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October 25, 2011

The Honorable Donald E. Shelton
Washtenaw County Circuit Court
101 E. Huron
P.O. Box 8645
Ann Arbor, Michigan 48107-8645

ATTENTION: Clerk

Re: Attorney General for the State of Michigan v Gelman Sciences, Inc.
Case No. 88-34734-CE
Our File No. 4710-0001

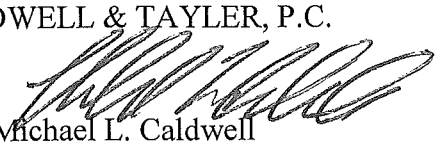
Dear Sir/Madam:

Enclosed for filing please find original and Judge's copy of Defendant's Petition for Dispute Resolution, Notice of Hearing, Praecipe, and Proof of Service in reference to the above matter. Also enclosed is a check in the amount of $20 for the filing fee process.

Please feel free to contact me should you have any questions or concerns. Thank you for your cooperation in this regard.

Very truly yours,

ZAUSMER, KAUFMAN, AUGUST,
CALDWELL & TAYLER, P.C.



Michael L. Caldwell

MLC:hlr
Enclosures
cc: Celeste R. Gill, Esq. (w/enclosures)
Alan D. Wasserman, Esq. (w/enclosures)

STATE OF MICHIGAN 22ND CIRCUIT COURT WASHTENAW COUNTY	REQUEST FOR HEARING ON A MOTION (PRAECIPE) ORDER/JUDGMENT	CASE NO. 88-34734-CE

PLAINTIFF NAME(S) **Attorney General for the State of Michigan, et al.**	VS.	DEFENDANT NAME(S) **GELMAN SCIENCES INC.**, a Michigan corporation
PLAINTIFF'S ATTORNEY, BAR NO., ADDRESS, AND TELEPHONE NO. Celeste R. Gill (P52484) Assistant Attorney General Attorney for Plaintiffs 525 W. Allegan Street, Floor 5 Lansing, MI 48909 (517) 373-7540		DEFENDANT'S ATTORNEY, BAR NO., ADDRESS AND TELEPHONE NO. Zausmer, Kaufman, August & Caldwell, P.C. Michael L. Caldwell (P40554) Attorneys for Defendants 31700 Middlebelt Road, Suite 150 Farmington Hills, MI 48334 (248) 851-411

(List additional attorneys on other side)

1. Motion Title: Defendant's Petition for Dispute Resolution
2. Moving Party: Defendant

3. Please place on the motion calendar for:

Judge Donald E. Shelton	Bar No. P23920	**Date to be determined by the Court**	Time

Adj. to:_____ Adj. to: _____ Adj. to:_____

4. I certify that I have made personal contact with Celeste R. Gill on _____ regarding concurrence in relief sought in this Motion and that concurrence has been denied or that I have made reasonable and diligent attempts to contact counsel requesting concurrence with Motion.

Date October 25, 2011 Attorney _____ Bar No. 40554
Michael L. Caldwell

ORDER/JUDGMENT

DATED: _____

IT IS ORDERED THAT THIS MOTION IS:

☐ DENIED ☐ GRANTED IN PART/DENIED IN PART ☐ TAKEN UNDER ADVISEMENT ☐ DISMISSED

☐ GRANTED AND IT IS FURTHER ORDERED AND ADJUDGED:

_____
CIRCUIT JUDGE

Approved as to form and substance by Counsel for:

Plaintiff _____

Defendant _____

Date _____

FILE EITHER IN PERSON OR BY MAIL
WITH: WASHTENAW COUNTY CLERK
101 E. Huron
Ann Arbor, Michigan 48107

REVISED APR., 1989

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ATTORNEY GENERAL
FOR THE STATE OF MICHIGAN, et al

Plaintiffs,

File No. 88-34734-CE

v

Hon. Donald E. Shelton

GELMAN SCIENCES INC.,
a Michigan corporation,

Defendant.

/

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/

NOTICE OF HEARING

TO: Counsel of Record

PLEASE TAKE NOTICE that Defendant's Petition for Dispute Resolution will be brought on for hearing before the Honorable Donald E. Shelton at a date and time to be determined by the Court.

ZAUSMER, KAUFMAN, AUGUST
CALDWELL & TAYLER, P.C.

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Dated: October 25, 2011

PROOF OF SERVICE

The undersigned certified that the foregoing instrument was served upon all parties to the above cause to each of the attorneys of record herein at their respective addresses disclosed on the pleadings on **OCTOBER** 25, **2011**

By: U.S. Mail FAX
Hand Delivered ~~Overnight Courier~~
Federal Express Other: EMAIL

Signature: Halina Linda Romanski
HALINA LINDA ROMANSKI

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ATTORNEY GENERAL for the
STATE OF MICHIGAN, et al,

Plaintiffs,

Case No. 88-34734 CE

vs

Hon. Donald E. Shelton

GELMAN SCIENCES INC.,
a Michigan corporation,

Defendant.
_____/

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_____/

PETITION FOR DISPUTE RESOLUTION

Defendant Gelman Sciences, Inc. (a/k/a/ Pall Life Sciences or "PLS"), through its attorneys, Zausmer, Kaufman, August, Caldwell and Tayler, P.C. and Williams Acosta, PLLC, states as follows for its Petition for Dispute Resolution:

BACKGROUND

1. PLS submits this Petition and requests that this Court resolve a dispute that has arisen between PLS and the Michigan Department of Environmental Quality ("DEQ")

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regarding PLS's April 18, 2011 Western Area Groundwater Monitoring Plan ("WAGMP") (Appendix 1) and the DEQ's May 25, 2011 response to the WAGMP (the "May Response")(Appendix 2), which demanded that PLS install an additional 18 monitoring wells at 6 different locations to supplement the compliance well network identified in the WAGMP.

2. In March, this Court entered the Third Amendment to Consent Judgment ("Third Amendment", relevant portions attached as Appendix 3). The Third Amendment divided the Site was divided into two geographic areas: The Eastern Area consisting of the area east of Wagner Road; and the Western Area, which consisted of the area west of Wagner Road.

3. The cleanup objective for the Western Area is to "prevent the horizontal extent of the groundwater contamination . . . from expanding", provided that "continued migration of groundwater contamination into the Prohibition Zone or Expanded Prohibition Zone shall not be considered expansion and is allowed." Compliance with the Non-Expansion cleanup objective "shall be established and verified by the Compliance Well Network to be developed by the Parties as provided in Sections V.B.2.c and d., below . . ." Third Amendment, Section V.B.1.

4. Section V.B.2 of the Third Amendment specifies all of the response actions PLS is required to implement in the Western Area. (Third Amendment, p. 16). In particular, Section V.B.2.c describes the agreed upon scope of the investigation required in order to delineate the extent of groundwater contamination and establish the compliance well network. (Third Amendment, p. 17). PLS completed the limited additional investigation specified in the Third Amendment and the DEQ agreed that the investigation had sufficiently defined the extent of the groundwater contamination. (DEQ's May Response, p. 2 ("The DEQ has accepted PLS's

depiction of the plume with the addition of the area including Third Sister Lake.")).[1] The nature and purpose of this limited investigation are discussed in more detail in the Affidavits of Farsad Fotouhi ("Fotouhi Aff", ¶¶ 13-20, Appendix 4) and James W. Brode, Jr. ("Brode Aff" ¶¶ 8-12Appendix 5).

5. After completing the agreed upon investigation, PLS submitted its WAGMP in accordance with Section V.B.2.d, which describes the procedures for this submittal. Consistent with Section V.B.2.d., the WAGMP included "the collection of data from a compliance monitoring well network sufficient to verify the effectiveness of the Western Area System in meeting the Western Area objective set forth in Section V.B.1." Significantly, Section V.B.2.d does not require PLS to install additional monitoring wells beyond those specifically identified in V.B.2.c. (or allow the DEQ to demand additional monitoring wells) in order to establish the required compliance well network. Rather, it refers to the investigation described in Section V.B.2.c.

6. PLS's interpretation of the Third Amendment as limiting the scope of additional investigation that must be conducted to establish the compliance well network to those actions described in Section V.B.2.c, is consistent with the summary of the tentative agreement between the DEQ and PLS that the parties submitted to the Court on November 15, 2010 ("Modified Cleanup Program Term Sheet", Appendix 6, p 7 ("Term Sheet")). Section B.5. of the Term Sheet, entitled "Compliance Monitoring Well Network/Performance Monitoring Plan", provides, in pertinent part:

> An acceptable Performance Monitoring Plan based on a compliance monitoring well network sufficient to monitor the Non-Expansion Cleanup Objective must be established. The DNRE has identified a number of locations where there may be gaps in the current definition of the plume and where additional wells need to be installed

[1] The DEQ's reference to "the area including Third Sister Lake" relates to the area of additional investigation described in Mr. Brode's Affidavit, ¶ 10, Appendix 5).

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(described below). The Parties' technical staffs have agreed upon the installation of borings/monitoring wells as described below, however DNRE reserves the right to request the installation of additional borings/monitoring wells if the totality of the data from these wells indicate that the plume has not been completely defined. These boring/monitoring wells will provide further definition of the extent of groundwater contamination so that the Parties can identify compliance monitoring points for monitoring the revised performance objective for the Western Area.

Term Sheet, p 7 (emphasis added).

The summary of the required investigation, to the extent PLS had not already completed it, was included in Section V.B.2.c of the Third Amendment.

7. Despite PLS's completion of the limited investigation specified in Section V.B.2.c. and the plain language of Section V.B.2.d., the DEQ's May Response demanded that PLS install 18 additional monitoring wells at 6 different locations to supplement the WAGMP's proposed compliance well network. (Appendix 2).

8. After the parties attempted to resolve the dispute throughout the summer, meeting several times in person and via conference calls, PLS exercised its rights under the Consent Judgment by initiating the Dispute Resolution process by correspondence dated September 12, 2011. (Appendix 7) After further discussions during the 10 day informal negotiating period failed to resolve the dispute, the DEQ issued its Proposed Resolution of Dispute dated October 10, 2011, which was received via email on October 11, 2011. ("Proposed Resolution" Appendix 8).

9. The DEQ's Proposed Resolution demanded that PLS begin implementing the DEQ-approved WAGMP as specified in its earlier May Response. The Proposed Resolution also added the requirements that: a) PLS install the additional monitoring well nests by vertically profiling the aquifer all the way to bedrock; and b) PLS must use both the Rotosonic drilling method and the gamma logging tool for each boring.

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10. PLS files this Petition for Dispute Resolution within the 15 days required by the Consent Judgment, Section XVI.B.

MATTERS IN DISPUTE

A. Requirement to Install 18 Additional Wells at 6 New Nested Well Locations.

11. PLS is disputing the DEQ's demand that PLS install additional monitoring wells in order to supplement the compliance well network identified in the WAGMP. As set forth in greater detail in the accompanying Affidavits of Farsad Fotouhi and James W. Brode:

a. For many years, the DEQ-approved monitoring well network that existed prior to the Third Amendment had been deemed sufficient by both the DEQ and PLS to detect any expansion of the horizontal extent of the groundwater contamination.

b. Nevertheless, in order to obtain the DEQ's approval of PLS's proposed modifications to cleanup program, PLS agreed to supplement the existing DEQ-approved monitoring well network by installing 14 additional wells at 7 different locations in order to "fill in gaps" that the DEQ believed existed in the previous well network.

c. The DEQ, in turn, agreed not to demand any further monitoring wells unless the data from the agreed upon investigation indicated that the groundwater contamination was not completely delineated. This agreement was then memorialized in the Term Sheet that the parties submitted to this Court in November 2010 (Appendix 6, p 7) and ultimately in Section V.B.2.c. of the Third Amendment.[2]

d. The DEQ's subsequent demand that PLS install 18 additional monitoring wells flies in the face of its previous agreement, as memorialized in the Third Amendment.

e. There is no technical justification for the additional monitoring wells demanded by the DEQ.

[2] The investigation described in the Third Amendment is briefer than in the Term Sheet because PLS had already completed much of the work by the time the Third Amendment was presented to the Court for entry. (Not surprisingly, Mr. Fotouhi does his work more quickly than the lawyers).

f. The locations identified in PLS's WAGMP are supported by PLS's interpretations of the hydrogeologic site conditions in the area of each location such as groundwater flow and groundwater quality.

See Fotouhi Aff ¶¶ 6-29; Brode Aff ¶¶5-21, Appendices 4 and 5 respectively.

12. To the extent PLS is ordered to install one or more of the well nests demanded by the DEQ, PLS will dispute the precise location of the well nest(s) selected by the DEQ. Several of the identified locations are likely inside the plume boundary.

B. Requirement That PLS Install the Nested Monitoring Wells to Bedrock.

13. To the extent PLS is required to install any of the nested wells demanded by the DEQ, PLS will also dispute the recently added requirement that each of the 6 nested well locations be drilled and vertically profiled all the way to bedrock. Having concurred that the investigation described in the Third Amendment was sufficient to fully delineate the groundwater contamination, the DEQ now attempts to justify its demand for still more wells by claiming that the additional wells are needed, not for delineation, but to measure PLS's compliance. But this revisionist rationale is belied by the drill-to-bedrock requirement. This investigative technique is only used when investigating the extent of groundwater contamination. (Brode Aff., ¶ 25). If, as the DEQ has claimed, the additional wells are being installed for compliance purposes, then drilling to bedrock should not be required. This requirement is incredibly burdensome and costly. (Fotouhi Aff., ¶19).

C. Requirement That PLS Gamma Log Rotosonic Borings.

14. PLS is disputing the DEQ's demand that PLS gamma log borings that are installed using the Rotosonic drilling method. Gamma logging is a tool PLS has previously used to indirectly obtain information regarding the soil stratigraphy in the absence of actual soil samples. As explained by Mr. Brode in his Affidavit, the Rotosonic drilling method renders

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this tool completely unnecessary because it produces continuous core samples of the soils encountered that the on-site geologist can easily log. (Brode Aff., ¶¶ 25-24).

EFFORTS TO RESOLVE THE DISPUTED ISSUES

15. The parties have discussed the disputed issues in depth over the course of the summer without reaching an agreeable resolution.

16. PLS has offered a number of compromises, including one that incorporated an important aspect of the DEQ's May Response. In the May Response, the DEQ acknowledged that under the current site conditions, not all of the monitoring wells it is demanding need to be installed immediately. The DEQ conditioned its willingness to defer the installation of certain wells on the ability of the parties to agree on a predetermined set of circumstances that would "trigger" the need to install the wells at each deferred location. (*See* May Response, p. 4).

17. In discussing this approach, the parties quickly agreed, however, that it would be impossible to decide beforehand what changes in the current site conditions, if they occurred, would appropriately trigger the need to install a particular well nest (or preclude the need to install a well nest in the absence of such predetermined changes in site conditions).

18. Along these lines, however, Mr. Fotouhi made a very practical suggestion: The parties should gather data from the existing wells identified in PLS's WAGMP for one year before installing any new monitoring wells. At the end of that year (or earlier if changes in site conditions made it necessary to do so), the parties could review actual data to determine if the data justified installing any of the additional wells demanded by the DEQ.

19. Mr. Fotouhi's suggestion makes sense because for many years the existing monitoring well network (even before the parties agreed to supplement the network of wells by installing 14 additional wells at 7 different locations) was deemed sufficient to ensure that the

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extent of groundwater contamination was not expanding under the existing site conditions (groundwater flow directions, contaminant distribution, etc.). Therefore, no new monitoring wells should be necessary unless the site conditions change in ways that would allow prohibited expansion, for instance as a result of changes in PLS groundwater extraction program. Certainly this is true after PLS agreed to fill the "gaps" the DEQ originally identified, as described in the Term Sheet and Third Amendment. The DEQ acknowledged this fact in its May Response with respect to at least some of its proposed monitoring well locations.

20. In May 2011, PLS, with the DEQ's concurrence, reduced its Western Area groundwater extraction by approximately 300 gallons per minute (gpm). (Fotouhi Aff ¶ 29). As discussed by Mr. Brode, the change in groundwater extraction has not thus far caused any meaningful changes to the hydrogeologic site conditions that would create the potential for prohibited expansion. (Brode Aff ¶ 22).

21. If this Court is not inclined to reject the DEQ's demands out of hand, PLS proposes that the parties should continue to monitor the existing monitoring well network until July 2012. At that time, the parties will be in a far better position to evaluate whether any additional monitoring wells need to be installed. Obviously, if site conditions change between now and next July in a manner that suggests potential expansion, the parties can, either by mutual agreement or by motion filed with this Court, seek an expedited resolution.

SCHEDULE FOR RESOLVING DISPUTE

22. Section XVI.B of the Consent Judgment requires PLS to identify in its petition the period of time within which the dispute must be resolved by the Court in order to ensure an orderly implementation of the Consent Judgment. As discussed above, PLS believes that there is no immediate need to resolve the disputed issues. PLS will continue to gather the

hydrogeologic data specified in the WAGMP during the suggested observation period. At that time, the parties would supplement their pleadings with the Court if they are unable to resolve the disputed issues. Holding this matter in abeyance during the proposed observation period would not interfere with the implementation of the response actions required by the Consent Judgment.

RELIEF REQUESTED

23. PLS asks this Court to resolve the pending dispute between the parties pursuant to Section XVI of the Consent Judgment, as amended, and find that PLS is not required to install any of the additional 18 monitoring wells demanded by the DEQ. In the alternative, PLS asks this Court to hold this matter in abeyance until July, 2012 to allow the parties to gather additional site data pursuant to PLS's WAGMP, which would enable the parties, and the Court if necessary, to make better informed decisions regarding whether any additional monitoring wells are required.

24. In the event this Court requires PLS to install one or more of the additional monitoring wells, PLS asks this Court to find that PLS is not required to vertically profile the entire aquifer down to bedrock or to gamma log the boring so long as the Rotosonic drilling method is used. In this event, PLS also reserves the right to dispute the DEQ's preferred location of any well nests PLS is required to install.

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Respectfully submitted,

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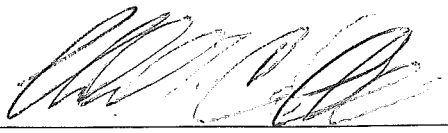
CALDWELL & TAYLER, P.C.



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Dated: October 25, 2011

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Gelman Sciences' Joint Appendix 1 - 10

Re: Petition for Dispute Resolution

APPENDIX 1

PALL LIFE SCIENCES
WESTERN AREA GROUNDWATER MONITORING PLAN
ANN ARBOR, MICHIGAN
April 2011

BACKGROUND

The purpose of this monitoring plan is to collect data necessary to verify the effectiveness of the Western Area System in meeting the Western Area Non-Expansion Cleanup Objective set forth in Section V.B.1. of the Consent Judgment (CJ) (applicable portions summarized below).

> Western Area System Non-Expansion Cleanup Objective. The Defendant shall prevent the horizontal extent of the groundwater contamination in the Western Area from expanding. The horizontal extent shall be the maximum horizontal areal extent of groundwater contamination regardless of the depth of the groundwater contamination (as established under Section V.B.2.c. of this Consent Judgment). Continued migration of groundwater contamination into the Prohibition Zone or Expanded Prohibition Zone shall not be considered expansion and is allowed. A change in the horizontal extent of groundwater contamination resulting solely from the Court's application of a new cleanup criterion shall not constitute expansion. Nothing in this Section prohibits the Plaintiffs from seeking additional response activities pursuant to Section XVIII.E of this Consent Judgment. Compliance with the Non-Expansion Cleanup Objective shall be established and verified by the Compliance Well Network to be developed by the Parties as provided in Sections V.B.2.c and d., below ("Compliance Well Network"). There is no independent mass removal requirement or a requirement that the Defendant operate any particular extraction well(s) at any particular rate beyond what is necessary to prevent the prohibited expansion, provided that Defendant's ability to terminate all groundwater extraction in the Western Area is subject to Section V.D.1.c. and the establishment of property use restrictions as required by Section V.B.2.e. If prohibited expansion occurs, Defendant shall undertake additional response activities to return the groundwater contamination to the boundary established by the Compliance Well Network (such response activities may include recommencement of extraction at particular locations).
>
> * * *
>
> The monitoring program shall be continued until terminated pursuant to Section V.E.

PROPOSED MONITORING LOCATIONS

PLS has been installing monitoring wells a collecting groundwater samples in the Western Area for approximately 25 years. Wells have been installed from shallow depths to the bedrock surface allowing for the monitoring of all key hydrostragraphic units. Numerous isoconcentration maps have been prepared over the years depicting the extent of 1,4-dioxane in various hydrostratigraphc units.

Recently, PLS has installed a series of borings/wells to further define the extent of 1,4-dioxane in the Western Area. These wells include: MW-125, MW-126s, MW-126d, MW-127s, MW-127d, MW-128s, MW-128d, MW-131s, MW-131d, MW-133s, MW-133i, MW-133d, MW-134s, MW-134i and MW-134d. PLS also drilled another boring, PLS-11-04, near the University of Michigan - Saginaw Forest Caretaker's Cabin. The locations for these wells and boring were mutually agreed upon by PLS and the MDEQ. Borings at all of these well locations reached the bedrock surface, and vertical groundwater samples were collected at 10 foot intervals in water-bearing units. Boring logs, elevation/coordinate data and water level data for the newest wells (MW-133/134 and PLS-11-04) are provided in Appendix 1. Data from these borings/wells in concert with the extensive existing well network has sufficiently defined the extent of 1,4-dioxane in the Western area in all hydrostratigraphic units from ground elevation to the bedrock surface. Based on the data obtained from the agreed upon investigation, the extent of groundwater contamination has been delineated within the compliance well network identified on Figure 1.

PLS has carefully selected approximately 125 locations to periodically collect groundwater samples for 1,4-dioxane analysis and water level measurements. The locations, along with other relevant information, are listed on Table 1. Figure 1 identifies wells included in the monitoring well network, and highlights wells in the Compliance Well Network (green).

Groundwater Quality Sampling

Purpose Designations

The monitoring locations have been assigned the following purpose designations:

Compliance Monitoring (CM) – With the exception of MW-134, these wells will be used to determine compliance with the Non-Expansion Cleanup Objective in the CJ. Because of its proximity to the boundaries of both the Prohibition Zone and the edge of the plume above 85 ppb and because groundwater contamination above 85 ppb has historically been detected in this area , the detection of 1,4-dioxane above 85 ppb in MW-134 in the future may indicate prohibited expansion or it may simply indicate "continued migration of groundwater contamination into the Prohibition Zone or Expanded

Prohibition Zone", which is specifically allowed under the CJ. PLS proposes to designate MW-134 as a provisional compliance point. If 1,4-dioxane above 45 ppb is detected in any of the MW-134 wells, PLS will undertake an investigation to determine whether groundwater contamination in this area is flowing toward the Prohibition Zone or if flow is in a direction that constitutes prohibited expansion. PLS will submit an investigation report to the MDEQ for review and approval. If this investigation demonstrates that the 1,4-dioxane detected in MW-134 is migrating into the Prohibition Zone/Expanded Prohibition Zone, this will mean that MW-134 is not an appropriate location for monitoring the Non-Expansion Cleanup Objective. In this event, PLS will install an additional monitoring well nest north of MW-134, roughly on a line between MW-133 and MW-66/35, which will then be the Compliance Monitoring point that will be used to determine compliance with the Non-Expansion Cleanup Objective in this area. If, on the other hand, PLS' investigation demonstrates that groundwater in this area is not flowing toward the Prohibition Zone/Expanded Prohibition Zone, MW-134 will be used as a Compliance Monitoring point to determine compliance with the Non-Expansion Cleanup Objective.

General Monitoring (GM) – These wells will be monitored to track the general distribution of 1,4-dioxane in the Western Area. Data from these wells will be used to evaluate the potential effects of changes in the purge rates of PLS' Western Area groundwater extraction wells.

Monitoring Locations

The locations of the monitoring wells that will be part of this plan are shown on Figure 1.

Monitoring Frequencies

PLS has reviewed the past water quality data and position of the wells relative to the boundaries of the plumes and has assigned each well with a monitoring frequency. These frequencies are:

Quarterly (Q) – Quarterly sampling frequencies have been assigned to many wells since it is anticipated that there will be significant extraction rate changes in the near future. It is anticipated that many wells assigned a quarterly frequency will be changed to longer frequencies in the next revision of this plan.

Semi-annual (S) – Semi-annual sampling frequencies were generally assigned to locations where routine data are important, but either due to historic trends or location, monitoring at slightly less frequent basis than quarterly will be adequate to identify significant trends or changes.

Annual (A) – Annual sampling frequencies were generally assigned to locations where routine data are important, but either due to historic trends or location, monitoring at slightly less frequent basis than semi-annual will be adequate to identify significant trends or changes.

Biennial (B) – Biennial sampling frequencies were generally assigned to locations where historic concentrations have shown that trends indicate subtle/negligible changes over time and frequent monitoring is not warranted.

Omit (O) – PLS is proposing the elimination of selected wells from the monitoring program. Historic trends at these locations have shown that 1,4-dioxane concentrations at these locations have consistently been below 85 ppb, alternative nearby locations can and will be monitored, or the wells are no longer functional.

Water Level Measurements

Objectives

The overall objectives of measuring water levels are:

1. Assessing groundwater flow patterns.

2. Evaluating potential changes in groundwater flow from changes in extraction rates and locations.

Locations

The wells to be monitored for water levels are shown on Figure 1.

Frequencies

Water level measurements in this plan will be made on a quarterly basis. This will allow for changes to be observed tracked during periods where extraction rates in many wells will be changed. It is anticipated that this frequency will be changed in many wells in the next version of this monitoring plan.

Sampling Methods and Analysis

Groundwater samples collected from monitoring wells will be collected by PLS in a manner consistent with PLS sampling protocols and sample handling procedures that are currently being used for PLS' routine monitoring. These sampling methods generally employ a 3 to 5 casing volume purge prior to sample collection, strict equipment decontamination procedures, and standard sample handling and documentation procedures.

Groundwater samples will be analyzed for 1,4-dioxane by the PLS laboratory using a U.S. Environmental Protection Agency-approved modified GC/MS method capable of detection levels of 1 ppb.

REPORTING AND PLAN UPDATES

Data from the monitoring will be made digitally available to the Michigan Department of Environmental Quality (MDEQ) via the PLS water quality database. The database can be used by the MDEQ and others having access to prepare reports and trend graphs.

On a semi-annual basis, PLS will prepare and submit to the MDEQ isoconcentration and potentiometric surface maps for the various aquifers, similar to those currently being provided to MDEQ.

On an annual basis, starting with the approval date of this plan, PLS may propose to adjust sampling and submittal frequencies and submit revisions to the MDEQ for review and comment before implementation.

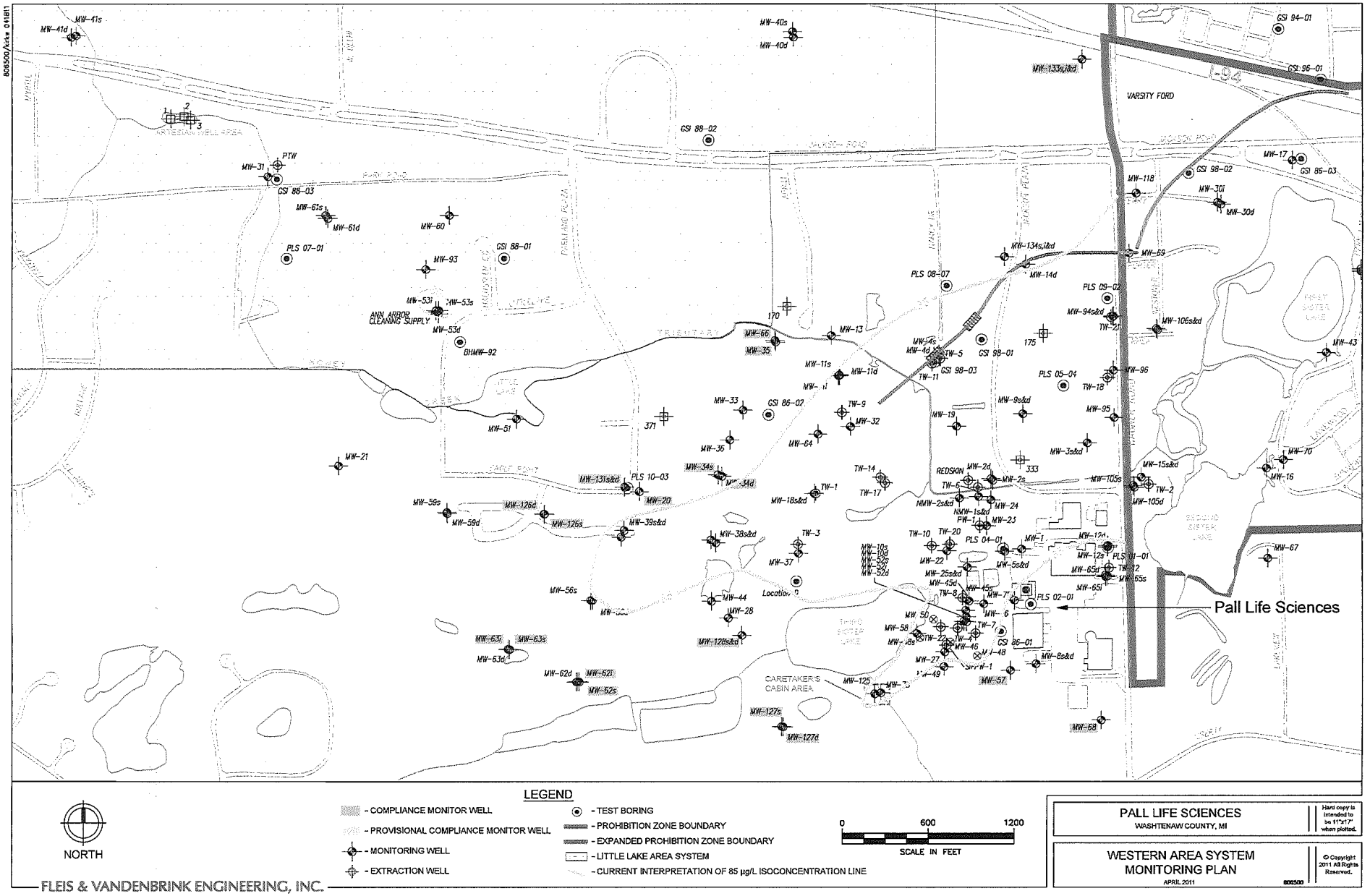
Pall Life Sciences
VARSITY FORD
ANN ARBOR CLEANING SUPPLY
CARETAKER'S CABIN AREA
LEGEND
- COMPLIANCE MONITOR WELL
- PROVISIONAL COMPLIANCE MONITOR WELL
- MONITORING WELL
- EXTRACTION WELL
- TEST BORING
- PROHIBITION ZONE BOUNDARY
- EXPANDED PROHIBITION ZONE BOUNDARY
- LITTLE LAKE AREA SYSTEM
- CURRENT INTERPRETATION OF 85 µg/L ISOCONCENTRATION LINE
NORTH
0
600
1200
SCALE IN FEET
FLEIS & VANDENBRINK ENGINEERING, INC.
PALL LIFE SCIENCES
WASHTENAW COUNTY, MI
Hard copy is intended to be 11"x17" when plotted.
WESTERN AREA SYSTEM MONITORING PLAN
APRIL 2011
806500
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Table 1 - Western Area Groundwater Monitoring Program (to be revised annually)

Well Name	Aquifer	Site Area	Most Recent 1,4-Dioxane Result (ppb)	Date Sampled	Purpose for Sampling	Current Sampling Frequency	Revised Groundwater Sampling Frequency	Water Level Measurement Frequency
AMW-1	Marshy	Western	342	8/11/10	GM	A	A	Quarterly
AMW-2	Marshy	Western	7	8/5/10	GM	A	A	Quarterly
HZ-S	D2	Western	958	3/7/11	GM-E	M	M*	NM
MOW-1	Marshy	Western	565	8/5/10	GM	A	A	Quarterly
MW-1	C3	Western	1,017	10/20/10	GM	S	Quarterly	Quarterly
MW-2s	Shallow	Western	10	11/7/07	-	R	O	NM
MW-2d	C3	Western	42	7/16/10	GM	A	Quarterly	Quarterly
~~MW-3s~~	~~Shallow~~	~~Western~~	~~5~~	~~8/18/93~~	-	~~R~~	~~O~~	~~NM~~
MW-3d	C3	Western	ND	8/7/08	-	A	O	Quarterly
MW-4s	Sh	Western	3	8/8/08	-	A	O	Quarterly
MW-4d	D2	Western	836	10/28/10	GM	S	Quarterly	Quarterly
~~MW-5s~~	~~Shallow~~	~~Western~~	~~1~~	~~7/20/04~~	-	~~A~~	~~O~~	~~NM~~
MW-5d	Sh	Western	8,618	2/18/11	GM	Quarterly	Quarterly	Quarterly
MW-8d	C3	Western	ND	8/13/08	-	A	O	Quarterly
~~MW-9d~~	~~D2~~	~~Western~~	~~ND~~	~~8/7/08~~	-	~~A~~	~~O~~	~~NM~~
MW-10s	Southwest	Western	ND	8/10/10	-	A	O	Quarterly
MW-10d	Southwest	Western	1,505	10/19/10	GM	S	Quarterly	Quarterly
MW-11s	Shallow	Western	ND	8/10/10	-	S	O	Quarterly
MW-11I	C3	Western	1	10/19/10	-	S	O	Quarterly
MW-11d	D2	Western	194	10/19/10	GM	S	Quarterly	Quarterly
MW-12d	C3	Western	ND	7/21/10	-	A	O	Quarterly
MW-13	D2	Western	ND	7/16/10	-	A	O	Quarterly
MW-14d	D2	Western	ND	7/22/10	-	A	O	Quarterly
~~MW-18s~~	~~Shallow~~	~~Western~~			-	~~R~~	~~O~~	~~NM~~
MW-18d	C3	Western	226	10/19/10	GM	S	Quarterly	Quarterly
MW-20	C3	Western	ND	7/29/08	CM	A	Quarterly	Quarterly
MW-22	C3	Western	1,312	10/20/10	GM	S	Quarterly	Quarterly
MW-23	C3	Western	184	8/5/10	GM	A	A	Quarterly
MW-24	C3	Western	958	8/11/10	GM	A	A	Quarterly
MW-25s	Shallow	Western	834	8/10/10	GM	A	Quarterly	Quarterly
~~MW-25d~~	~~C3~~	~~Western~~	~~423~~	~~1/16/03~~	-	~~A~~	~~O~~	~~NM~~
MW-26	Shallow	Western	5	8/10/10	-	A	O	Quarterly
MW-27	Shallow	Western	16	8/5/10	-	A	O	Quarterly
MW-28	C3	Western	ND	8/4/10	GM	A	Quarterly	Quarterly
MW-32	C3	Western	16	8/6/10	GM	A	Quarterly	Quarterly
MW-34s	C3	Western	ND	7/15/08	CM	A	Quarterly	Quarterly
MW-34d	D2	Western	ND	8/6/10	CM	A	Quarterly	Quarterly
MW-35	C3	Western	8	8/6/10	CM	A	Quarterly	Quarterly
MW-36	C3	Western	ND	8/6/10	GM	A	A	Quarterly
MW-37	C3	Western	249	10/19/10	GM	S	Quarterly	Quarterly
MW-38s	C3	Western	ND	8/6/10	-	A	O	Quarterly
MW-38d	D2	Western	94	1/18/11	GM	Quarterly	Quarterly	Quarterly
MW-39s	C3	Western	22	1/5/11	GM	Quarterly	Quarterly	Quarterly
MW-39d	D2	Western	242	1/5/11	GM	Quarterly	Quarterly	Quarterly
MW-44	D2	Western	ND	8/4/10	-	A	O	Quarterly
MW-45s	Southwest	Western	13	10/19/10	GM	S	S	Quarterly
MW-45d	Southwest	Western	1,953	10/19/10	GM	S	S	Quarterly
MW-46	Southwest	Western	53	8/5/10	GM	A	S	Quarterly
MW-48	Southwest	Western	133	10/20/10	GM	S	S	Quarterly
MW-49	Southwest	Western	ND	8/4/10	GM	A	S	Quarterly
MW-50	Southwest	Western	697	10/28/10	GM-E	M	M*	Quarterly
MW-52s	Southwest	Western	1,305	8/10/10	GM	S	S	Quarterly
MW-52I	Southwest	Western	ND	8/10/10	-	A	A	Quarterly
MW-52d	Southwest	Western	ND	8/10/10	-	A	A	Quarterly
MW-56s	D2	Western	118	4/2/09	GM	Quarterly	Quarterly	Quarterly
MW-56d	E	Western	ND	8/4/10	GM	A	Quarterly	Quarterly
MW-57	Southwest	Western	ND	8/13/08	CM	A	Quarterly	Quarterly
MW-58s	Southwest	Western	182	10/15/08	CM	S	S	Quarterly
MW-58d	Southwest	Western	9	8/12/08	CM	A	S	Quarterly
MW-59s	C3	Western	ND	7/20/10	GM	A	A	Quarterly
MW-59d	D2	Western	ND	7/20/10	GM	A	A	Quarterly
MW-62s	D2	Western	ND	7/11/08	CM	A	S	Quarterly
MW-62i	D2	Western	ND	7/17/08	CM	A	S	Quarterly
MW-62d	E	Western	ND	7/11/08	GM	A	S	Quarterly
MW-63s	D2	Western	ND	8/4/10	CM	A	S	Quarterly
MW-63I	D2	Western	ND	8/4/10	CM	A	S	Quarterly
MW-63d	E	Western	ND	8/4/10	GM	A	A	Quarterly

Table 1 - Western Area Groundwater Monitoring Program (to be revised annually)

Well Name	Aquifer	Site Area	Most Recent 1,4-Dioxane Result (ppb)	Date Sampled	Purpose for Sampling	Current Sampling Frequency	Revised Groundwater Sampling Frequency	Water Level Measurement Frequency
MW-64	E	Western	66	10/19/10	GM	S	Quarterly	Quarterly
MW-65s	E	Western	25	7/30/10	GM	A	S	Quarterly
MW-65i	E	Western	2	7/30/10	GM	A	S	Quarterly
MW-65d	E	Western	31	11/8/10	GM	S	S	Quarterly
MW-66	E	Western	2	8/10/10	CM	A	Quarterly	Quarterly
MW-68	E	Western	ND	7/21/10	CM	A	S	Quarterly
MW-75	C3	Western	30	10/20/10	GM	S	S	Quarterly
MW-78	C3	Western	22	10/18/10	GM	S	S	Quarterly
MW-94s	D2	Western	1,294	1/27/11	GM	Quarterly	Quarterly	Quarterly
MW-94d	E	Western	ND	1/27/11	GM	Quarterly	S	Quarterly
MW-95	E	Western	73	1/27/11	GM	Quarterly	S	Quarterly
MW-96	E	Western	79	1/27/11	GM	Quarterly	S	Quarterly
MW-125	C3	Western	276	1/5/11	GM	-	Quarterly	Quarterly
MW-126s	D2	Western	ND	1/5/11	CM	-	Quarterly	Quarterly
MW-126d	E	Western	ND	1/5/11	CM	Quarterly	Quarterly	Quarterly
MW-127s	C3	Western	ND	1/5/11	CM	-	Quarterly	Quarterly
MW-127d	E	Western	ND	1/5/10	CM	-	Quarterly	Quarterly
MW-128s	C3	Western	ND	2/14/11	CM	-	Quarterly	Quarterly
MW-128d	E	Western	ND	2/14/11	CM	-	Quarterly	Quarterly
MW-131s	D2	Western	ND	3/21/11	CM	-	Quarterly	Quarterly
MW-131d	E	Western	ND	3/21/11	CM	-	Quarterly	Quarterly
MW-133s	ND	Western	ND	3/22/11	CM	-	Quarterly	Quarterly
MW-133i	ND	Western	ND	3/22/11	CM	-	Quarterly	Quarterly
MW-133d	ND	Western	ND	3/22/11	CM	-	Quarterly	Quarterly
MW-134s	ND	Western	7	3/30/11	PCM	-	Quarterly	Quarterly
MW-134i	ND	Western	5	3/30/11	PCM	-	Quarterly	Quarterly
MW-134d	ND	Western	3	3/30/11	PCM	-	Quarterly	Quarterly
NMW-1s	Marshy	Western	1,577	8/11/10	CM	A	Quarterly	Quarterly
NMW-1d	Marshy	Western	639	8/11/10	GM	A	A	Quarterly
NMW-2s	Marshy	Western	1,684	8/11/10	CM	A	Quarterly	Quarterly
NMW-2d	Marshy	Western	597	8/11/10	GM	A	A	Quarterly
NMW-3s	Marshy	Western	1,010	8/11/10	GM	A	A	Quarterly
NMW-3d	Marshy	Western	918	8/11/10	GM	A	A	Quarterly
PMW-1	Marshy	Western	162	8/11/10	GM	A	A	Quarterly
PMW-2	Marshy	Western	5,708	8/5/10	GM	A	A	Quarterly
PMW-3	Marshy	Western	7,348	8/5/10	GM	A	A	Quarterly
PMW-4	Marshy	Western	930	8/5/10	GM	A	A	Quarterly
PW-1	Marshy	Western	1,112	3/7/11	GM-E	M	M*	NM
~~Surface Water 1M~~	Marshy	~~Western~~	~~ND~~	~~7/30/08~~	~~GM~~	~~A~~	~~O~~	~~NM~~
~~Surface Water 2M~~	Marshy	~~Western~~	~~ND~~	~~7/30/08~~	~~GM~~	~~A~~	~~O~~	~~NM~~
~~Surface Water 3M~~	Marshy	~~Western~~	~~ND~~	~~7/30/08~~	~~GM~~	~~A~~	~~O~~	~~NM~~
SW-COMB	Southwest	Western	546	1/6/09	GM-E	M	M*	NM
TW-1	C3	Western	121	3/7/10	GM-E	S	M*	NM
TW-3	C3	Western	5	11/11/10	-	S	M*	NM
TW-4	Southwest	Western	28	11/11/10	-	S	M*	NM
TW-5	D2	Western	872	11/11/10	GM-E	M	M*	NM
TW-6	C3	Western	66	5/21/10	GM-E	M	M*	NM
TW-8	Southwest	Western	503	3/7/11	GM-E	M	M*	NM
TW-9	D2	Western	981	3/7/11	GM-E	M	M*	NM
TW-10	C3	Western	751	3/7/10	GM-E	M	M*	NM
TW-11	E	Western	223	3/7/11	GM-E	M	M*	NM
TW-12	E	Western	23	11/11/10	-	S	M*	NM
TW-13	Southwest	Western	736	12/7/10	GM-E	M	M*	NM
TW-14	C3	Western	129	3/7/10	GM-E	M	M*	NM
TW-17	E	Western	89	3/7/11	GM-E	M	M*	NM
TW-18	E	Western	384	3/7/11	GM-E	M	M*	NM
TW-20	C3	Western	1,487	3/7/11	GM-E	M	M*	NM
TW-21	D2	Western	286	2/7/11	GM-E	M	M*	
TW-22	Southwest	Western	760	3/7/11	GM-E	M	M*	NM
170 Aprill	C3	Western	18	7/16/10	-	A	A	NM
175 Jackson Plaza	D2	Western	706	11/8/10	GM	S	S	Quarterly
~~333 Jackson Plaza~~	~~C3~~	~~Western~~	~~19~~	~~7/16/10~~	-	~~A~~	~~O~~	~~NM~~
371 Parkland Plaza #1	E	Western	ND	10/19/10	-	R	R	NM
371 Parkland Plaza #2	E	Western	ND	10/19/10	-	R	R	NM
Sag. Forest Cabin #1	E	Western	27	8/6/10	GM	A	S	Quarterly
Sag. Forest Cabin #2	E	Western	2	8/6/10	GM	A	S	Quarterly
~~Sag. Forest Cabin #4~~	~~C3~~	~~Western~~	~~ND~~	~~7/31/08~~	-	~~A~~	~~O~~	~~NM~~

Frequency Codes: O = No longer sample (statics if applicable)

Table 1 - Western Area Groundwater Monitoring Program (to be revised annually)

Well Name	Aquifer	Site Area	Most Recent 1,4-Dioxane Result (ppb)	Date Sampled	Purpose for Sampling	Current Sampling Frequency	Revised Groundwater Sampling Frequency	Water Level Measurement Frequency

M = Monthly

M*=Monthly while operating, otherwise randomly sampled

S = Semi-Annually

A = Annually

B = Biannually

R = Randomly

Measured

Analytical Codes:

ND = Non-Detect

Sampling Purpose Codes:

CM = Compliance Monitoring

PCM = Provisional Compliance Monitoring

GM = General Monitoring

GM-E = General Monitoring - Extraction Well

APPENDIX 2

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

May 25, 2011

VIA E-MAIL and U.S. MAIL

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Corporate Vice President
Environmental Engineering
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Mr. Michael L. Caldwell
Zausmer, Kaufman,
August & Caldwell, P.C.
31700 Middlebelt Road,
Suite 150
Farmington Hills, Michigan 48334-2301

Dear Sirs:

SUBJECT: Gelman Sciences, Inc. Remedial Action
Western Area Groundwater Monitoring Plan, April 18, 2011

The Department of Environmental Quality (DEQ) received the above referenced plan (WAGMP) from Pall Life Sciences (PLS) by U.S. mail on April 20, 2011. Staff of the DEQ has reviewed the WAGMP and provides the following conditional approval.

The compliance well network, to be defined by the DEQ-approved compliance monitoring wells (CMW), is intended to monitor the objective of the Third Amendment to Consent Judgment (CJ) to "prevent the horizontal extent of the groundwater contamination in the Western Area from expanding." Groundwater contamination is defined in the CJ as 1,4-dioxane in groundwater at a concentration in excess of 85 parts per billion (ppb). The horizontal extent of groundwater contamination (plume) was not depicted on Figure 1 of the original WAGMP. Upon DEQ's request, PLS submitted a revised Figure 1 that does depict PLS's interpretation of the location of the plume.

The DEQ has two major concerns with the PLS proposed compliance well network:

1. The distance between the depicted extent of the plume and three of PLS's proposed CMW nests would effectively allow the plume to migrate as far as 1,100 feet before such migration would be considered expansion.

2. The distance between PLS's proposed CMWs varies from 630 to 2,800 feet and in several locations is too great to detect expansion of the plume between those points.

The DEQ acknowledges that the depiction of this, as well as any other plume, is an interpolation based on available data. Identifying the precise location of this long plume boundary would require many closely spaced monitoring wells (MWs) along the entire boundary of the plume. To then establish a compliance monitoring network that can effectively monitor a non-expansion objective would require many more wells just outside the plume to assure the plume never reaches those points. We have worked with PLS to utilize existing and newly installed wells for characterization and potential compliance monitoring purposes, taking into consideration the issues associated with obtaining access around existing infrastructure and natural features. However, based on available data, PLS's proposed compliance well network is not adequate to monitor the non-expansion objective of the CJ.

The DEQ's intent in agreeing to the non-expansion objective in conjunction with an associated compliance monitoring network was that once the plume was delineated, DEQ-approved CMWs would establish points along a continuous boundary outside of which the plume is not allowed to expand. This position is supported by Section V.B.1. of the CJ which states, in part: "If prohibited expansion occurs, Defendant shall undertake additional response activities to return the groundwater contamination to the boundary established by the Compliance Well Network." The CMW network and resulting boundary, as proposed by the DEQ, more effectively monitors the non-expansion objective than PLS's proposed plan, while providing a limited buffer to allow for some variability in the exact location of the plume's boundary, as shown on the enclosed Figure 1. The DEQ has accepted PLS's depiction of the plume with the addition of the area including Third Sister Lake.

As stated, in some cases the distance between the PLS proposed CMWs would not allow for the detection of an expansion of the plume outside of the boundary established by the CMWs. There is a great deal of data from MWs in the Western Area; however, the current nature and extent of the plume has been influenced by continuous groundwater extraction since 1997. In addition, the DEQ's approval of previous monitoring plans was intended to satisfy the previous objective of achieving a full cleanup, which required continued extraction until generic residential criteria were achieved for soil and groundwater. Because extraction will be reduced and eventually terminated, leaving soil and groundwater contamination in place under the non-expansion performance objective, it is critical that the monitoring network be adequate to detect any return to the migration pathways that allowed the plume to expand to the west prior to any extraction.

For the reasons stated, the DEQ requires the installation of additional CMWs, as discussed below. Alternatively, the DEQ may be willing to consider a CMW network that does not require the installation of all of the additional CMWs discussed below, but would require the use of additional existing wells as an early-warning system, triggering additional steps if specific MWs indicate that the plume is expanding. This potential alternative is discussed at the end of this letter, but would require substantial development before the DEQ could agree to use it rather than the DEQ-approved CMW network.

Explanation of the DEQ-approved CMW Network

For ease of reference, the enclosed Figure 1 depicts the DEQ-approved CMWs (Points 1-15) and the enclosed Figure 2 depicts PLS's proposed CMWs (Points A-K). The enclosed Table 1 refers to the points on Figure 2 and provides a summary of the deficiencies that the DEQ has identified with regard to PLS's proposed CMWs. The DEQ-approved CMW Network includes seven of PLS's proposed CMWs, three additional existing MWs and five new MWs to make the CMW network adequate for the purpose for which it was intended.

PLS proposes the MW-133 well nest as CMWs (Figure 2, Point A). Point A is approximately 1,100 feet north of the plume and 1,4-dioxane has not been detected at this location. Due to this distance, and the fact that new infrastructure would be needed to remediate the plume if it expanded beyond the compliance well network in this area, Point A is not an appropriate location for CMWs. A new CMW nest will be required at Point 1, in the approximate location shown on Figure 1.

The MW-134 well nest (Figure 1, Point 2) was installed in March 2011 and in three sampling events have shown concentrations of 1,4-dioxane from 3 to 9 ppb, providing an excellent location for interpolating the location of the plume throughout the vertical extent of the groundwater-bearing formations when compared to MWs within the plume. The WAGMP

indicates that groundwater contamination above 85 ppb has historically been detected in this area. In fact, PLS only began depicting the plume near the MW-134 well nest in 2008, after installation of MW-118, over 700 feet northeast of the MW-134 well nest. In addition, neither the groundwater flow maps nor PLS's conceptual site model support PLS's depiction of the plume in the vicinity of the MW-134 well nest. The DEQ will require the use of the MW-134 well nest as CMWs.

The distance between Point 2 and Point 4 (Figure 1) is too great to ensure the detection of any expansion of the plume along this boundary. A new CMW nest will be required at Point 3, in the approximate location shown on Figure 1.

The distance between Point B and Point C (Figure 2) is too great to ensure the detection of any expansion of the plume along this boundary. A new CMW nest will be required at Point 5, in the approximate location shown on Figure 1.

PLS proposes the MW-63 well nest as CMWs (Figure 2, Point F). Point F is approximately 800 feet west of the plume and 1,4-dioxane has not been detected at this location since 2002. Due to this distance, Point F is not an appropriate location for CMWs. The concentration of 1,4-dioxane in MW-56s (Figure 1, Point 9) has been decreasing steadily and results from January and May 2011 were below 85 ppb (59 ppb and 62 ppb, respectively), indicating that it is no longer in the plume. The DEQ recognizes that the concentration of 1,4-dioxane in MW-56s may fluctuate above 85 ppb. However, if it remains below 85 ppb for the next four quarterly sampling events, that would indicate that it is appropriate to serve as a CMW, along with MW-56d, where 1,4-dioxane has not been detected since 2003. If MW-56s does not remain below 85 ppb, or PLS is not confident that it will remain below 85 ppb in the long term, a new MW nest must be installed not more than 300 feet to the west of the MW-56 well nest by August 1, 2013. Either of these locations is designated as Point 9 on Figure 1. The MW-62 well nest (Figure 2, Point G) is not an appropriate location for CMWs for the same reasons stated for the MW-63 well nest.

The distance between Point I and Point J (Figure 2) is too great to ensure the detection of any expansion of the plume along this boundary. A new CMW nest will be required at Point 12, in the approximate location shown on Figure 1.

PLS proposes MW-68 as a CMW (Figure 2, Point K). Point K is approximately 1,100 feet south of the plume and 1,4-dioxane has not been detected in this MW since 2003. Because Point K is south of the Prohibition Zone (on the east side of Wagner Road), it cannot be used as a CMW. If 1,4-dioxane migrated to MW-68 it would also be likely to migrate east, into an area where use of groundwater is not restricted by the Prohibition Zone. The DEQ will require the use of the MW-65 well nest (Figure 1, Point 15) as CMWs.

The distance between Point 13 and Point 15 (Figure 1) is too great to ensure the detection of any expansion of the plume along this boundary. A new CMW nest will be required at Point 14, in the approximate location shown on Figure 1.

The enclosed Table 2 contains the DEQ's revisions to Table 1 included in the WAGMP. The sampling frequencies of a few of these MWs have been increased. Two MWs not included in PLS's Table 1 have been added, MW-15d and MW-33. MW-15d is on the east side of Wagner Road; however, it has monitored TW-2, from which extraction will be terminated. Although there is no longer any requirement to prevent migration of groundwater contamination east of Wagner Road, it is important to monitor this location to analyze the effects of this change in the Western

Area. MW-33, which PLS has been monitoring for static water levels, has also been added to monitor changes in groundwater flow as extraction is reduced. In cases where the DEQ agrees that MWs do not need to be monitored for 1,4-dioxane or static water levels, those MWs are not included in the DEQ Table 2. The DEQ's additional CMWs have also been added. The monitoring schedule will be reviewed annually, and revised as necessary. The DEQ reserves the right to request additional monitoring and investigation if the data indicates that the plume is expanding.

Potential Alternative Approaches

As stated above, the PLS proposed CMW network is not adequate for purposes of monitoring the non-expansion performance objective of the Consent Judgment. The DEQ-approved CMW network provided above addresses those deficiencies. However, the DEQ recognizes that there may be other approaches available to accomplish the objective of the CMW network.

The DEQ is willing to consider an alternative to the DEQ-approved CMW network discussed above. Under such an alternative, all of the existing MWs included as part of the DEQ-approved CMW network described above (Points 2, 4, 6, 7, 8, 9, 10, 11, 13 and 15 on Figure 1) would still be designated as CMWs. In addition, other specific existing MWs (trigger MWs) would be designated to detect any potential expansion of groundwater contamination. The DEQ and PLS would need to establish criteria for these trigger MWs, such as the magnitude of the increase in the concentration of 1,4-dioxane, changes in static water levels and proximity to the non-expansion boundary that would result in the requirement for additional analysis or investigation to determine if the non-expansion objective is being met.

Conclusion

If PLS is interested in pursuing an alternative approach, please inform us within ten days so we can schedule a meeting to fully define the terms of such an option. The DEQ is willing to defer the schedule for dispute resolution for a reasonable period of time if PLS wishes to discuss this alternative. Otherwise, PLS must proceed with regard to the conditionally approved WAGMP, including the DEQ-approved CMW network described above, as provided under the Consent Judgment.

Should you require further information, please contact me at 517-780-7937; kolons@michigan.gov; or the DEQ Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201.

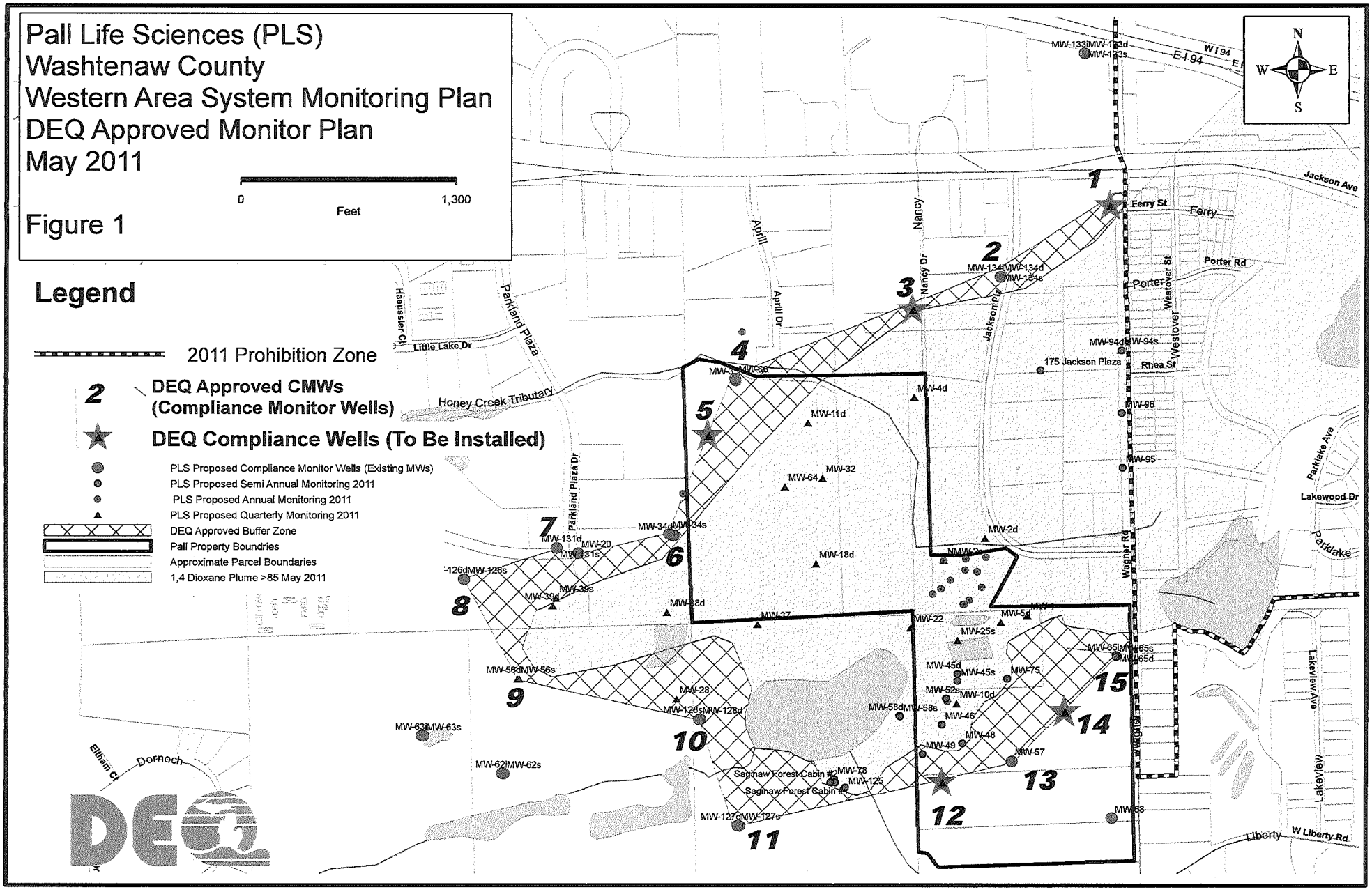
Sincerely,

Sybil Kolon
Environmental Quality Analyst
Gelman Sciences Project Coordinator
Remediation Division

Enclosures

SK/JM

cc: Ms. Celeste Gill, Department of Attorney General
Ms. Lynelle Marolf, DEQ
Mr. Mitchell Adelman, DEQ/Gelman File
Mr. James Coger, DEQ


Pall Life Sciences (PLS)
Washtenaw County
Western Area System Monitoring Plan
DEQ Approved Monitor Plan
May 2011
0
Feet
1,300
Figure 1
Legend
2011 Prohibition Zone
DEQ Approved CMWs (Compliance Monitor Wells)
DEQ Compliance Wells (To Be Installed)
PLS Proposed Compliance Monitor Wells (Existing MWs)
PLS Proposed Semi Annual Monitoring 2011
PLS Proposed Annual Monitoring 2011
PLS Proposed Quarterly Monitoring 2011
DEQ Approved Buffer Zone
Pall Property Boundries
Approximate Parcel Boundaries
1,4 Dioxane Plume >85 May 2011
N
S
E
W
E-I-94
Jackson Ave
Ferry St
Ferry
Porter Rd
Porter
Westover St
Nancy
Nancy Dr
Aprill
Aprill Dr
Jackson Plz
Parkland Plaza
Parkland Plaza Dr
Haeussler Ct
Little Lake Dr
Honey Creek Tributary
175 Jackson Plaza
Rhea St
Wagner Rd
Parklake Ave
Lakewood Dr
Parklake
Lakeview Ave
Lakeview
Liberty
W Liberty Rd
Ellisam Ct
Dornoch
Saginaw Forest Cabin #1
Saginaw Forest Cabin #2
MW-133d
MW-133s
MW-134
MW-134d
MW-134s
MW-94d
MW-94s
MW-96
MW-95
MW-4d
MW-11d
MW-32
MW-64
MW-2d
MW-18d
MW-34d
MW-34s
MW-131d
MW-20
MW-131s
MW-126d
MW-126s
MW-39d
MW-39s
MW-38d
MW-37
MW-22
MW-56
MW-25s
MW-85
MW-65s
MW-65d
MW-45d
MW-45s
MW-75
MW-52s
MW-10d
MW-58d
MW-58s
MW-46
MW-48
MW-49
MW-57
MW-56d
MW-56s
MW-28
MW-126s
MW-128d
MW-63d
MW-63s
MW-62d
MW-62s
MW-78
MW-125
MW-127d
MW-127s
MW-68
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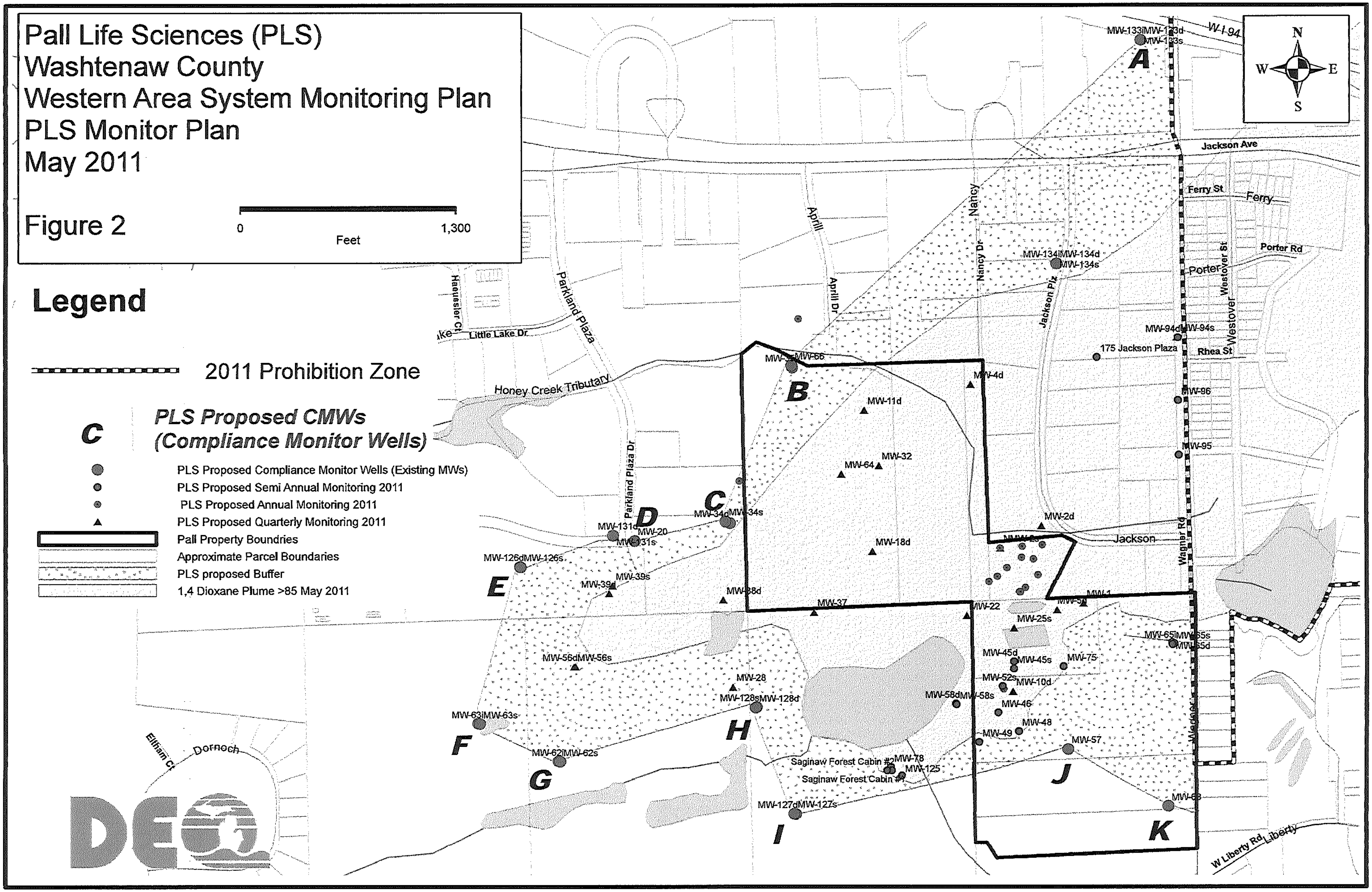
Pall Life Sciences (PLS)
Washtenaw County
Western Area System Monitoring Plan
PLS Monitor Plan
May 2011
Figure 2
0
1,300
Feet
Legend
2011 Prohibition Zone
C
PLS Proposed CMWs
(Compliance Monitor Wells)
PLS Proposed Compliance Monitor Wells (Existing MWs)
PLS Proposed Semi Annual Monitoring 2011
PLS Proposed Annual Monitoring 2011
PLS Proposed Quarterly Monitoring 2011
Pall Property Boundries
Approximate Parcel Boundaries
PLS proposed Buffer
1,4 Dioxane Plume >85 May 2011
N
S
E
W
Jackson Ave
Ferry St
Ferry
Porter Rd
Porter
Westover St
Westover
Rhea St
Wagner Rd
W Liberty Rd
Liberty
Jackson
Jackson Plz
Nancy Dr
Nancy
Aprill Dr
Aprill
Parkland Plaza
Parkland Plaza Dr
Little Lake Dr
Honey Creek Tributary
Dornoch
175 Jackson Plaza
Saginaw Forest Cabin #2
Saginaw Forest Cabin #1
A
B
C
D
E
F
G
H
I
J
K
MW-134iMW-134d
MW-134s
MW-94dMW-94s
MW-96
MW-95
MW-4d
MW-11d
MW-64
MW-32
MW-18d
MW-2d
MW-34dMW-34s
MW-131d
MW-20
MW-131s
MW-126dMW-126s
MW-39s
MW-38d
MW-37
MW-22
MW-25s
MW-75
MW-45d
MW-45s
MW-52s
MW-10d
MW-46
MW-48
MW-49
MW-57
MW-58dMW-58s
MW-56dMW-56s
MW-28
MW-128sMW-128d
MW-63iMW-63s
MW-62iMW-62s
MW-78
MW-125
MW-127dMW-127s
MW-65iMW-65s
MW-65d

APPENDIX 3

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF WASHTENAW

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN, ex rel, MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT,

Plaintiffs,

v

GELMAN SCIENCES, INC., a Michigan corporation,

Defendant.

File No. 88-34734-CE

Honorable Donald E. Shelton

Celeste R. Gill (P52484)
Assistant Attorney General
Environment, Natural Resources and Agriculture Division
P.O. Box 30755
Lansing, MI 48909
(517) 373-7540
Attorney for Plaintiffs

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(313) 963-3873
Attorneys for Defendant

THIRD AMENDMENT TO CONSENT JUDGMENT

A Consent Judgment was entered in this case on October 26, 1992. The Consent Judgment requires Defendant, Gelman Sciences, Inc., to implement various response activities to address environmental contamination in the vicinity of Defendant's property in Scio Township, subject to the approval of the Michigan Department of Environmental Quality ("MDEQ").

S. "Unit E Order" shall mean the Court's Opinion and Order Regarding Remediation of the Contamination of the Unit E Aquifer dated December 17, 2004.

T. "Eastern Area" shall mean the part of the Site that is located east of Wagner Road and the areas encompassed by the Prohibition Zone and Expanded Prohibition Zone.

U. "Western Area" shall mean that part of the Site located west of Wagner Road, excepting the Little Lake Area System described in Section V.C.

THIRD, modify the first paragraph of Section V to read as follows:

Defendant shall design, install, operate, and maintain the systems described below. The objectives of these systems shall be to extract the contaminated groundwater from the aquifers at designated locations for treatment (as required) and proper disposal to the extent necessary to prevent the plumes of groundwater contamination emanating from the GSI Property from expanding beyond the current boundaries of such plumes, except into and within the Prohibition Zone and Expanded Prohibition Zone (subject to paragraph 9 of the Prohibition Zone Order, as modified by Section V.A.2.b., of this Consent Judgment with regard to the northern boundaries of the Prohibition Zone and Expanded Prohibition Zone), as described below. Defendant also shall implement a monitoring program to verify the effectiveness of these systems.

FOURTH, modify Section V.A. to read as follows:

A. Eastern Area System

1. Objectives. The remedial objectives of the Eastern Area System ("Eastern Area Objectives") shall be:

a. Maple Road Containment Objective. The current Unit E objective set forth in the Unit E Order of preventing contaminant concentrations above the groundwater-surface water interface criterion of 2,800 ug/l (subject to approval by the Court of

the wells). The Defendant shall continue to operate its Wagner Road Wells in order to reduce the migration of 1,4-dioxane east of Wagner Road at this rate until such time as it determines that the Eastern Area cleanup objectives will be met with a lower combined extraction rate or without the need to operate these wells. Before significantly reducing or terminating extraction from the Wagner Road Wells, Defendant shall consult with Plaintiffs and provide a written analysis, together with the data that supports its conclusion. MDNRE will review the analysis and data and provide a written response to Defendants within 56 days after receiving Defendant's written analysis and data. If the MDNRE disagrees with the Defendant's decision to reduce or terminate extraction, it may dispute the decision in Court within 15 days of the date of its written response. Within 15 days of the filing of MDNRE's dispute, Defendant may file a response to the petition. The Parties may agree to extend these time frames to facilitate resolution of the dispute. The Defendant shall not significantly reduce or terminate the Wagner Road extraction while MDNRE is reviewing or disputing the Defendant's determination. MDNRE will make all reasonable efforts to have the motion resolved in a reasonable timeframe.

8. Options Array for Transmission Line Failure/Inadequate Capacity.

The Defendant has provided the MDNRE with documentation regarding the life expectancy of the deep transmission line and an Options Array (attached as Attachment G). The Options Array describes the various options that may be available if the deep transmission line fails or the 200 gpm capacity of the existing deep transmission line that transports groundwater from the Eastern Area System to the treatment system located on the GSI Property proves to be insufficient to meet the Eastern Area Objectives.

FIFTH, delete the existing Section V.B. and replace with the following:

B. Western Area System

1. Western Area System Non-Expansion Cleanup Objective. The Defendant shall prevent the horizontal extent of the groundwater contamination in the Western Area from expanding. The horizontal extent shall be the maximum horizontal areal extent of groundwater contamination regardless of the depth of the groundwater contamination (as established under Section V.B.2.c. of this Consent Judgment). Continued migration of groundwater contamination into the Prohibition Zone or Expanded Prohibition Zone shall not be considered expansion and is allowed. A change in the horizontal extent of groundwater contamination resulting solely from the Court's application of a new cleanup criterion shall not constitute expansion. Nothing in this Section prohibits the Plaintiffs from seeking additional response activities pursuant to Section XVIII.E of this Consent Judgment. Compliance with the Non-Expansion Cleanup Objective shall be established and verified by the Compliance Well Network to be developed by the Parties as provided in Sections V.B.2.c and d., below ("Compliance Well Network"). There is no independent mass removal requirement or a requirement that the Defendant operate any particular extraction well(s) at any particular rate beyond what is necessary to prevent the prohibited expansion, provided that Defendant's ability to terminate all groundwater extraction in the Western Area is subject to Section V.D.1.c. and the establishment of property use restrictions as required by Section V.B.2.e. If prohibited expansion occurs, Defendant shall undertake additional response activities to return the groundwater contamination to the boundary established by the Compliance Well Network (such response activities may include recommencement of extraction at particular locations).

Plaintiffs agree to modify the remedial objective for the Western Area as provided herein to a no expansion performance objective in reliance on Defendant's agreement to comply with a no expansion performance objective for the Western Area. To ensure compliance with this

objective, Defendant acknowledges that in addition to taking further response action to return the horizontal extent of groundwater contamination to the boundary established by the Compliance Well Network, Defendant shall be subject to stipulated penalties for violation of the objective as provided in Section XVII. Nothing in this paragraph shall limit Defendant's ability to contest the assessment of such stipulated penalties as provided in this Consent Judgment.

2. Western Area Response Activities. The following response activities shall be implemented:

a. Extraction Wells. The Western Area response activities shall include the operation of groundwater extraction wells as necessary to meet the objective described in Section V.B.1. Purged groundwater from the Western Area System shall be treated with ozone/hydrogen peroxide or ultraviolet light and oxidizing agent(s), or such other method approved by the MDNRE to reduce 1,4-dioxane concentrations to the level as required by NPDES Permit No. MI-0048453, as amended or reissued. Discharge to the Honey Creek tributary shall be in accordance with NPDES Permit No. MI-0048453, as amended or reissued.

b. Decommissioning Extraction Wells. Within 14 days after entry of this Third Amendment, Defendant shall submit to MDNRE a list of Western Area extraction wells that it intends to decommission (take out-of-service) in 2011. The MDNRE has the right to petition the Court to stop the Defendant from taking such extraction well(s) out-of-service within 60 days of receiving the list identifying such extraction well(s). The Defendant shall maintain all other extraction wells, including, but not limited to, TW-2 (Dolph Park) and TW-12, in operable condition even if it subsequently terminates extraction from the well(s) until such time as the Parties agree (or the Court decides) that the well(s) may be abandoned.

c. Western Area Delineation Investigation. Defendant shall complete the following investigation, as may be amended by agreement of the Parties to reflect data obtained during the investigation, to address gaps in the current definition of the plume and to further define the horizontal extent of groundwater contamination in the Western Area:

i. Install monitoring wells screened to monitor the intermediate (Unit D2) and deep (Unit E) zones at/near the existing MW-20. An additional monitoring well at or near existing MW-36 will not be necessary unless the results from the wells installed at/near MW-20 are inconsistent with the Defendant's conceptual flow model (that the contamination in the shallower unit does not continue migrating to the west, but instead drops into the deeper unit and flows east into the Prohibition Zone or Expanded Prohibition Zone).

ii. Install a monitoring well cluster just west of Wagner Road and South of I-94.

iii. Install a monitoring well cluster in the Nancy Drive/MW-14d area, to define the extent of groundwater contamination from surface to bedrock, with final placement of the cluster to be determined after the Wagner Road/I-94 well cluster is installed or as otherwise agreed.

iv. Install a monitoring well screened to monitor the deep (Unit E) zone near/at MW-125, with location to be approved by MDNRE. PLS will vertically profile every ten feet throughout the deep (Unit E) saturated interval.

Defendant shall promptly provide the data/results from the investigation to the MDNRE so that the MDNRE receives them prior to Defendant's submission of the Monitoring Plan described in Subsection V.B.2.d, below. MDNRE reserves the right to request the installation of additional borings/monitoring wells, if the totality of the data from the wells to be installed indicate that the horizontal extent of groundwater contamination has not been completely defined.

d. Compliance Monitoring Well Network/Performance Monitoring Plan. Within 15 days of completing the investigation described in Subsection V.B.2.c , above, Defendant shall submit a Monitoring Plan, including Defendant's analysis of the data obtained during the investigation for review and approval by the MDNRE. The Monitoring Plan shall include the collection of data from a compliance monitoring well network sufficient to verify the

effectiveness of the Western Area System in meeting the Western Area objective set forth in Section V.B.1. The locations and/or number of the compliance monitoring wells for the Monitoring Plan will be determined based on the data obtained from the investigation Defendant shall conduct pursuant to Section V.B.2.c. The MDNRE shall approve the Monitoring Plan, submit to Defendant changes in the Monitoring Plan that would result in approval, or deny the Monitoring Plan within 35 days of receiving the Monitoring Plan. Defendant shall either implement the MDNRE-approved Monitoring Plan, including any changes required by MDNRE, or initiate dispute resolution pursuant to Section XVI of this Consent Judgment. Defendant shall implement the MDNRE (or Court)-approved Monitoring Plan to verify the effectiveness of the Western Area System in meeting the Western Area objective. Defendant shall continue to implement the current MDNRE-approved monitoring plan(s) until MDNRE approves the Monitoring Plan required by this Section. The monitoring program shall be continued until terminated pursuant to Section V.E.

e. Property Restrictions. The Defendant shall have property use restrictions that are sufficient to prevent unacceptable exposures in place for any properties affected by Soil Contamination or Groundwater Contamination before completely terminating extraction in the Western Area.

3. Internal Plume Characterization. Additional definition within the plume and/or characterization of source areas, except as may be required under Section VI of this Consent Judgment, is not necessary based on the additional monitoring wells to be installed as provided in Section V.B.2.c. MDNRE reserves the right to petition the Court to require such work if there are unexpected findings that MDNRE determines warrants additional characterization.

APPENDIX 4

AFFIDAVIT OF FARSAD FOTOUHI

I, Farsad Fotouhi, declare as follows:

1. I am Vice President for Corporate Environmental Engineering responsible for Pall Corporation's Global Health, Safety and Environmental Affairs.

2. Before Pall Corporation purchased Gelman Sciences, Inc. (a/k/a Pall Life Sciences or "PLS") I was environmental manager for Gelman Sciences Inc. commencing in January, 1996.

3. In my positions for Gelman Sciences and now for PLS, I have responsibility for and personal knowledge of the activities undertaken pursuant to the Consent Judgment entered in the matter of *Attorney General v Gelman Sciences, Inc.* and the remediation orders entered by the Court.

4. I am an environmental engineer and have been practicing for 25 years, including 9 years at Michigan Department of Environmental Quality ("DEQ"). As a Project Manager for the DEQ, I supervised the cleanup efforts of over a 100 responsible parties. A copy of my curriculum vitae is attached hereto.

5. Initially on behalf of Gelman and since 1997 on behalf of PLS, I have been primarily responsible for implementing the remediation program required by the 1992 Consent Judgment, as amended, and the related orders issued by the Court overseeing this cleanup. The cleanup objectives of the Consent Judgment have always included controlling the leading edge of the identified plumes so that further expansion of the groundwater contamination is prevented.

6. Gelman and then PLS have investigated the extent of groundwater contamination in the area located west of Wagner Road, which is now designated as the Western Area in the recent amendments to the Consent Judgment, for over twenty years. There are currently 128 monitoring wells installed in the Western Area. PLS regularly samples these wells pursuant to

DEQ-approved monitoring plans. These approved monitoring plans have been designed to ensure that PLS is achieving the Consent Judgment cleanup objectives in effect at the time, including the objective of preventing the groundwater contamination from expanding.

7. Although the monitoring plans for the area west of Wagner Road have occasionally been supplemented with additional wells in response to new data indicating the need for such wells, PLS's approved monitoring plans have been viewed by both the DEQ and PLS as sufficient to measure PLS's compliance with the non-expansion objective.

8. During discussions with the DEQ regarding potential modifications to the cleanup program, PLS proposed simplifying the multiple and sometimes conflicting cleanup objectives for the Western Area. Under PLS's proposal, the only objective for the Western Area would be to prevent the horizontal extent of the groundwater contamination from expanding in directions other than into the previously established Prohibition Zone (PZ).

9. Over two years ago, PLS went over the details of this proposal in a meeting with the DEQ that included the Jackson District Supervisor, the Acting Division Chief for the Remediation Division as well as the DEQ Project Manager and the Assistant Attorney General assigned to the Gelman Site. During this meeting, counsel for PLS specifically advised the representatives of the State that PLS was making this proposal with the understanding that PLS would not be required to significantly refine the existing delineation of the extent of groundwater contamination. Although he acknowledged that the DEQ might appropriately require a few additional monitoring wells to supplement the existing delineation of the plume boundaries, PLS did not believe that anything more than that should be required because the parties had been able to rely on the existing monitoring well network to prevent the plume from expanding for a decade or more.

10. Nothing the DEQ said during that meeting contradicted this basic understanding regarding the adequacy of the existing monitoring well network to ensure compliance with the

long-standing non-expansion cleanup objective or the limited scope of any refinements to the existing delineation of the groundwater contamination in what is now referred to as the Western Area. It was with that understanding that I recommended to my management that we pursue the modifications to the cleanup program that ultimately led to the Third Amendment to the Consent Judgment that the Court entered in March of this year. (Appendix 3).

11. PLS and the DEQ met countless times to work on various aspects of the cleanup modifications. Several times I thought we had reached agreement on a particular issue, only to find out that the DEQ did not have the same understanding when we met next. In order to move the process forward, I instructed PLS' counsel to prepare and circulate to the DEQ a summary describing any agreements that had been reached so that both sides could come to a complete understanding regarding the subject of each agreement and so we would each have a written document we could present to our respective managements for approval. The summary was subject to extensive revision by both parties.

12. This ongoing summary of agreements evolved into a "term sheet" that described the essential elements of each agreement reached by the parties. Eventually, this summary took the form of the "Modified Cleanup Program Term Sheet" that was presented to the Court on November 15, 2010 when the parties placed the Court on notice of their tentative agreement. (Appendix 6).

13. One element of the overall agreement that PLS was very careful to document was the agreement regarding the location and number of additional monitoring wells required by the DEQ.

14. During the negotiations regarding the cleanup modifications, the DEQ demanded that PLS install additional monitoring wells to further define the extent of groundwater contamination in the Western Area. The DEQ felt that certain "gaps" in the existing delineation existed where the distance between the existing monitoring wells or between the wells and the

plume boundary was too great. The DEQ claimed that these "gaps" needed to be filled in so that the compliance well network would be adequate.

15. Jim Brode, PLS' expert hydrogeologist, and I had a series of meetings and conference calls with the DEQ technical staff to address their concerns regarding the DEQ's concerns.

16. Neither Mr. Brode nor I were of the opinion that the existing network of wells needed to be significantly supplemented. Nevertheless, in order to obtain the DEQ's consent to the overall plan, I agreed on behalf of PLS to fill in the "gaps" that the DEQ technical staff identified by installing 14 additional wells at 7 different locations along the perimeter of the plume. (These locations are highlighted on the DEQ Map attached to Mr. Brode's Affidavit, Appendix 5).

18. At no time during the meetings between the negotiating teams (which included legal counsel) or during the meetings I had with the DEQ technical staff did the DEQ ever inform PLS that it might require still more monitoring points to serve as compliance monitoring wells beyond the already supplemented monitoring well network.

17. In fact, I conditioned PLS's agreement to fill in the "gaps" identified by the DEQ on the DEQ's agreement that it would not demand any further well installation unless the data from the agreed upon wells showed that the plume had not been adequately defined. The parties specifically spelled out this limitation and identified the agreed upon well locations and number of wells in the Term Sheet. The scope of the agreed upon well installations is described in the Modified Cleanup Program Term Sheet submitted to the Court, Section B.5. "Compliance Monitoring Well Network/Performance Monitoring Plan". (Appendix 6, p 7).

18. PLS went to such lengths to prevent the DEQ from unilaterally demanding such additional wells absent surprising results from the agreed upon wells because further well installations would have been both technically unjustified and extremely expensive.

19. The reasons for installing the agreed upon wells included delineation of the plume. As a result, the DEQ demanded that PLS agreed to drill the borings at each of the seven locations all the way to bedrock so that the entire depth of the aquifer could be vertically profiled (sampled) at 10 foot intervals. This requirement significantly increased the costs of installing the 14 agreed upon monitoring wells, which totaled approximately $400,000. The drilling contractor charges significantly more per foot once the depth of a boring reaches 100 feet because it is so much more difficult to drill that deep. The additional time needed to reach bedrock also contributes to the high cost of such wells.

20. Consistent with the agreement of the parties as reflected in the Term Sheet and ultimately in the Third Amendment, PLS used the data from the agreed upon wells to select an appropriate compliance well network that is described in PLS's April 18, 2011 Western Area Groundwater Monitoring Plan ("WAGMP") (Appendix 1).

21. The WAGMP identifies, not only the compliance well network, but also the numerous wells located within and outside that perimeter that PLS will monitor. The data from all of these wells will enable the DEQ and PLS to detect any changes in site hydrogeologic conditions (e.g., groundwater flow directions) that might create the potential for prohibited expansion. This information will allow PLS to adjust its Western Area groundwater extraction to prevent prohibited expansion well before the plume boundary ever reaches a compliance well.

22. I was very surprised when I received the DEQ's May 25, 2011 response to the WAGMP (the "May Response"). The May Response demanded that PLS install 15 additional monitoring wells at 6 additional locations. (Appendix 2).

23. The DEQ's May Response does not provide any technical discussion justifying the need for the additional wells beyond noting the distance between PLS's proposed compliance points and the distance between certain wells and where the plume boundary is interpreted to be. The demand for addition wells based solely on the measured distance between certain points is

directly contrary to the agreement Mr. Brode and I eventually reached with the DEQ technical staff regarding the "gaps" that they felt needed to be filled in. Although many of the newly identified well locations were brought up by the DEQ technical staff during these discussions, they agreed to drop their demands for these well locations after we went over the technical justification for the placement of the existing wells. Now the DEQ appears to have reneged on those agreements without providing any basis for doing so.

24. In contrast to the additional monitoring points demanded by the DEQ, for which there does not appear to be any technical justification, the locations of the compliance monitoring points identified in the WAGMP are justified by specific hydrogeologic conditions such as groundwater flow directions and contaminant distribution in those areas.

25. The data that will be gathered from the compliance monitoring wells and the other monitoring wells identified in the WAGMP is more than sufficient to identify any changes in site hydrogeologic conditions that might be caused by PLS's reduction in its Western Area groundwater extraction.

26. Contrary to the DEQ's suggestion, if such changes occur and create the potential for prohibited expansion, PLS will not wait until the plume expands to the compliance point before taking appropriate response actions. Allowing the plume to expand until it reaches a compliance point, whether one selected by PLS or the DEQ, would not be prudent from either an engineering or financial standpoint. It would be far more difficult and more expensive to "retrieve" the plume than it would to adjust PLS's Western Area purge wells to eliminate the potentially harmful changes in site conditions, if and when they occur. PLS would also face severe stipulated penalties if the plume reached a compliance well.

27. As a former DEQ Project Manager who managed over 100 sites and oversaw the remediation efforts of that many responsible parties, it is my opinion that adding still more

monitoring wells to serve as compliance wells would not be justified unless significant changes to the existing site hydrogeologic conditions occur.

28. If such changes do occur as a result of PLS's reduction in its Western Area groundwater extraction and these changes indicate the potential for prohibited expansion in one or more areas of the site, it would be appropriate to consider whether additional compliance monitoring wells should be added at locations indicated by the new data. Absent this type of change in the existing site conditions, which PLS does not expect, the additional compliance points requested by the DEQ are not necessary to confirm PLS's compliance with the non-expansion objective.

29. Following submission of PLS' WAGMP, PLS, with the blessing of the DEQ reduced the Western Area groundwater extraction approximately 300 gpm, from 891 gpm to 596 gpm. Both Mr. Brode and I are of the opinion that this reduction has not changed any of the relevant site conditions in a way that would create the potential for prohibited expansion. I note that even the reduced purge rate is approximately twice the volume of water PLS was purging from the Western Area in 2000.

30. Upon receipt of the DEQ's May Response, I instructed PLS' to initiate the dispute procedures under the Consent Judgment, primarily for three reasons:

a. There is no technical support for the 15 new monitoring wells or 5 new well locations;

b. Installing the new wells would be extremely expensive, approximately another $400,000. If required to install these wells it would mean that PLS would have spent close to a $1Million to supplement an existing monitoring well network that had been sufficient to detect potential expansion for many years; and

c. Just as important as the other considerations was my well-justified fear that the DEQ would not stop with 29 additional monitoring wells, but would continue to unilaterally demand more wells, even in the absence of any changed site conditions.

31. I have personal knowledge of the above-stated facts and can testify as to these facts if called as a witness in this matter.

FURTHER, AFFIANT SAYETH NOT.

Farsad Fotouhi

FARSAD FOTOUHI

Subscribed and sworn to before me
on this 25th day of October 2009

Notary Public, County of Washtenaw
My Commission Expires: 9-11-2012

LAUREL A. BEYER
NOTARY PUBLIC, STATE OF MI
COUNTY OF WASHTENAW
MY COMMISSION EXPIRES Sep 11, 2012
ACTING IN COUNTY OF Washtenaw

FARSAD FOTOUHI

8427 Sandfield Ct.
Dexter, Michigan, 48130

(734) 913-6130
farsad_fotouhi@Pall.com

CAREER SUMMARY

Over 23 years experience working in both public and private sectors, exercises a high degree of creativity, foresight, and mature judgment in planning, organizing, and guiding extensive engineering research programs. Provides R&D efforts to enhance current products and develops new technologies and products. Direct the development, implementation, and maintenance of a comprehensive global Safety and Environmental engineering program for Pall Worldwide operations. Management and product development experience, with a strong technical background in the environmental, water and water process engineering.

SELECTED ACCOMPLISHMENTS

- Designed and built a 1,300 gpm Advanced Ultraviolet Oxidation System
- Designed and built a 1,300 gpm Ozone Technology System
- Designed and built a 200 gpm mobile Ozone/Hydrogen Peroxide System
- Designed and built a 100 gpm Membrane Bioreactor System (MBR) to reduce COD (reduce manufacturing process waste)
- Designed and built 6 gpm water purification systems for the laboratory use
- Designed one of the longest and deepest Horizontal Wells in the World (Engineering award from the National Groundwater Associations)

EXPERIENCE

Pall Corporation

- 2001 - present — Vice President, Corporate Environmental Engineering, Port Washington , NY
- 1998 - 2001 — Corporate Director, Health, Safety & Environmental Affairs, East Hills, NY
- 1997 - 1998 — Environmental Manager, Pall Ann Arbor Manufacturing Facility, Ann Arbor, MI

Gelman Sciences, Inc.

- 1996 – 1998 — Director of Environmental Engineering, Ann Arbor, MI

Michigan Department of Environmental Quality, Environmental Response Division

- 1994 – 1996 Senior District Hydrogeologist/State Quality Review Board Manger, Lansing, MI

Malcolm Pirnie Engineers, Inc.

- 1991 – 1994 Project Engineer, East Lansing, MI

CC. Johnson & Malhotra, Inc.

- 1988 – 1991 Field Engineer/Manager, Grand Rapids, MI

Michigan Department of Natural Resources

- 1985 – 1988 Environmental Quality Analysts, Lansing, MI

EDUCATION

M.S. **Environmental Engineering,** Michigan State University
M.S. **Hydrogeology/Soil Physics,** Michigan State University
M.S. **Water Systems Engineering,** Virginia State University
B.S. **Environmental Biology**, Mary Crest University, Davenport, Iowa

APPENDIX 5

Affidavit of James W. Brode, Jr., CPG

I, JAMES W. BRODE, JR., CPG, being first duly sworn, deposes and says:

1. I am a practicing professional hydrogeologist with over 27 years of experience. I am employed as a Senior Project Manager by Fleis and VandenBrink Engineering, Inc. I am a Certified Professional Geologist by the American Institute of Professional Geologists.

2. I have been involved in investigations of the soils, groundwater, and surface waters at and in the vicinity of the Gelman Sciences Inc. (Gelman) Wagner Road facility in Scio Township, Ann Arbor, Michigan, since 1986. This work was done by me, in my professional capacity, on behalf of Gelman. I am also familiar with data and interpretations generated by Gelman and the Michigan Department of Environmental Quality (MDEQ) related to investigations of soils and groundwater in the vicinity of the Gelman facility.

3. Gelman has been working under the supervision of the MDEQ and the Washtenaw County Circuit Court to investigate and remediate the Gelman site.

4. Numerous investigations of the soils, groundwater, and surface waters at and in the vicinity of the Gelman facility have been conducted since 1986. I performed many of these investigations personally. Other investigations have been performed under my direct supervision.

5. I have been involved with work conducted as part of the recent amendments to the Gelman Consent Judgment (CJ), including the drilling of wells and borings to further define the extent of contamination and the development of the Western Area Groundwater Monitoring Plan (WAGMP).

On numerous occasions, I participated in meetings with representatives with the MDEQ to discuss these topics.

6. The Western Area of the Gelman Site consists of the plume areas west of Wagner Road, excluding the Little Lake Area System. This area has been extensively investigated for over 25 years. During this period, Gelman has installed over 125 monitoring wells in this area,

and has collected thousands of groundwater samples. The extent of 1,4-dioxane contamination in the Western Area has been defined and monitored for years in accordance with monitoring plans that have been approved by the MDEQ.

7. Historically, one of the reasons for installing and monitoring these wells has been to detect any expansion of the groundwater contamination. Although the monitoring well network has periodically been supplemented in response to new data (e.g., the discovery of the Unit E contamination), this network of wells has been deemed sufficient by both the MDEQ and Gelman to satisfy the objective of detecting any expansion of the plume for many years.

8. As part of the development of the recent amendments to the CJ, the MDEQ indicated its approval of the amendments would be conditioned on a compliance well network sufficient to detect prohibited expansion. Both Mr. Fotouhi and I believed that the existing monitoring well network, which had been deemed sufficient for this purpose many years, did not need to be supplemented. Gelman agreed, however, to work with the MDEQ to close what MDEQ considered to be "gaps" between the existing wells and between the wells and where the plume was believed to be where they felt that additional data points would be needed in order to create a reliable compliance well network. I participated in the technical discussions with the MDEQ technical staff.

9. As a result of these discussions, several additional boring/well locations were identified. These locations, and specific information regarding how the borings/wells were to be installed, were described in a "term sheet" that the lawyers for Gelman and the MDEQ drafted. Based on my participation in the technical discussions with the MDEQ, it is my understanding that if these wells were installed, and the findings from the wells were consistent with our overall understanding of the plume boundaries, the MDEQ would consider the extent of 1,4-dioxane contamination in the Western Area to be defined and no further wells would be necessary in

order to identify a reliable compliance well network.

10. I participated in the installation of the aforementioned agreed upon borings/wells. These wells are highlighted on a map provided by the MDEQ. (Appendix 9). Collection of this information took approximately 4-5 months, including some additional investigation in the area of Third Sister Lake where the initial boring Gelman agreed to install (MW-125) revealed somewhat anomalously elevated 1,4-dioxane levels. (Gelman stood by its agreement to investigate further any unexpected results. MW-127s, MW-127d were drilled south and west of MW-125 and MW-128s and MW-128d were drilled at a location immediately west of the U of M property.) In total, Gelman agreed to install 14 additional monitoring wells at 7 different locations to supplement the existing monitoring well network.

11. I reviewed the data obtained from these borings/wells and concluded that the borings proved our previous interpretations of the extent of 1,4-dioxane in the Western Area System to be very accurate, with only a slight modification of the plume boundary in the Third Sister Lake area. In other words, the new borings/wells confirmed my opinion that the extent of 1,4-dioxane in the Western Area was defined adequately by a monitoring network that has been in place for years. Water level data from the wells was also consistent with our previous interpretations.

12. After discussing these data with Mr. Fotouhi, we presented the results of this additional investigation to the MDEQ staff and they agreed that the data was consistent with our previous understanding of the plume (again with the slight adjustment of the plume boundary in the Third Sister Lake area) and that no further investigation would be required. At no point in my discussions with the MDEQ staff on this subject did they suggest that Gelman would still need to install additional "compliance" monitoring wells even though plume had been defined. From our discussions with MDEQ staff, it was always my understanding that once the MDEQ

had agreed that the perceived "gaps" in the plume definition had been adequately defined, that no further monitoring wells would be required and that appropriate compliance points could be identified from the existing monitoring well locations. The MDEQ's staff never said anything that called my understanding into doubt.

13. As required by the CJ, a groundwater monitoring plan was prepared by Gelman and submitted to the MDEQ (the "WAGMP"). This plan identified wells that Gelman would use to monitor the extent of 1,4-dioxane in the Western Area, and proposed a series of "compliance wells" that would be used to show that Gelman is meeting the "non-expansion" requirement of the CJ. I participated in the preparation of this plan. The compliance wells were selected from a vast number of existing wells, including the additional wells that Gelman installed as part of the CJ modifications. The locations were selected based on site hydrogeology, groundwater flow directions, contaminant distribution, and our understanding of the extent of 1,4-dioxane from 25 years of investigations and monitoring.

14. It is my opinion that the monitoring system proposed by Gelman provides a robust set of compliance points for determining if prohibited expansion has occurred. Just as importantly, Gelman's WAGMP is fully capable of detecting changes in site conditions that would indicate that 1,4-dioxane has the potential to expand in a direction other than into the Prohibition Zone (PZ).

15. In their response to the plan, the MDEQ demanded that Gelman install nested monitoring wells at 5 additional monitoring locations (well locations 1, 3, 5, 12 and 14 identified on Figure 1 to Appendix 2). In addition, will MDEQ require a well location between the MW-56 and MW-63 locations if Gelman chooses not to use the MW-56 location in their compliance network. Three monitoring wells are typically installed at each "nested" well location, depending on site conditions. As such, the MDEQ is likely requiring an additional 18 wells at 6

different locations be added to the monitoring network proposed by Gelman.

16. In their May 25, 2011 review letter of Gelman's monitoring plan, the MDEQ identified two major concerns with the proposed compliance well network proposed by Gelman. 1) The distance between the depicted extent of the plume and three of PLS's proposed CMW nests, which the MDEQ claims would effectively allow the plume to migrate too far before such a migration would be considered expansion; and 2) The distance between PLS's proposed CMW varies from 630 to 2,800 feet in several locations and the MDEQ asserts that these "gaps" are too great to detect expansion of the plume between those points.

17. MDEQ did not provide any substantive technical support for their proposed well locations. Instead, the MDEQ selected locations based on spacing between wells and the distance between Gelman's proposed well locations and the plume boundary. In contrast, the location of Gelman's proposed compliance points were chosen based on a careful consideration of the relevant site conditions such as groundwater flow direction and groundwater quality in the area of each well location.

18. Gelman has proposed to use MW-133 (one of the nested wells the MDEQ recently required Gelman to install) as a compliance nested well location. MDEQ has objected to Gelman's proposed use of MW-133 because the plume could migrate too far before such a migration would be detected The MDEQ's concern that the plume could migrate significantly to the north is unfounded. Well-documented site hydrogeologic conditions, including groundwater flow direction and the geology in this area, would not allow the expansion of the plume in a northerly direction. (*See* depiction of groundwater flow direction, Appendix 10) Available data indicate that the plume will migrate to the east-north east into the PZ. Secondly, if hydrogeologic conditions were to change in response to reduced groundwater extraction rates in a way that would allow such a plume expansion, Gelman's proposed monitoring network would

identify such conditions in advance of the actual expansion of the plume.

19. Gelman has proposed to utilize an existing MW-134 monitoring well as a "provisional" compliance monitoring well in this area. Because this well is currently very close to the plume boundary, it is possible that as the plume moves toward and into the PZ, as permitted by the CJ, this well location could detect increasing levels of 1,4-dioxane. Gelman has proposed to monitor this location and, if it were to reach a concentration of 45 ppb, Gelman will install a well just north of this location that would become the permanent compliance well in this area. (Gelman has also offered to go ahead and install this well at this time as an immediate alternative to MW-134 and the other well locations demanded by MDEQ.)

20. MDEQ has proposed a well location identified on their maps as Location 5. (Appendix 2). MDEQ's selection of this well location is not justified by either water quality or water level data. This location is hydraulically upgradient of know plume areas in shallow, intermediate and deep aquifers. This location is also hydraulically upgradient of MW-64, a Unit E well with 1,4-dioxane levels less than 85 ug/L, and existing shallow wells in this area have demonstrated that 1,4-dioxane is either not present at concentrations well below 85 ug/L in this area. Furthermore, if either flow or water quality conditions were to change in this area indicating the plume had a potential to migrate in this direction, Gelman's proposed WAGMP is capable of identifying such a change in site conditions. Finally, an additional well in this area would be contrary to Gelman's previous agreement with the MDEQ. As part of the agreed upon scope of investigation, the MDEQ advised Gelman that additional wells might be required near existing well MW-36, depending on the data from other agreed upon wells. In fact, the MDEQ agreed that the data indicated that no additional wells were needed in this area and the MDEQ. The MDEQ, however, is now demanding wells at Location 5, which is in the immediate vicinity of MW-36, where they had just agreed there was no need for more wells..

21. The MDEQ is also requiring that Gelman use the well nest at MW-56 (Location No. 9) as a compliance well location, or install a new nested well between MW-56 and the well nest at MW-63. Groundwater samples from MW-56s have historically had 1,4-dioxane concentrations well above 85 ug/L (most recently in October 2010). As such, it would not be prudent to use this well as compliance well because it would be impossible to distinguish elevated results that were caused by changes in Gelman's extraction rates from the natural fluctuations that have historically been observed at this location.

22. The current hydrogeologic conditions do not support the need for an additional well between MW-56 and MW-63. The MW-63 location is upgradient of MW-56s with the head in the MW-63 area approximately 3 feet higher. Consequently groundwater flows "downhill" from MW-63 towards MW-56, not the other way around. (Appendix 10). It is my opinion that the plume will not migrate further upgradient toward MW-63s/i/d as long as MW-63 s/i/d remain upgradient of MW-56s. Gelman's proposed WAGMP is very capable of detecting such an unlikely change in the water level relationship between these wells.

23. The MDEQ has also demanded compliance wells in two areas on the Gelman property. (MDEQ well locations Nos. 12 and 14, Appendix 2). These areas have been extensively investigated by Gelman and the MDEQ's proposed additional locations are hydraulically upgradient of the plume in this area. (Appendix 10). In fact, the hydraulic head in the area of MW-68 is approximately 6-foot higher than the comparable aquifer at MW-65. There are no data to suggest that the plume could migrate into the areas where the MDEQ has demanded additional monitoring wells in any of the aquifers being monitored. The monitoring network in these areas proposed by Gelman is more than sufficient to identify changes in groundwater flow that could allow the plume to expand into these areas. As such, I do not believe additional wells are necessary in this area.

24. The MDEQ is also requiring Gelman to use MW-65, another well on Gelman's property, as a compliance point rather than MW-68. In my opinion, MW-65 is not an appropriate compliance well because this location is currently very close to the plume boundary with 1,4-dioxane currently detected at 30 ppb. Moreover, levels in this well have historically been as high as 800 ppb. Therefore, it would be very difficult to use data from this well to distinguish natural contaminant level fluctuation from prohibited expansion of the plume. Gelman's proposed use of MW-68 as a compliance well for this area is appropriate based on the strong groundwater flow to the north in this area. The groundwater elevations would have to change dramatically before the plume could migrate to the south Any such change would certainly be detected by the WAGMP.

Current Site Conditions

25. Since the court signed the CJ, Gelman has strategically reduced the extraction rates in the Western Area. In May 2010, Gelman reduced pumping in the Western Area System by approximately 300 gallons per minute (gpm), from 891 gpm to 596 gpm. Gelman has collected both water level and water quality data both before and after this adjustment. I have analyzed these data and it is my opinion that there have been no significant changes in either the flow directions in any of the monitored aquifers of the Western Area, or the extent of 1,4-dioxane in any of the monitored aquifers. Water levels did respond to the flow reduction, but the response was relatively uniform in the Western Area. That is, most water levels in wells in a given aquifer have risen by a similar magnitude.

B. Gamma Logging Requirement

26. Gelman has historically installed wells using Hollow-Stem Augers. Soil samples were collected at 5 foot centers during drilling. The geologist on site during the well installation would use these soil samples to create a boring log that depicted the soil stratigraphy for the entire length of the boring samples. Because soil samples were not collected continuously,

Gelman used a gamma log tool to assist in logging the borings that were drilled. The gamma logging allowed the geologist to indirectly measure the soil types of the intervals between the 5-foot spaced soil samples. (Gamma logging is a geophysical method that uses a probe to measure naturally gamma radiation given off by subsurface materials. Gamma radiation levels are typically concentrated higher in clay-rich materials since clays have higher levels of an isotope of potassium that gives off gamma radiation as it decays. As such, gamma logging is a good method for identifying zones of higher clay content.)

27. More recently, the MDEQ has demanded that Gelman use a drilling method referred to as Rotosonic. With this method, it is convenient to collect "continuous" cores of the soils being encountered during drilling. As such, there is no need for the geologists examining the drill cuttings to "infer" the soil types between the sample intervals. Consequently, Gelman has stopped gamma logging the Rotosonic borings the MDEQ has required Gelman to install. Nevertheless, the MDEQ has demanded that Gelman continue gamma logging all borings, even those installed with the Rotosonic method. It is my opinion that gamma logging is no longer necessary at the Gelman site when drilling a Rotosonic boring because continuous cores of the subsurface already are collected.

C. NECESSITY TO PROFILE TO BEDROCK

28. The MDEQ's response to Gelman's Western Area Monitoring Plan also demands that PLS vertically profile each nested well location all the way to bedrock. This requirement is consistent with what the MDEQ has required for wells being installed for plume delineation purposes, but the MDEQ has already agreed that the agreed upon investigation was sufficient to fully delineate the groundwater contamination. Such extensive vertical profiling should not be necessary if new wells were being installed as compliance wells, as the MDEQ claims. If, as the

DEQ has claimed, the additional wells are being installed for compliance purposes, then drilling and profiling to bedrock should not be required.

29. I have personal knowledge of the above-stated facts and can testify as to these facts if called as a witness in this matter.

FURTHER, AFFIANT SAYETH NOT.

JAMES W. BRODE, JR., CPG

Subscribed and sworn to before
me this 27th day of October, 2011.

Notary Public, _____ Kalamazoo County, Michigan
My commission expires.

LEANNE K. JEANNOT
NOTARY PUBLIC, STATE OF MI
COUNTY OF VAN BUREN
MY COMMISSION EXPIRES Apr 27 2012
ACTING IN COUNTY OF KALAMAZOO

APPENDIX 6

MODIFIED CLEANUP PROGRAM TERM SHEET

Pall Life Sciences, Inc. (PLS), the Michigan Department of Natural Resources and Environment (DNRE) and the Michigan Department of Attorney General (collectively, the Parties) have agreed to simplify the structure of the cleanup program for the Gelman Sciences Site, located at 600 South Wagner Road in Ann Arbor, Michigan (the "Site"), by reducing the number of remedial systems and cleanup objectives. The underlying goals of the proposed modifications are to provide greater consistency in the remedial approach used at the Site while maintaining compliance with Part 201 of the Natural Resources and Environmental Protection Act, MCL 324.20101 et seq. Under the proposed modifications, there will be only two remedial systems, which will be defined by geography and the presence/absence of an institutional control:

A. The area east of Wagner Road, including the Evergreen Subdivision and the area encompassed by the current Prohibition Zone (the "Eastern Area"); and

B. The area west of Wagner Road where no property or use restrictions are currently in place (the "Western Area").

As set forth below, each Area will have straight-forward cleanup objectives that the Parties expect will increase the sustainability and effectiveness of the overall program, while protecting the public health, welfare, safety, and the environment.

A. EASTERN AREA

The Parties are proposing a modified cleanup program for the Eastern Area that includes the following elements:

1. Expansion of the Prohibition Zone to Include the Evergreen Plume. To the Parties' knowledge, the Prohibition Zone has been a reliable means of preventing unacceptable drinking water exposures to the Unit E contamination. Under the proposed modifications the Prohibition Zone would be expanded to encompass all of the groundwater contamination in the Eastern Area, including the plume in the Evergreen Subdivision area. The proposed new boundary of the Prohibition Zone is shown on Figure A. The Court's May 17, 2005 Order Prohibiting Groundwater Use's requirement that PLS properly plug and replace any private drinking water wells by connecting those properties to municipal water would apply to the expanded Prohibition Zone. PLS will properly plug non-drinking water wells in the expanded area unless PLS asks the Court to clarify whether its previous orders require PLS to plug such wells. PLS has identified six properties being serviced by private water wells in the expanded area that must be connected to municipal water. PLS' Well Identification Plan will also be supplemented to include examination of this area to determine if there are other private water wells needing connection and/or plugging. The DNRE has reviewed PLS' proposed Well Identification protocol for confirming the presence or absence of other

private water supply wells and has provided its response to PLS. The Parties will ask the Court to resolve any disputes regarding acceptability of the Well Identification Protocol prior to final approval of the agreed upon modifications.

The triangle piece of property along Dexter/M-14 (Triangle Property) will not initially be included in the PZ expansion. (See Figure A). The decision as to whether to include the Triangle Property will be made based on the data obtained from new monitoring wells that PLS has agreed to install in the area (Specifically, the Wagner Road and Ironwood/Henry wells, along with other nearby wells). If the chemical and hydraulic data does not support PLS' conceptual model regarding groundwater and contaminant flow in the area, the DNRE may request that the Triangle Property be included in the PZ. PLS would have the right to dispute that request. If the Triangle Property is later included in the PZ, any further expansion beyond the Triangle Property in this area would be subject to the same feasibility analysis requirement that is discussed in No. 3, below. PLS will monitor any water supply well(s) located or installed on that property on a schedule agreed to by the DNRE unless or until it is included in the PZ, at which time it shall be addressed as part of the well identification process.

2. Unified 2,800 ppb Containment Cleanup Objective. The cleanup objective of capturing the leading edge of the Evergreen plume above the drinking water criterion would be eliminated. The current Unit E objective of preventing contaminant concentrations above 2,800 parts per billion (ppb) from migrating east of Maple Road would apply to this area of the plume as well.[1]

3. Prohibition Zone. The institutional control that currently prevents use of the groundwater in the Unit E in the current Prohibition Zone will be extended to the Evergreen Subdivision area. Use of groundwater in the expanded area will be prevented under the same terms regardless of the depth of the groundwater or contamination. The Parties have agreed to include the following additional response actions to insure the effectiveness of this institutional control:

   - Verification Plan. PLS will implement its June 2, 2009 Verification Plan ("Verification Plan"), as modified below, to insure that any potential migration of groundwater contamination outside of the expanded Prohibition Zone is detected before such migration occurs. PLS will install four additional monitoring well clusters in the Evergreen Subdivision area at the approximate locations indicated on the map attached as Figure B. If concentrations in one or more of the three new wells installed at the perimeter of the expanded Prohibition Zone (or the existing MW-120s, MW-120d, MW-121s, and MW-121d) exceed 20 ppb, PLS will conduct a hydrogeological investigation to determine the fate of

[1] Subject to approval of this agreement, including operation of TW-21, PLS will not be required to install an additional performance monitoring well in Veteran's Park. PLS will include the existing MW-84d monitoring point in its Performance Monitoring Plan for Maple Road.

any contamination in this area as described in the Verification Plan.[2] This investigation will be conducted pursuant to a DNRE-approved work plan. If concentrations in any of the perimeter wells exceed 85 ppb (subject to approval by the Court of the application of a new criteria) or if PLS' investigation indicates that the plume of groundwater contamination will migrate outside of the Prohibition Zone, PLS will conduct a feasibility study of available options for addressing the situation. This feasibility study will include options other than simply expanding the Prohibition Zone, although that option may be included in the analysis. This feasibility analysis will be conducted pursuant to a DNRE-approved format. It is the intent of the Parties that any further expansion of the Prohibition Zone to address migration of groundwater contamination outside of the expanded Prohibition Zone should be avoided unless there are compelling reasons to do so. PLS' feasibility analysis shall identify the preferred alternative. The DNRE shall approve PLS' preferred alternative or submit changes as provided in Section X of the Consent Judgment, however, if PLS' preferred alternative is a risk based cleanup, the DNRE's review time would be subject to the requirements in Part 201. PLS will implement the approved alternative, or any changes submitted by the DNRE unless PLS initiates dispute resolution under Section XVI of the Consent Judgment.

- Evergreen Monitoring Wells. It is anticipated that each of the new well clusters described above will include two or possibly three monitoring wells, but this determination will be based on the Parties' evaluation of the geologic conditions present at each location, consistent with past practice. The easternmost PZ boundary well will be installed last and the data obtained from the other newly installed wells and existing wells will be used to determine its exact location. This well will be installed approximately one year after the other wells are installed and after the Parties have been able to evaluate at least four quarters of data from the new wells (and likely other data as well), unless the Parties agree that it should be installed sooner.
- PLS understands that the DNRE will require that these wells be drilled to bedrock (unless a different depth is approved by DNRE staff) and PLS agrees to do so if conditions permit. The DNRE staff reserves the right to require alternate drilling techniques if conditions warrant their use. If PLS believes that drilling one or more of these wells to bedrock is not practical due to the geologic conditions encountered and/or that such conditions do not warrant the alternative drilling technique required by the DNRE, PLS is entitled to initiate dispute resolution under Section XVI of the Consent Judgment. The wells will be installed using PLS' current vertical profiling techniques, which are designed to minimize the amount of water introduced during drilling, unless the DNRE agrees to alternate techniques. The wells (other than the easternmost well) will be installed

[2] There will be no trigger level for the fourth new well cluster near Pamela Street because this well cluster is not being placed at the perimeter of the Prohibition Zone.

shortly after the expanded PZ is approved, subject to access issues, in accordance with a schedule that PLS will provide before the modifications are finalized.

- Monitoring Plan. The Parties have reached agreement on a mutually acceptable monitoring plan for the Eastern Area, subject to modification based on monitoring results.
- Downgradient Investigation. PLS will continue to implement its Downgradient Investigation Work Plan to track the groundwater contamination as it migrates to insure any potential migration of groundwater contamination outside of the Prohibition Zone is detected before such migration occurs.

4. Continued Evergreen Groundwater Extraction as Necessary. PLS will initially operate the LB wells in the Evergreen Subdivision area at a combined purge rate of 100 gpm. PLS will continue to operate the LB extraction wells (LB-1 and LB-3) in order to reduce the migration of 1,4-dioxane until such time as it determines that the Eastern Area cleanup objectives will be met at a reduced extraction rate or without the need to operate these wells. Before significantly reducing or terminating extraction from these wells, PLS will consult with the DNRE and share the analysis and data supporting its conclusion. PLS will not significantly reduce or terminate extraction from the LB wells until the DNRE has a reasonable opportunity to evaluate PLS' rationale and respond. If the DNRE disagrees with PLS' decision to reduce/terminate extraction, it may challenge the decision in Court. DNRE will have 30 days to petition the Court and PLS shall not significantly reduce or terminate extraction from the LB wells while DNRE is challenging PLS' determination as provided herein. DNRE will make all reasonable efforts to have the motion resolved in a reasonable timeframe. If extraction from the LB wells is terminated either by the agreement of the Parties or an order of the Court, PLS will continue to maintain the LB wells in an operable condition until such time as the Parties agree (or the Court decides) otherwise. Because the remedial objective of capturing the leading edge of the plume in the Evergreen Area has been eliminated, PLS will abandon the Allison Street extraction well operation upon approval of the Court.

5. Financial Assurance Mechanism (FAM)/Oversight Costs. PLS will provide an acceptable FAM to cover future costs of remediation/monitoring. PLS can satisfy this requirement by passing the Financial Test/Corporate Guarantee, as revised January 12, 2010, previously provided to PLS.[3] PLS will not be required to reimburse the State for oversight costs, except as currently provided in the current version of the Consent Judgments in Kelley v. Gelman Sciences, Inc., File No.

[3] If agreement is reached on the Eastern Area and Western Area modifications at the same time, the FAM must be in place before the final agreement is signed. If an agreement on the Eastern Area modifications is reached prior to and separately from the Western Area, any agreement on the Eastern Area would be subject to an adequate FAM being provided for the entire site and being in place before the final agreement is signed for the entire site. If, for any reason, the parties do not reach an agreement on the Western Area modifications, PLS shall immediately establish the FAM for the Eastern Area modifications.

88-34734 and State of Michigan v. Gelman Sciences, Inc., File No. 90-CV-72946-DT (ED Mich.).

6. Expanded Wagner Road Extraction. PLS has installed TW-21 near Wagner Road. The infrastructure connecting this extraction well to the plant includes a pipeline with sufficient capacity to serve as a transmission line if the southern portion of the deep transmission line fails. PLS began extraction from TW-21 in June, 2010 and will continue operating it as provided under paragraph B.3.

7. Contingency Plan for Transmission Line Failure/Inadequate Capacity. PLS has provided the DNRE with documentation regarding the life expectancy of the deep transmission line and a confidential document containing a list of options that are proposed to be included in the post-agreement options array discussed below. After receiving DNRE's comments on the confidential options array, and prior to finalization of the revised Consent Judgment, PLS will provide the options array describing the various options that may be available if the deep transmission line fails or the 200 gpm capacity of the deep transmission line proves to be insufficient to meet the Eastern Area cleanup objectives, including specific minimum capacity associated with each option (if known). The options array submittal (both the settlement-confidential draft version and the final version to be included as an attachment to the revised Consent Judgment will state that PLS believes that at least one of the proposed options is currently feasible and implementable (timing of the implementation may be subject to PLS' ability to obtain governmental approvals and court-ordered access, if necessary).

8. Public Notice. PLS will pay the fee for publishing the DNRE-approved legal notice of the proposed PZ expansion.

9. Termination Criteria.

    a. 2800 ppb Containment Objective. PLS will operate TW-19 (Maple Road extraction well) as needed to meet this objective until all approved monitoring wells upgradient of Maple Road are below the groundwater surface water interface criterion *or* PLS can establish, to the satisfaction of DNRE, that additional purging is no longer necessary to satisfy the containment objective at this location. Post-termination monitoring will be required for a minimum of ten years after the earlier of these two dates with cessation subject to DNRE approval. The PZ monitoring wells are not subject to cessation of monitoring under this provision and must continue to be monitored so long as 1,4-dioxane continues to be detected in PZ monitoring wells above 85 ppb, (subject to approval by the Court of the application of a new criteria). PLS may initiate dispute resolution pursuant to Section XVI of the Consent Judgment if the DNRE refues to approve PLS' termination request.

b. Prohibition Zone Containment Objective. PLS will continue to monitor the plume above the drinking water criteria as it migrates to the Huron River until all approved monitoring wells upgradient of the Huron River are below 85 ppb or such other applicable criterion for 1,4-dioxane, *or* PLS can establish, to the satisfaction of DNRE that continued monitoring is not necessary to satisfy the Prohibition Zone containment objective. PLS may initiate dispute resolution pursuant to Section XVI of the Consent Judgment if the DNRE refuses to approve PLS' termination request.

B. WESTERN AREA

The proposed modified cleanup program for the Western Area includes the following elements:

1. Unified Non-Expansion Cleanup Objective. PLS will be required to prevent the horizontal extent of the Western Area groundwater contamination above 85 ppb (subject to approval by the Court of the application of a new criteria) from expanding. Continued migration of groundwater contamination into the Prohibition Zone shall not be considered expansion. Subject to PLS' commitments regarding extraction from the Wagner Road wells described below, there will be no independent mass removal requirement or a requirement that PLS operate any particular purge well(s) at any particular rate beyond what is necessary to prevent prohibited expansion.

2. Core Area. The current "Core Area" Consent Judgment objective of preventing the 500 ppb plume from expanding will be eliminated as part of a final agreement on the Western Area modifications.

3. Wagner Road Extraction. After approval of the modifications, PLS will initially operate the Wagner Road wells (TW-18 and TW-21) at a combined 200 gallons per minute (gpm) extraction rate (with a minimum extraction rate of 50 gpm for each of the wells). PLS will continue to operate its Wagner Road extraction wells (TW-18 and TW-21) in order to reduce the migration of 1,4-dioxane east of Wagner Road at this rate until such time as it determines that the Eastern Area cleanup objectives will be met with a lower combined extraction rate or without the need to operate these wells. Before significantly reducing or terminating the combined extraction from these wells, PLS will consult with the DNRE and share the basis and data supporting its conclusion. PLS will not significantly reduce or terminate the Wagner Road extraction until the DNRE has a reasonable opportunity to evaluate PLS' rationale and respond. If the DNRE disagrees with PLS' decision to reduce/terminate extraction, it may challenge the decision in Court. DNRE will have thirty (30) days to petition the Court and PLS shall not significantly reduce or terminate extraction while DNRE is challenging PLS'

determination, as provided herein. DNRE will take all reasonable steps to have the motion resolved in a reasonable timeframe. The current Unit E capture objective for Wagner Road will be eliminated and PLS will not be required to capture the plume or any specific contaminant concentration at this location.

4. Decommissioning Extraction Wells. Prior to finalization of the agreement, PLS will provide the DNRE with a list of Western Area extraction wells that it intends to decommission (take out-of-service) in 2010. The DNRE has the right to ask the Court to stop PLS from taking such well(s) out-of-service. PLS will maintain all other extraction wells, including TW-2 (Dolph Park) and TW-12, in operable condition even if it subsequently terminates extraction from the well(s) until such time as the Parties agree (or the Court decides) otherwise.

5. Compliance Monitoring Well Network/Performance Monitoring Plan. An acceptable Performance Monitoring Plan based on a compliance monitoring well network sufficient to monitor the Non-Expansion Cleanup Objective must be established. The DNRE has identified a number of locations where there may be gaps in the current definition of the plume and where additional wells need to be installed (described below). The Parties' technical staffs have agreed upon the installation of borings/monitoring wells as described below, however DNRE reserves the right to request the installation of additional borings/monitoring wells if the totality of the data from these wells indicate that the plume has not been completely defined. These boring/monitoring wells will provide further definition of the extent of groundwater contamination so that the Parties can identify compliance monitoring points for monitoring the revised performance objective for the Western Area[4]:

   - A boring south of Third Sister Lake, near the MWs named Saginaw Forest Cabin (SFC) #1&2, will be drilled to determine if there is any dioxane that needs to be monitored in the vertical interval between the screens at SFC #1&2. PLS will vertically profile every ten feet throughout the saturated interval. DNRE expects that the interval that corresponds to the screen in SFC#1 will be about 30 ppb, about the same as SFC#1. DNRE recommends that the use of water during the drilling be avoided during this boring, or that PLS installs a temporary well at the appropriate intermediate depth(s) to ensure that the vertical profile result accurately reflects the actual concentration. DNRE understands that PLS may not want to install another MW if it can confirm there is no need to monitor this depth; however, DNRE will require a permanent MW(s) screened at the appropriate intermediate depth(s) if it has a reasonable basis for questioning the vertical profiling results.

[4] The locations and/or number of the compliance monitoring wells will be determined based on the data obtained from the additional wells that will be installed in these areas. The parties agree that they do not need to obtain the data from the above-described well installations before advising the Court that an agreement in principle has been reached if the other remaining issues have been resolved.

- A boring will be done about halfway between MW-39 and MW-59. If all vertical profile (VP) results are less than 85 ppb, as we expect, a MW cluster will be installed to monitor the Unit D2 and Unit E. If the VP results are significantly greater than 85 ppb, PLS believes that a MW cluster is not needed, as MW-59s & d could be used as compliance monitoring points. While DNRE generally agrees with this approach, if unexpectedly high concentrations are found, it may lead DNRE to question the aquifer conditions and DNRE reserves the right to request MWs at that, or some other nearby location.
- A boring will be done at/near MW-20, with MWs screened to monitor the Unit D2 Unit E.
- An additional MW near MW-36 may not be needed, depending on the results of the two MW clusters discussed above (between MW-39 & MW-59 and near MW-20. If, after all the agreed upon MWs west of Wagner Road are installed, the hydraulic head and data support PLS' conceptual flow model (that the contamination in the shallower units does not continue migrating to the west, but drops into the deeper unit and flows east into the Prohibition Zone) the DNRE will not require a MW near MW-36.
- A monitoring well cluster will be installed just west of Wagner Road and South of I-94.
- PLS will install the proposed Nancy Drive MW cluster, although the parties agree that it will be moved a bit east from the originally proposed location, closer to MW-14d. It was agreed that placement of the boring could be deferred until the MW proposed just west of Wagner and south of I-94 is installed, however DNRE wants PLS to provide a reasonable schedule for installation of this MW cluster.

6. Property Restrictions. PLS must have property use restrictions sufficient to prevent unacceptable exposures in place with regard to the affected properties before completely terminating extraction in the Western Area. PLS agrees not to sell or otherwise transfer title to any portion of the Gelman Property before it reaches agreement with the DNRE on an acceptable property restriction for the Gelman Property.

7. Penalty for Non-Compliance. The Parties agree that if prohibited expansion occurs, PLS will be required to undertake additional response actions to return the plume to its original boundaries (e.g., recommencement of purging at particular locations). Defendant is required to comply with all of the remedial objectives of the Consent Judgment, as amended or modified, and any failure by Defendant to do so shall be subject to the assessment of stipulated penalties as provided in Section XVII of the Consent Judgment. Without limiting the foregoing, Plaintiffs agree to modify the remedial objectives for the Western Area, to the performance objective of no further expansion of the 1,4-dioxane above 85 ppb, as provided in Section B.1 above, in reliance on Defendant's agreement to comply with this objective. To ensure compliance, Defendant shall be subject to the assessment of

stipulated penalties, as provided in Section XVII of the Consent Judgment, for violation of the no expansion objective (and acknowledgement of such shall be incorporated into Consent Judgment.) Nothing in this paragraph shall limit PLS' ability to contest the assessment of stipulated penalties as provided in the Consent Judgment.

8. Ann Arbor Cleaning Supply (Western System). The Parties agree that some type of active remediation of this area must continue until appropriate land use restrictions are placed on the affected property(ies). PLS will, however, resubmit its proposal to temporarily reduce the frequency of the batch purging of this well so that the effects of batch purging can be evaluated. PLS will also contact the Sunward Co-Housing Coop and inquire as to whether they will consider placing a groundwater use restriction on their property.

9. Internal Plume Characterization. The DNRE agrees that the additional definition within the plume and/or characterization of "source" areas sought in its motion is not necessary, based on the additional monitoring wells to be installed as discussed in paragraphs A.3 and B.5, however, DNRE reserves the right to ask the Court to require such work if there are unexpected findings that DNRE determines warrants additional characterization.

10. Reopener for Changed Criteria. DNRE is agreeable to the following modification to the reservation of rights (i.e. reopener) language of the Consent Judgment to address possible changes to the 1,4-dioxane criteria:

E. Notwithstanding any other provision in this Consent Judgment:

(1) Plaintiffs reserve the right to institute proceedings in this action or in a new action seeking to require Defendant to perform any additional response activity at the Site; and

(2) Plaintiffs reserve the right to institute proceedings in this action or in a new action seeking to reimburse Plaintiffs for response costs incurred by the State of Michigan relating to the Site. Plaintiffs' rights in E.1. and E.2. apply if the following conditions are met:

1. For proceedings prior to Plaintiffs' certification of completion of the Remedial Action concerning the Site,

a. (i) conditions at the Site, previously unknown to the Plaintiffs, are discovered after entry of this Consent

Judgment, (ii) new information previously unknown to Plaintiffs is received after entry of the Consent Judgment, or (iii) DNRE adopts one or more new, more restrictive cleanup criteria for 1,4-dioxane pursuant to [Part 201] after entry of the Consent Judgment; and

b. these previously unknown conditions, new information, and/or change in criteria indicate that the Remedial Action is not protective of the public health, safety, welfare, and the environment; and

2. For proceedings subsequent to Plaintiffs' certification of completion of the Remedial Action concerning the Site,

a. (i) conditions at the Site, previously unknown to the Plaintiffs, are discovered after certification of completion by Plaintiffs, (ii) new information previously unknown to Plaintiffs is received after certification of completion by Plaintiffs, or (iii) DNRE adopts one or more new, more restrictive cleanup criteria for 1,4-dioxane pursuant to [Part 201] after certification of completion by Plaintiffs; and

b. these previously unknown conditions, new information, and/or change in criteria indicate that the Remedial Action is not protective of the public health, safety, welfare, and the environment.

If Plaintiffs adopt one of more new, more restrictive, cleanup criteria, Plaintiffs' rights in E.1. and E.2. shall also be subject to Defendant's right to seek another site specific criterion(ia) that is protective of public health, safety, welfare, and the environment and/or to argue that Plaintiffs' have not made the demonstration(s) required under this Section.

11. Other Consent Judgment Systems. The Marshy and Soil System requirements will be modified, as necessary, to require PLS to demonstrate to the satisfaction of DNRE prior to terminating extraction in the Western Area that any remaining 1,4-dioxane contamination in these systems would not cause any expansion of groundwater contamination in the Western area. PLS may initiate dispute resolution pursuant to Section XVI of the Consent Judgment if the DNRE refuses to approve PLS' demonstration.

12. Termination Criteria for Western Area Containment Objective. PLS will continue to operate the Western Area extraction wells deemed necessary to prevent the areas impacted by contaminant concentrations of above 85 ppb (subject to approval by the Court of the application of a new criteria) from expanding until PLS can establish to DNRE's satisfaction that groundwater extraction is no longer necessary to prevent such expansion. Post-termination monitoring will be required for a minimum of ten years after termination of extraction with cessation subject to DNRE approval. PLS may initiate dispute resolution pursuant to Section XVI of the Consent Judgment if the DNRE refuses to approve PLS' demonstration.

APPENDIX 7

Zausmer, Kaufman, August, Caldwell & Tayler, P.C.

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Heather R. Pillot
Cinnamon A. Rice
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Carson J. Tucker
James C. Wright[3]

[1]Also Admitted in IL
[2]Also Admitted in MA
[3]Also Admitted in OH

September 12, 2011

Celeste R. Gill, Esq.
Assistant Attorney General
Environment Natural Resources & Agriculture
525 W. Ottawa Street, Floor 6
Lansing, Michigan 48933

Re: Gelman Sciences, Inc./Western Area Monitoring Plan
Our File No. 4710-0001

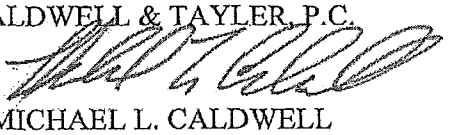
Dear Ms. Gill:

I am writing in response to Ms. Kolon's August 16, 2011 correspondence regarding the Gelman Science, Inc.'s (d/b/a Pall Life Sciences ("PLS")) Western Area Monitoring Plan. As we have discussed, PLS is invoking the Dispute Resolution provisions of Section XVI of the Consent Judgment with regard to the MDEQ's "conditional approval" of this plan. PLS is hopeful that the parties can resolve this issue during the ten day informal negotiating period established under Section XVI.C.

Please feel free to contact me to discuss the MDEQ's position regarding the possibility of further discussions on the issues related to the Western Area Monitoring Plan and the MDEQ's response to that plan.

Sincerely yours,

ZAUSMER KAUFMAN AUGUST
CALDWELL & TAYLER, P.C.



MICHAEL L. CALDWELL

cc: Sybil Kolon, MDEQ
Mr. Farsad Fotouhi

APPENDIX 8

Michael Caldwell

From: Kolon, Sybil (DEQ) <KOLONS@michigan.gov>
Sent: Tuesday, October 11, 2011 8:36 AM
To: 'Farsad_Fotouhi@pall.com'; Michael Caldwell
Cc: Laurel_Beyer@pall.com; Adelman, Mitch (DEQ); Coger, Jim (DEQ); Marolf, Lynelle (DEQ); Sygo, Jim (DEQ); Joseph, Susan (DEQ); Gill, Celeste (AG)
Subject: DEQ resolution of Gelman WAGMP dispute
Attachments: DEQ Oct 2011 WAGMP response.pdf

Attached is the DEQ's resolution of the dispute on the WAGMP. Hard copies will follow.

Sybil Kolon
Senior Environmental Quality Analyst
Remediation Division
Department of Environmental Quality
301 E. Louis Glick Hwy.
Jackson, MI 49201
phone: 517-780-7937
fax: 517-780-7855
e-mail: kolons@michigan.gov

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

October 10, 2011

VIA E-MAIL and U.S. MAIL

Mr. Farsad Fotouhi
Corporate Vice President
Environmental Engineering
Pall Life Sciences, Inc.
600 South Wagner Road
Ann Arbor, Michigan 48103-9019

Mr. Michael L. Caldwell
Zausmer, Kaufman, August & Caldwell, P.C.
31700 Middlebelt Road, Suite 150
Farmington Hills, Michigan 48334-2301

Dear Mr. Fotouhi and Mr. Caldwell:

SUBJECT: Gelman Sciences, Inc. Remedial Action
Western Area Groundwater Monitoring Plan (WAGMP)
DEQ Proposed Resolution of Dispute Pursuant to
Section XVI of Consent Judgment in Response to
Letter from Mr. Michael L. Caldwell dated September 12, 2011

By letter dated September 12, 2011, Mr. Michael L. Caldwell, on behalf of Pall Life Sciences, Inc. (PLS), invoked the dispute resolution process found in Section XVI of the Consent Judgment, in response to the Department of Environmental Quality's (DEQ) August 16, 2011, letter directing PLS to begin implementing the DEQ-approved WAGMP, as specified in the DEQ's letter dated May 25, 2011. The DEQ and PLS mutually agreed to extend the time for informal dispute resolution to allow further discussion for a short time beyond that called for in Section XVI of the Consent Judgment. This letter serves as the DEQ's response and resolution of the dispute.

BACKGROUND

The Consent Judgment, as amended, requires the establishment of a compliance monitoring well network and monitoring plan that is adequate to monitor the non-expansion objective of the Western Area. Under the Consent Judgment, PLS now has the ability to terminate the remediation, and leave contaminated groundwater in place, when it can demonstrate that groundwater contamination will not expand beyond its current extent. PLS has already decreased the volume of purging, as allowed by the amended Consent Judgment. Therefore, it is essential that a long-term monitoring program be established that can detect any expansion that would jeopardize the protectiveness of the remedy. Previously approved monitoring plans were based on purging of contaminated groundwater that was intended to shrink and eliminate all groundwater contamination. Given the revised remedial approach, including the ability to cease active remediation and leave groundwater contamination in place, any monitoring plan for the Western Area must necessarily be more rigorous than previous monitoring plans. The DEQ-approved WAGMP will monitor the effect of the reduced purging, as well as the effect when purging is terminated, as anticipated by the revised remedial approach. It will also allow for timely contingent remedial action to commence if needed, as also required by the revised remedial approach.

The DEQ's May 25, 2011, letter responded to PLS's proposed WAGMP, dated April 18, 2011, and contains the justification for and details of the DEQ-approved WAGMP. That letter also expressed the DEQ's willingness to explore with PLS, possible alternatives to the DEQ-approved WAGMP.

At PLS's request, the DEQ and PLS voluntarily discussed possible alternatives in meetings and by telephone. The parties could not agree on an alternative that the DEQ believed would satisfy the objectives of the Consent Judgment. The DEQ then sent PLS its August 16, 2011, letter, which Mr. Caldwell responded to as referenced above, to initiate the dispute resolution process.

The parties discussed the subject of this dispute in a telephone conference on September 22, 2011; however, no mutually acceptable alternative resolution was identified.

RESOLUTION

To ensure that the non-expansion objective for the Western Area will be met, an adequate compliance monitoring network that is part of an overall monitoring plan is required. The DEQ-approved WAGMP contains the required elements to measure compliance with that component of the Consent Judgment, as discussed above and in the DEQ's May 25, 2011, letter. Therefore, Pall Life Sciences, Inc. must begin implementing the DEQ-approved WAGMP, as specified in the DEQ's May 25, 2011, letter. Figure 1, attached to that letter, depicts the DEQ-approved compliance monitoring well network that defines the boundary beyond which any expansion of 1,4-dioxane groundwater contamination would be considered non-compliance with the non-expansion cleanup objective for the Western Area. Figure 1 includes the approximate location for the installation of five additional monitoring well nests required for the compliance well network. Table 2, also attached to that letter, provides the complete list of monitoring wells and frequency of sample collection and static water level measurements.

The five new monitoring well nests required by the DEQ-approved WAGMP must be installed using rotosonic drilling, with vertical profiling at ten-foot intervals throughout the saturated zone, to bedrock. Each boring must also be gamma-logged.

Should you require further information, please contact me at 517-780-7937; kolons@michigan.gov; or the DEQ Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201.

Sincerely,

for

Sybil Kolon
Senior Environmental Quality Analyst
Gelman Sciences Project Coordinator
Remediation Division

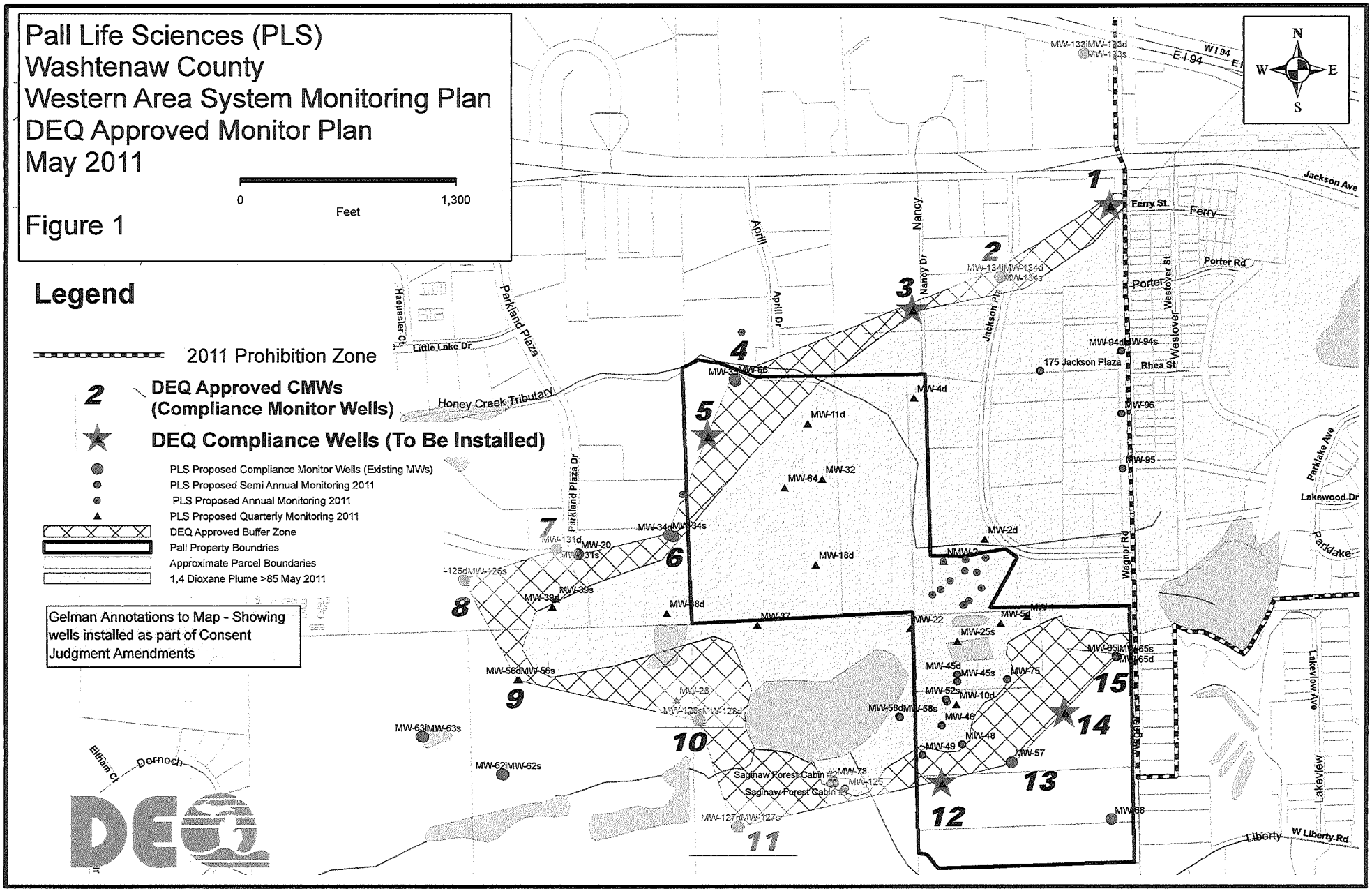
SK/ja
cc: Ms. Celeste Gill, Department of Attorney General
Mr. Jim Sygo, DEQ
Ms. Lynelle Marolf, DEQ
Mr. Mitchell Adelman, DEQ
Gelman File

APPENDIX 9

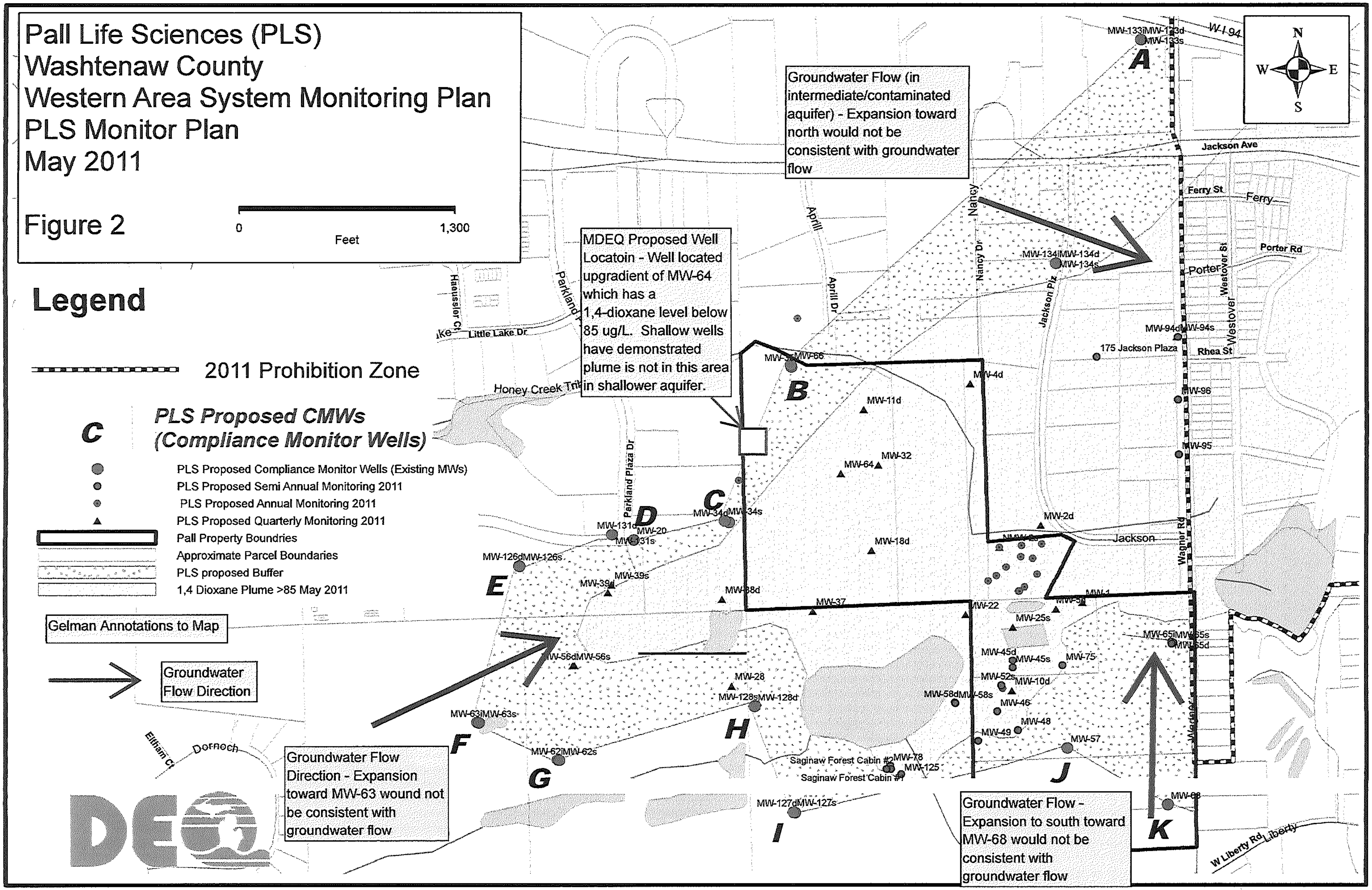
Pall Life Sciences (PLS)
Washtenaw County
Western Area System Monitoring Plan
DEQ Approved Monitor Plan
May 2011

0 Feet 1,300

Figure 1



APPENDIX 10



Pall Life Sciences (PLS)
Washtenaw County
Western Area System Monitoring Plan
PLS Monitor Plan
May 2011
Figure 2
0
1,300
Feet
Legend
2011 Prohibition Zone
C
PLS Proposed CMWs (Compliance Monitor Wells)
PLS Proposed Compliance Monitor Wells (Existing MWs)
PLS Proposed Semi Annual Monitoring 2011
PLS Proposed Annual Monitoring 2011
PLS Proposed Quarterly Monitoring 2011
Pall Property Boundries
Approximate Parcel Boundaries
PLS proposed Buffer
1,4 Dioxane Plume >85 May 2011
Gelman Annotations to Map
Groundwater Flow Direction
MDEQ Proposed Well Locatoin - Well located upgradient of MW-64 which has a 1,4-dioxane level below 85 ug/L. Shallow wells have demonstrated plume is not in this area in shallower aquifer.
Groundwater Flow (in intermediate/contaminated aquifer) - Expansion toward north would not be consistent with groundwater flow
Groundwater Flow Direction - Expansion toward MW-63 wound not be consistent with groundwater flow
Groundwater Flow - Expansion to south toward MW-68 would not be consistent with groundwater flow
N
W
E
S
Jackson Ave
Ferry St
Porter Rd
Westover St
Rhea St
175 Jackson Plaza
Jackson Plz
Nancy Dr
Aprill Dr
Parkland Plaza Dr
Honey Creek Trib
Little Lake Dr
Haeussler Ct
Wagner Rd
W Liberty Rd
Dornoch
Eltham Ct
Saginaw Forest Cabin #2
Saginaw Forest Cabin #1
A
B
C
D
E
F
G
H
I
J
K
MW-133s
MW-134s
MW-134d
MW-94s
MW-94d
MW-96
MW-95
MW-66
MW-4d
MW-11d
MW-32
MW-64
MW-18d
MW-2d
MW-37
MW-22
MW-25s
MW-45d
MW-45s
MW-75
MW-52s
MW-10d
MW-46
MW-48
MW-49
MW-57
MW-58d
MW-58s
MW-78
MW-125
MW-127d
MW-127s
MW-128s
MW-128d
MW-28
MW-38d
MW-34d
MW-34s
MW-20
MW-131d
MW-131s
MW-39d
MW-39s
MW-126d
MW-126s
MW-56d
MW-56s
MW-63i
MW-63s
MW-62i
MW-62s
MW-65i
MW-65s
MW-65d
MW-68
MW-1
MW-5
DEQ