* Sections V, V.C.1., and X of the Consent Judgment.)

Section XVI – Dispute Resolution – of the Consent Judgment outlines dispute resolution procedures that "shall be the exclusive mechanisms to resolve disputes under this Consent Judgment, and shall apply to all provisions of [this] Consent Judgment." (*See* Section XVI.A.) Disputes are initially subject to informal negotiations between the parties. (*See* Section XVI.B.) The MDEQ's proposed resolution of the dispute is final and binding upon PLS unless PLS files a petition for dispute resolution with the Court. (*See* Section XVI.B.)

Under Section XVI.C., the MDEQ is to file the administrative record, i.e., "all documents containing information related to the matters in dispute, including documents provided to [MDEQ] by Defendant." That subsection further provides for record review, not *de novo* hearing:

> Review of the petition [for dispute resolution] shall be conducted by the Court and *shall be confined to the record*. [Emphasis added.]

Most important, the Court is required to review the dispute under the following narrow standard of review specified in Section XVI.D.:

> D. The Court *shall uphold the decision of [MDEQ]* on the issue in dispute unless the Court determines that the decision is any of the following:
>
> 1. Inconsistent with this Consent Judgment;
>
> 2. Not supported by competent, material, and substantial evidence on the whole record;
>
> 3. Arbitrary, capricious, or clearly an abuse or unwarranted exercise of discretion; and
>
> 4. Affected by other substantial and material error of law.

B. PART 201.

Part 201 vests the MDEQ with authority to select and approve response activities and remedial action plans. MCL 324.20118; MCL 324.2010b. The timing, scope, and standard of

judicial review of MDEQ decisions selecting or approving response activities is carefully limited by MCL 324.20137(4) – (5). *See*, e.g., *Genesco, Inc v Michigan Dep't of Environmental Quality*, 250 Mich App 45; 645 NW2d 319 (2002).

Like the Consent Judgment, Part 201 provides for review of such challenges, based solely upon the administrative record, and under a deferential standard of review:

> (5) In any judicial action under this part, *judicial review of any issues concerning the selection or adequacy of a response activity taken, ordered, or agreed to by the state are limited to the administrative record*. If the court finds that the record is incomplete or inadequate, the court may consider supplemental material in the action. In considering objections raised in a judicial action under this part, *the court shall uphold the state's decision in selecting a response activity unless the objecting party can demonstrate based on the administrative record that the decision was arbitrary and capricious or otherwise not in accordance with law*. In reviewing alleged procedural errors, the court may disallow costs or damages only to the extent the errors were so serious and related to matters of such central importance that the activity would have been significantly changed had the errors not been made. [MCL 324.20137(5) (emphasis added).]

In sum, under both the Consent Judgment and Part 201, there is no legal basis for the Court reviewing a dispute between PLS and MDEQ over the selection of response activity, to make a *de novo* remedy decision, or to substitute its judgment for that of the expert administrative agency, MDEQ. Instead, where, as here, the MDEQ's decision is both lawful and rationally supported by the administrative record, the Court should uphold and enforce MDEQ's decisions.

CONCLUSION

For all the foregoing reasons, the MDEQ requests that this Court uphold and enforce the MDEQ decisions in the September 1, 2004 Decision Document and September 20, 2004 proposed resolution of dispute regarding interim response at Wagner Road. (Attachment A hereto.)

Respectfully submitted,

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