STATE OF MICHIGAN
DEPARTMENT OF ATTORNEY GENERAL

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BILL SCHUETTE
ATTORNEY GENERAL

November 7, 2011

Washtenaw County Circuit Court
Attn: Clerk of the Court
P.O. Box 8645
Room 114
Ann Arbor, MI 48107

Dear Clerk:

Re: *Attorney General v Gelman Sciences, Inc.*
Washtenaw County Circuit Court File No. 88-34734-CE

Enclosed for filing in the above-captioned case please find the PLAINTIFFS' BRIEF IN RESPONSE TO DEFENDANT'S PETITION FOR DISPUTE RESOLUTION, along with the Western Area Groundwater Monitoring Plan Administrative Record and a Proof of Service.

Very truly yours,

Celeste R. Gill (P52484)
Assistant Attorney General
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CRG/ajy
Enc:
c: Alan D. Wasserman
Michael L. Caldwell

LF/Gelman-88-34734-CE-cl 11-07-11

STATE OF MICHIGAN
CIRCUIT COURT FOR THE 22ND JUDICIAL CIRCUIT
WASHTENAW COUNTY

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

Plaintiffs,

File No. 88-34734-CE

v

Honorable Donald E. Shelton

GELMAN SCIENCES, INC.,
a Michigan corporation,

Defendant.

PROOF OF SERVICE

On November 7, 2011, I sent by first class mail a copy of the PLAINTIFFS' IN BRIEF RESPONSE TO DEFENDANT'S PETITION FOR DISPUTE RESOLUTION, along with the Western Area Groundwater Monitoring Plan Administrative Record to:

Alan D. Wasserman
Williams Acosta, PLLC
535 Griswold St. Suite 1000
Detroit, MI 48226

Michael L. Caldwell
Zausmer, Kaufman, August,
Caldwell & Taylor, P.C.
31700 Middlebelt Road, Suite 150
Farmington Hills, MI 48334

I declare that the statements above are true to the best of my information, knowledge, and belief.

Anna Yott

Gelman/1989001467/POS 11/7/11

STATE OF MICHIGAN
CIRCUIT COURT FOR THE 22ND JUDICIAL CIRCUIT
WASHTENAW COUNTY

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PLAINTIFFS' IN BRIEF RESPONSE TO DEFENDANT'S PETITION FOR DISPUTE RESOLUTION

Plaintiffs, the Attorney General of the State of Michigan, and the Michigan Department of Environmental Quality (MDEQ), by their undersigned counsel, pursuant to Section XVI.C of the Consent Judgment entered in this matter on October 26, 1992 and as amended on September 23, 1996, October 20, 1999, and

March 8, 2011 (Consent Judgment) submit this Brief in Response to Defendant Gelman Sciences d/b/a Pall Life Sciences, Inc's (Defendant) Petition for Dispute Resolution filed on October 26, 2011. Since the Court is familiar with the history of this case, the Plaintiffs will only touch briefly on a few pertinent facts related to this current dispute.

BACKGROUND

The Third Amendment to the Consent Judgment entered by this Court on March 8, 2011 modified the remedial objective for the Western Area of the Gelman Site from a requirement to completely remediate 1,4-dioxane in concentrations exceeding 85 parts per billion (groundwater contamination) to a no-expansion cleanup objective. The Defendant is now required to prevent the horizontal extent of the groundwater contamination in the Western Area from expanding. Section V.B.1. of the Consent Judgment provides that "[t]he 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 the groundwater contamination into the Prohibition Zone or Expanded Prohibition Zone shall not be considered expansion and is allowed." (emphasis added). Defendant is required to take additional response action to pull back any groundwater contamination that escapes beyond the boundary established in Section V.B.1. (prohibited expansion).

The key to the protection of public health, safety, welfare, and the environment for the remedial approach described above is the establishment of an adequate compliance monitoring well network.

Currently, active remediation in the form of extraction of groundwater is occurring in the Western Area, however, the Consent Judgment now allows the Defendant to reduce and otherwise manipulate extraction rates in this area, with the exception of a few extraction wells. Section V.B.1. Eventually, Defendant may be able to terminate all extraction in the area if it can demonstrate that no prohibited expansion will occur (and subject to restricting properties impacted by groundwater contamination). Section V.B.1.

Because the Consent Judgment gives the Defendant the ability to leave groundwater contamination in place without active remediation for years and even decades and the resulting need to conduct long-term monitoring to determine if groundwater flow patterns resort to the previous flow patterns that originally resulted in the spread of groundwater contamination to the west, MDEQ insisted that a robust compliance monitoring well network be established and the parties provided a process to establish one in the Consent Judgment. Section V.B.2.d., See also, Affidavit of Sybil Kolon paragraph 16. (Exhibit 1)

Due to the proposed revision to the remedial objectives, the parties agreed that better definition of the plume of the groundwater contamination in the Western Area was needed, and so a step-wise approach was devised to delineate the groundwater contamination and ultimately develop a compliance monitoring well

network sufficient to monitor compliance with the Western Area objective. See, Affidavit of Sybil Kolon paragraphs 10-12.

The first step described in Section V.B.2.c. of the Consent Judgment, was to delineate the plume so that the parties could understand the extent and location of the plume, which is key to establishing the boundary of the area subject to the no-expansion objective. Specifically the consent judgment provides that "[d]efendant 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... MDNRE[1] 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." (emphasis added). Nothing in this section addresses the number or location of compliance monitoring wells.

The second step is described in section V.B.2.d. of the Consent Judgment, and provides in part that "[w]ithin 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 MDNRE... The location and/or number of the compliance monitoring

[1] By Executive Order No. 2011-1, effective March 13, 2011, the rights, responsibilities, and authorities of the Michigan Department of Natural Resources and Environment (MDNRE) for matters addressed in this Consent Judgment were transferred to the Michigan Department of Environmental Quality (MDEQ).

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." (emphasis added). Nowhere in this subsection does it state that the compliance monitoring wells may only come from existing monitoring wells.

Defendant may have preferred to limit the number and universe of wells that may be considered as compliance monitoring wells. However, MDEQ has always made a distinction between monitoring wells installed for the investigation required under Section V.B.2.c., and monitoring wells installed for monitoring compliance and the fact that more monitoring wells may be need for monitoring compliance. See, Affidavit of Sybil Kolon paragraph(s) 8-9. In any event, the parties did not include such a limitation in the Consent Judgment.

Defendant submitted its proposed Western Area Groundwater Monitoring Plan (WAGMP) on April 18, 2011 (Administrative Record (AR) 000005 – 38), and by a letter, dated May 25, 2011, MDEQ conditionally approved it requiring, among other things, the installation of nested monitoring wells at five additional locations (for a total of 15 monitoring wells) because: (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; and (2) The distance between PLS's proposed CMWs varies from 630 to 2800 feet and in several locations is too great to detect expansion of the plume between those points. The MDEQ goes on to note that the current nature and extent of the plume has been influenced by over thirteen years of groundwater

extraction, the previous monitoring plans were not intended to satisfy the no-expansion objective, and because extraction will eventually be terminated leaving soil and groundwater contamination in place, an adequate compliance monitoring network [must be able] to detect any return to the migration pathways that allowed the plume to expand west in the first place. AR 000077-78.

While MDEQ believes that its proposed compliance monitoring well network provides the necessary rigor to monitor the no-expansion objective, it was open to and wanted to give Defendant the opportunity to discuss and possibly reach agreement or an alternative approach that would not necessarily require the installation of all five of the monitoring well nests required in the conditionally-approved Monitoring Plan. AR 000080.

The parties were unable to reach agreement (AR 000095) on an alternative approach. MDEQ put forth and the parties discussed an approach that may have required the installation of only two additional compliance monitoring wells to deal with the more egregious gaps in Defendant's proposed compliance monitoring well network, supplemented by certain existing monitoring wells designated as "trigger wells" to address the other areas of concern. See Affidavit of Sybil Kolon paragraph 16 for more details on the MDEQ proposal. MDEQ issued its Resolution of Dispute requiring the implementation of the conditionally-approved WAGMP including the installation of the five additional compliance monitoring wells nests drilled to bedrock using vertical profiling to determine the proper depths to screen the wells and gamma logged in a letter dated October 10, 2011. (AR 000097). See also,

Affidavit of James M. Coger paragraphs 31-34. (Exhibit 2). The drilling to bedrock and gamma logging were inadvertent omissions from the May 25, 2011 letter. Affidavit of Sybil Kolon paragraph 19.

While Section V.B.2. of the Consent Judgment is silent on drilling technique, drilling to bedrock is consistent with the requirements for other monitoring wells installed at this site in the Eastern Area pursuant to the Third Amendment to the Consent Judgment. See, Section V.A.2.d., which proscribes drilling techniques in the Eastern Area: "new wells installed pursuant to Section V.A.2. shall be drilled to bedrock unless a different depth is approved by MDNRE or if conditions make such installation impracticable." Gamma logging had previously been performed by the Defendant at this site. MDEQ learned, after it had issued its May 25, 2011 letter, that Defendant had discontinued the practice, so MDEQ made a specific request as part of its Resolution of Dispute. Affidavit of Sybil Kolon paragraph 19.

Defendant filed its petition with the Court on October 26, 2011, stating that if it is required to install additional compliance monitoring wells it will dispute the location of such wells. Petition paragraph 12. Plaintiffs are not aware of any provision of the Consent Judgment that allows successive disputes for the same Resolution of Dispute (absent the parties agreeing to reserve certain issues for later resolution). The conduct of the dispute resolution proceeding is governed by Section XVI.D of the Consent Judgment which provides:

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

Defendant has the burden of proving that MDEQ's October 10, 2011 resolution should not be upheld on the grounds provided in the Consent Judgment and listed above. Defendant has not carried its burden and as discussed below, the MDEQ's position is consistent with the Consent Judgment and applicable law.

ARGUMENT

I. The plain language of the Consent Judgment does not prohibit the installation and use of additional monitoring wells for the compliance monitoring well network.

When trying to interpret consent judgments, the rules governing the interpretation of contracts should be applied. Consent judgments are contracts that once adopted and entered by a court are judgments that can be enforced by the court. See, *Young v. Robin*, 146 Mich App 552 (1986).

The general goal of contract interpretation is to read the document as a whole and apply the plain language of the document to give effect to the intent of the parties. *Dobblelaere v. Auto-Owners Ins. Co.*, 275 Mich App 527, 529 (2007). In construing a contract every effort must be made to give effect to every word or phrase used. *Klapp v. United Ins Group Agency, Inc.*, 468 Mich 459 , 467 (2003). If the contract's language is clear and unambiguous, the contract must be interpreted

and enforced as written. *Frankenmuth Mutual Ins. Co. v Masters*, 460 Mich 105, 111 (1999).

A. Consent judgment is clear and unambiguous and does not prohibit MDEQ from requiring the installation of additional monitoring wells for purposes of the compliance monitoring well network

Section V.B.2.d. which governs development of the compliance monitoring well network provides, in part, that "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 MDNRE... The location 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 plain language of the Consent Judgment is unambiguous. While the parties specifically designated monitoring wells for purposes of completing the delineation of the groundwater contamination in the Western area in the Consent Judgment, they did not designate well locations for the compliance monitoring well network. More importantly, the parties did not include any limitation in the Consent Judgment requiring the use of existing monitoring wells only for that purpose.

It is clear the parties left the design of the compliance monitoring well network open until after the plume delineation investigation was complete and the

parties were able to review and analyze the data generated from that investigation. The Consent Judgment simply provides that the design of the compliance monitoring well network and therefore the number and location of the wells must be "sufficient to verify the effectiveness of the Western Area System in meeting the Western Area objective" of preventing the horizontal expansion of the delineated groundwater contamination plume in the Western Area. See, Section V.B.2.d. The Consent Judgment neither requires that additional monitoring wells be installed as compliance monitoring wells nor does it prohibit it, but instead leaves it open for a later determination.

B. Defendant's interpretation is inconsistent with the plain language of the Consent Judgment.

The Defendant attempts to find or construe a prohibition on MDEQ's ability to require the installation of additional compliance monitoring wells where one simply does not exist. As discussed above, the Parties did not designate compliance monitoring wells in the Consent Judgment. It was premature to do so at the time the amendments were completed because the delineation investigation was ongoing and the Defendant still needed to complete its analysis of the data as Section V.B.2.d. provides. Defendant cannot just add terms not included in the Consent Judgment. *Terrien v. Zwit*, 467 Mich 56, 75 (2002).

To support its position, Defendant deliberately blurs the line between the Consent Judgment provisions regarding monitoring wells installed for delineation purposes and the development of the network of compliance monitoring wells

intended to be used for the long-term monitoring of the Western Area no-expansion objective.

Further, construction should not result in an absurd result. *Vushaj v Farm Bureau Ins. Co.*, 284 Mich App 513 (2009). Defendant's construction would lead to an absurd result -- the location of and need for compliance monitoring wells would be determined or at least limited to a finite universe of monitoring wells although the question of the delineation was not resolved. This really makes no sense since the MDEQ had the ability to request additional monitoring wells for delineation "if the totality of evidence from the wells to be installed [during the investigation described in the Consent Judgment] indicate that the horizontal extent of groundwater contamination had not been completely defined." Section V.B.2.c.

Finally, Defendant attempts to resort to parol evidence to support its position. It is well settled law that "parol evidence of contract negotiations, or of prior or contemporaneous agreements that contradict or vary the written agreement is not admissible to vary the terms of a Consent Judgment that is clear and unambiguous." *UAW-GM v. KSL*, 228 Mich App 485, 492 (1998). Even if the Court were to consider such evidence, Defendant would still not prevail, given MDEQ's statements distinguishing monitoring wells for investigation versus monitoring wells for compliance and the fact that Defendant in its petition is quoting language

from the term sheet that is clearly related to the delineation and the term sheet does not otherwise contradict MDEQ's position.[2]

Instead, the Court should read the Consent Judgment as a whole, giving harmonious effect to each word and phrase. *Id* at 520. Subsections V.B.2.c. and V.B.2.d., read in harmony provides a two-step process. First, Defendant was required to delineate the extent of the groundwater contamination in the Western Area according to the investigation described in the Consent Judgment, subject to additional investigation if MDEQ determined it was warranted. Once the delineation was completed, the Parties would then determine the number and locations for a compliance monitoring well network that would best monitor the no-expansion objective for the delineated groundwater contamination taking into consideration the data and analysis provided from the investigation.

If the Court is inclined to interpret Subsection V.B.2.d. of the Consent Judgment as including the requirements and limitations of Subsection V.B.2.c. to the choice of compliance monitoring wells then MDEQ's reservation of rights to require additional monitoring wells in that subsection should also apply. And, the totality of the evidence indicates that additional monitoring wells are needed to monitor compliance.

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[2] Footnote 4 of the term sheet provides in part that "[t]he location and/or number of the compliance monitoring wells will be determined based on the data from the additional wells that will be installed in these areas," which supports Plaintiffs' position that the wells described in Section V.B.2.c. of the Consent Judgment were intended primarily for investigation and there was no agreement that they would necessarily be used as compliance monitoring wells.

As discussed below, MDEQ believes that the results of the investigation, including the depiction of the groundwater contamination plume supports the need for the additional monitoring well nests that it is requiring.

II. The MDEQ-approved compliance monitoring well network is appropriate for monitoring the no-expansion objective of the Western Area.

The purpose of the MDEQ-approved compliance monitoring well network is to monitor the Consent Judgment's Western Area objective to "prevent the horizontal extent of the groundwater contamination in the Western Area from expanding" beyond the defined boundary of the plume in that area regardless of the depth of the groundwater contamination. As noted in its May 25, 2011 letter, "MDEQ's intent in agreeing to the non-expansion objective in conjunction with an associated compliance monitoring network was once the plume was delineated, MDEQ-approved CMWs would establish points along a continuous boundary outside of which the plume is not allowed to expand." (AR 000078). This is borne out in Sections V.B.2.c. and V.B.2.d. of the Consent Judgment which provide for the delineation of groundwater contamination followed by the establishment of compliance monitoring well network to monitor the plume and detect any potential expansion so that it can be addressed.

The MDEQ-approved compliance monitoring well network better approximates the location of the delineated plume and provides a boundary that better reflects the intention of Consent Judgment. It addresses the deficiencies noted above/below in the Defendant's proposed monitoring well network and more

effectively monitors the non-expansion objective than Defendant's proposed plan. See generally, the affidavits of Sybil Kolon and James Coger.

A. Defendant's proposed compliance monitoring well network is inadequate to monitor the no-expansion compliance objective for the Western Area and the MDEQ conditions are needed.

MDEQ's major concern with Defendant's proposed compliance monitoring well network is that it would allow prohibited expansion to occur in contravention of a clearly stated objective of the Consent Judgment. In some instances the groundwater contamination, as currently depicted, would be able to migrate anywhere from 700 feet to as far as 1,100 feet in three locations before such migration would be considered expansion. One such location is at MW-133, which Defendant proposes to use as a compliance monitoring well. This location is too far north of the delineated groundwater contamination (about 1100 from the boundary of the delineated plume). Use of this monitoring well for measuring compliance with the Western Area objective would allow groundwater contamination to expand into an area where there is no infrastructure to return the plume to its delineated extent as required by Section V.B.1., of the Consent Judgment. Further, any horizontal expansion in this area, would not be detected until long after the existing extraction wells would be able to draw it back. See Affidavit of James Coger paragraph 16. The distance between several of PLS's proposed compliance monitoring wells is too great (from 630 to 2800 feet) to detect expansion of the plume between the points (See, Table 1 from MDEQ's May 25, 2011 letter (AR 000081)). In those areas, the Parties will have no data to even monitor for potential

expansion. Further, Defendant's analysis includes the current extraction when considering groundwater flow (and therefore the potential for expansion), however this approach ignores the potential for expansion when extraction is discontinued. Affidavit of Sybil Kolon paragraph 20. The affidavits supporting Defendant's Petition attempt to dismiss these concerns without acknowledging the important concessions and long-term nature of the remedy engendered in the revised Western Area objective. Appendices 4 and 5 to the Petition.

The deficiency in the Defendant's proposal stems from Defendant's insistence on using only existing monitoring wells for the compliance monitoring well network although they may have been installed for other purposes and not situated to adequately monitor the Western Area objective either horizontally or vertically. Some of the monitoring wells were installed to investigate unexpected and newly discovered groundwater contamination over the long history of this site. This existing "network" of monitoring wells was installed in an ad hoc manner (some wells were shallow to monitor groundwater contamination in the shallower formations and other wells were deep to address the deeper formation known as the Unit E).

Contrary to Defendant's assertions, the existing network of monitoring wells was never designed to monitor a "no expansion" objective, the previous objective was much more than that. Under the previous remedial objective Defendant had to eliminate the groundwater contamination, which meant Defendant had to keep shrinking the groundwater contamination and maintaining hydraulic control, and

as long as Defendant's remedial system pumped aggressively, the groundwater flow patterns were changed. As a result, MDEQ did not require as many monitoring points as it would for a remedial objective that provides for reduction and eventual elimination of extraction of groundwater while leaving the groundwater contamination in place. See Affidavit of Sybil Kolon paragraphs 13-15.

The revised remedial objective requires more monitoring than the previous objective of a full cleanup. The Western Area needs a compliance monitoring well network that will be adequate to detect changes in groundwater flow and other conditions as the Defendant lowers the extraction rates in the area and eventually stops purging. Affidavits of Sybil Kolon paragraph 15 and James Coger paragraphs 11-30. The Parties' ability to not only monitor the current plume but also any changes that occur as Defendant decreases extraction, will help in ensuring that no prohibited expansion occurs.

Contrary to assertions in the supporting affidavits of Messr's Fatouhi and Brode, that MDEQ's decision lacks technical support, the Administrative Record which consists primarily of correspondence between the parties and data supports MDEQ's Resolution of Dispute. MDEQ has also performed further analysis based on more recent data provided by Defendant as part of its Resolution of Dispute. See, Affidavit of James Coger. And, many of these issues have been the subject of discussion between the MDEQ and Defendant.

Defendant's Petition only appears to disputes MDEQ's ability to require the additional compliance monitoring wells, drilling to bedrock, and the use of gamma

logging. However, Plaintiffs see no reason to delay decision on the Resolution of Dispute or the implementation of MDEQ's conditionally-approved WAGMP including the MDEQ-approved compliance monitoring wells, because they are consistent with the Consent Judgment. In addition, extraction rates in the Western Area have already been reduced so an adequate compliance monitoring well network should be established sooner than later. The attached affidavits of James Coger and Sybil Kolon provide additional detail, analysis, and support for the MDEQ's compliance monitoring well network.

B. MDEQ's requirement that the compliance monitoring wells be drilled to bedrock, be vertically profiled, and gamma logged is appropriate.

Defendant's assertion that the MDEQ requirement that any wells used as compliance monitoring wells be drilled to bedrock is a technique only used for delineation and therefore belies MDEQ's intention to use the five proposed monitoring well nests (15 monitoring wells total) for investigation instead of for compliance monitoring (Petition paragraph 13) is absurd and it ignores the fact that the no-expansion objective applies to groundwater contamination, no matter what depth it is found. Consent Judgment, Section V.B.1. To effectively monitor this objective, monitor wells need to be properly located throughout the entire saturated interval. *Affidavit of James Coger* paragraph 34. Drilling to bedrock and using vertical profiling as part of the drilling technique helps the parties to determine the proper location to screen the wells, thereby ensuring that the objective will be adequately monitored and increasing the likelihood of compliance. Affidavit of

James Coger paragraph 34. Plaintiffs are unaware of any technical guide that prohibit the use of these techniques for the siting/screening of wells used for compliance monitoring. And, of course Defendant offers no explanation of alternative techniques for determining the optimal depth for screening wells.

Defendant's assertion is also inconsistent with the approach used for installing monitoring wells in other areas of the Gelman Site under the Consent Judgment. In the Eastern Area, Defendant agreed to the installation of several monitoring wells (not for investigation purposes) along and near the northern boundary of the now expanded Prohibition Zone to ensure that the Parties could detect any migration beyond the Prohibition Zone to the north. While the monitoring wells in the Prohibition Zone were not called "compliance monitoring wells," they serve a similar purpose – to monitor the location of the groundwater contamination so as to warn the parties in the event that conditions indicate that migration could threaten the remedial objective in the area. There is no technical basis for treating the compliance monitoring wells in the Western Area differently.

MDEQ has requested the Defendant continue to gamma log the Rotosonic borings. (See, MDEQ's October 11, 2011 letter (AR 000097)). Contrary to Defendant's assertion, the use of Rotosonic does not make gamma logging completely unnecessary. The identification/characterization of straitigraphic units in the future will be more consistent if the gamma logging of borings continues. Further this will allow for the comparison of gamma signatures over time. Gamma logs also provide confirmation that soil cores were described/recorded in proper

sequence with the vertical profile results by the field geologist, thereby improving their reliability. Additional detail is provided in the Affidavit of James Coger paragraphs 31-32.

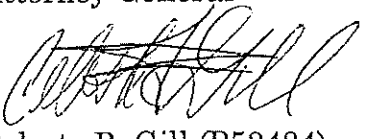
CONCLUSION AND RELIEF REQUESTED

Defendant has failed to establish any of the grounds required under Section XVI.D for overturning the MDEQ's October 10, 2011 resolution of the pending dispute. For all of the reasons provided in the Brief, this Court should uphold the MDEQ's proposed resolution.

Given Defendant's commitment to dispute this further if the Court agrees that additional compliance monitoring wells are allowed under the Consent Judgment. Plaintiffs see no need to delay resolution of this matter or otherwise kick the can down the road. This is especially important since extraction rates have already been reduced in the Western Area and it is important to be able to track the effect of any current or future reduction in extraction on groundwater flow patterns to determine if the changes could result in prohibited expansion.

Respectfully submitted,

Bill Schuette
Attorney General



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Dated: November 7, 2011

LF:/Gelman/1989001467/Brief in Response 11-7-11

Exhibit 1

AFFIDAVIT OF SYBIL KOLON

I, Sybil Kolon, being first duly sworn, attest as follows:

1. The facts stated in this Affidavit are based on my personal knowledge and I am competent to testify to them.

2. I am an Environmental Quality Analyst for the Remediation Division (RD) of the Michigan Department of Environmental Quality (MDEQ), in Jackson, Michigan. I work in the Jackson District Office. I have been employed by the MDEQ and its predecessor, the Michigan Department of Natural Resources, in this position since October 1992. I received a Bachelor's of Science degree in Forestry from Michigan State University in 1974.

3. For the past 19 years, my primary responsibilities have included coordination of enforcement actions at numerous sites of environmental contamination pursuant to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

4. I have been the RD's Project Manager at the Gelman Sciences, Inc. site, 600 South Wagner Road, Ann Arbor, Michigan, since 1995. As Project Manager, I have coordinated the MDEQ's role in the implementation of the response activities performed by Pall Life Sciences, Inc. (PLS) and their predecessors. These response activities have included remedial investigations to identify the nature and extent of groundwater contaminated with 1,4-dioxane and remedial actions to clean up the contamination as

required by Part 201 of the NREPA, the Consent Judgment, amendments to the Consent Judgment, and court orders related to the site.

5. As part of my duties as Project Manager I review all submittals related to the required response activities, coordinate technical, policy and legal reviews and draft and finalize responses to those submittals.

6. I have reviewed the PLS Western Area Groundwater Monitoring Plan, dated April 18, 2011 (WAGMP). I have also reviewed related materials from MDEQ files, including my notes from meetings with PLS regarding the Western Area of the Gelman site. The MDEQ's response to this submittal, dated May 25, 2011, conditionally approved the WAGMP. The affidavit by Mr. James Coger, dated November 7, 2011, provides additional information regarding the MDEQ's response to the WAGMP.

7. PLS's attorney filed a Petition for Dispute Resolution regarding specific aspects of the MDEQ's conditional approval of the WAGMP. This affidavit responds to several points raised in the Petition and the attached affidavits of Farsad Fotouhi and James Brode.

8. Contrary to statements in the affidavits of Mr. Fotouhi and Mr. Brode, the MDEQ did not tacitly agree to their position that PLS would not be required to install any additional monitor wells for compliance monitoring, and in fact, did specify during negotiations regarding the WAGMP that the location of compliance monitoring wells

would be determined after the MDEQ agreed that the extent of groundwater contamination had been adequately defined.

9. During negotiation of the amendments to the Consent Judgment relating to the Western Area, including, but not limited to a meeting on February 25, 2010, MDEQ staff informed PLS that the proposed monitoring wells discussed with PLS to further delineate the nature and extent of the plume were not necessarily appropriate for use as compliance monitoring wells, due to the possibility that the distance between the interpolated horizontal extent of the groundwater contamination and those proposed monitoring wells would be too great to monitor the no expansion objective. Although PLS did not necessarily accept the MDEQ's position, PLS agreed that the determination of compliance monitoring wells could be made after the proposed investigation was completed.

10. The Modified Cleanup Program Term Sheet, submitted to the Court on November 15, 2010 to document the Parties' agreement, contains language, as discussed in the following two paragraphs, that documents the MDEQ position that the proposed monitoring wells to define the nature and extent of the groundwater contamination were not necessarily the same as compliance monitoring wells.

11. The first paragraph of Section B.5. of the Term Sheet contains the following sentence: "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." This language relates to the possible need for additional monitoring wells to define the nature and extent of groundwater contamination. The Parties agreed to this investigation, which was eventually incorporated into Section B.2.c. of the Third Amendment to Consent Judgment, to accurately define the area beyond which the plume could not expand.

12. The last sentence of the first paragraph of section B.5. of the Term Sheet states: "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." The footnote at the end of that sentence included the following statement: "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." This language relates to the possible need for additional monitoring wells to monitor compliance with the non-expansion objective of the amended Consent Judgment after the nature and extent of the groundwater contamination was adequately defined.

13. The previously approved monitoring plans for the area west of Wagner Road, now known as the Western Area (with the exception of the Little Lake Area), were based on the remedial objective that required PLS to continue active remediation until all groundwater contamination was removed. This active remediation necessarily

required that the area of groundwater contamination would have to decrease in size until no groundwater contamination remained. Obviously, expansion was not allowed under the previous remedial objective.

14. PLS has been removing contaminated groundwater from this area continuously since 1997, treating it, and discharging it to local surface water, through a permit administered by the Water Resources Division of the MDEQ. The volume of groundwater removed from the aquifers during this time has resulted in a very significant drop of the water table, in some cases in excess of ten feet lower than was found before this extraction began. This removal of contaminated groundwater has caused the groundwater to flow toward the extraction wells, and is documented by the static water level data collected as part of the previously approved monitoring plan, and is also documented by the decreasing concentrations of 1,4-dioxane observed in the monitoring and extraction wells.

15. *The revised remedial objective allows groundwater contamination* to remain in place, with the requirement that the current extent of the groundwater contamination cannot expand. The amended Consent Judgment requires that PLS demonstrate, before extraction is terminated, that the groundwater contamination will not expand after purging is terminated. PLS would then be required to monitor groundwater for a minimum of ten years to verify there is no expansion of groundwater contamination. The MDEQ's conditionally approved WAGMP includes five additional compliance monitoring well nests which are necessary to detect changes in

groundwater flow and in 1,4-dioxane concentrations as extraction is reduced and eventually terminated. Without compliance monitoring wells at these locations, any prohibited expansion of the groundwater contamination into these areas could not be detected.

16. The MDEQ did allow for an alternative to the MDEQ's conditionally approved WAGMP, that would have initially required the installation of fewer CMWs, provided that other existing monitoring wells could be identified to serve as triggers to identify potential expansion of the groundwater contamination. The Parties did attempt to identify such an alternative, but were unable to reach agreement on any alternative. In any case, the MDEQ was clear that a robust compliance monitoring network would be necessary to monitor the revised remedial objective for the Western Area.

17. Mr. James Brode's affidavit, Appendix 5 of the Petition for Dispute Resolution, objects to the use of MW-56s as a compliance monitoring 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." Mr. Brode also objects to the use of the MW-65 nest as compliance wells because "it would be very difficult to use data from this well to distinguish natural contaminant level fluctuation from prohibited expansion of the plume." Mr. Coger has addressed the appropriateness of MW-56s and the MW-65 nest as compliance monitoring wells. I and other MDEQ staff involved in the Gelman site do not understand or agree with Mr. Brode's attempt to suggest that some expansion is

natural and some expansion is prohibited. Any expansion beyond the boundary formed by the compliance monitoring well network will be considered a violation of the non-expansion objective.

18. PLS has proposed delaying any decision about the installation of additional monitoring wells until July 2012. It is my opinion that there should be no further delay in installation of the additional monitoring wells because extraction has already been reduced. The installation of the MDEQ's CMWs should be done as soon as possible to monitor for changes as they occur, and to allow for adjustments to be made before prohibited expansion occurs.

19. The MDEQ's May 25, 2011 letter that conditionally approved the WAGMP, did not specifically address drilling techniques, including the requirement that all monitoring wells be installed using rotosonic drilling, vertical profiling of the aquifers to bedrock, and that they be gamma logged. This was an oversight that came to light after the MDEQ learned that PLS had not been gamma logging the borings after converting to the use of rotosonic drilling. Prior to beginning to use the rotosonic drilling technique early in 2011, PLS had been collecting vertical profile samples of all water-bearing units, to bedrock, and gamma logging most of those borings. This requirement was added to the MDEQ's October 10, 2011 resolution of dispute letter.

20. PLS has evaluated the effect of the reduced extraction rates implemented in May of 2011, and does not believe there has been a significant change in groundwater

flow directions to date. PLS has not provided an evaluation of the effect of termination of purging, or how their proposed CMW network would monitor termination of purging.

This affiant says nothing further.

Sybil Kolon

Subscribed and sworn to before me, November 7, 2011.

Notary

RACHEL MATTHEWS
Notary Public, State of Michigan
County of Ingham
My Commission Expires 09-11-2017
Acting in the County of Jackson

Exhibit Z

AFFIDAVIT OF James M. Coger

I, James M. Coger, being first duly sworn, attest as follows:

1. The facts stated in this Affidavit are based on my personal knowledge and I am competent to testify to them.

2. I am a Senior Geologist for the Remediation Division (RD) of the Michigan Department of Environmental Quality (MDEQ), in Jackson, Michigan. I work in the Jackson District Office. I have been employed by the MDEQ and its predecessor, the Michigan Department of Natural Resources since April 1991. I received a Bachelor's of Science degree in Geology from Eastern Michigan University in 1986.

3. My primary responsibilities as a Senior Geologist for RD involve review of complex hydrogeological reports required by Part 201, Environmental Remediation, and Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) for Jackson District staff.

4. I have been the RD's District Geologist for Gelman Sciences, Inc./ Pall Life Sciences Inc. site (Gelman site), 600 South Wagner Road, Ann Arbor, Michigan, for approximately six years. As the District Geologist I review and comment on all PLS submittals that require geological interpretation, including the Pall Life Sciences, Inc (PLS) Comprehensive Remediation Plan dated May 4,

2009, in which PLS first proposed revising the remedial objective for the area west of Wagner Road.

5 I have reviewed the PLS Western Area Groundwater monitoring Plan (WAGMP), dated April 18, 2011. I provided comments to MDEQ staff about my review that were incorporated into the MDEQ's response to the WAGMP in a letter dated May 25, 2011, which conditionally approved the WAGMP. I concur with the recommendations in that letter, including the need for five additional compliance monitoring well nests, as depicted in Figure 1 of that letter.

6. I also concur with the requirement that all of these additional monitoring well nests be installed using rotosonic drilling, with vertical profiling of 1,4-dioxane concentrations of all water bearing units at ten-foot intervals, to the surface of the bedrock, and that each boring location be gamma logged to confirm the lithology of the borings.

7. The geology of the Western Area of the Gelman site consists of glacial drift deposits and bedrock. Approximately 130 - 250 feet of glacial deposits overlie the Coldwater Shale. The glacial drift consists of sand and gravel outwash, fine sands and clays, and hardpan glacial till deposits. Multiple glacial advance and retreat events in this area of Washtenaw County have resulted in a depositional environment that is extremely complex.

8. *Assumptions regarding groundwater flow* (vertically and horizontally), and contaminant migration, can not necessarily be extrapolated from one monitoring well location to a distant well location, due to the extreme heterogeneity of glacial drift aquifer systems. As the historical file information for the Gelman site reflects, assumptions regarding confining unit continuity, that were not confirmed with actual borings to the bedrock, during the 1986 – 2000 site investigation activities, significantly delayed discovery and remediation of deep Unit E contamination.

9. I acknowledge that the recent investigation activities have generally defined the extent of groundwater contamination in the Western Area based on current hydrogeological conditions. Definition of the current groundwater plume footprint however, does not mitigate the need for additional compliance monitoring wells in areas to the north, west and south, where plume expansion may occur as purging is reduced or terminated, based on historical groundwater flow directions, as discussed below.

10. The March 1988, Report of Phase III Hydrogeological Investigation, prepared by Keck Consulting Services, Inc. (Keck Report), incorporates October 1987, groundwater flow maps for the shallow (C3) and intermediate (D2) aquifers, in Figures 5 and 6, respectively. I considered these figures as part of my review of the WAGMP, and they are included in the administrative record.

These figures depict a groundwater flow direction to the north and west for the area west of Wagner Road.

11. Figures 5 and 6 were based on water table elevations measured in 1987, prior to large scale "Core Area" groundwater extraction activities that were initiated in the mid 1990"s. I expect the groundwater flow direction to revert back to the north and west when purging activities are reduced or suspended.

12. The MDEQ's May 25, 2011 letter, addressing PLS's proposed compliance monitoring well (CMW) network, identifies two major concerns with the monitoring plan:

a. The distance between the boundary of the current plume, and PLS's proposed compliance monitoring well locations is too large in four general areas, as depicted in Figure 2 of the MDEQ's letter (points A, F, G and K)

b. The distance between PLS's proposed CMW locations around the north, west, and south perimeter of the plume footprint is too large to monitor plume expansion in these directions, as depicted in Figure 2 of the MDEQ's letter (between points A to B, B to C and I to J).

13. I have identified the MDEQ CMW location #1 west of Wagner Rd./Ferry Street as a preferred CMW monitoring location. MDEQ's CMW #1 and subsequent MDEQ CMW location references are depicted in Figure 1 of the MDEQ's May 25, 2011 letter. The September 2011, groundwater sampling data from monitoring well MW-118, located on the east side of Wagner Rd. at Ferry Street, revealed that 1,4-dioxane was detected at 93 parts per billion (ppb). A nested CMW location on the west side of Wager Rd should encounter detectable concentrations of 1,4-dioxane, where I expect the concentration levels to be below 85 ppb. Data from MW-118 is included in the administrative record.

14. PLS's Potentiometric Surface Contour map for the Unit E, submitted with PLS's Quarterly Report for the first quarter of 2011, depicts a groundwater flow direction from west to east in the area of MDEQ CMW #1. I considered this figure as part of my review of the WAGMP, and it is included in the administrative record. The MDEQ's CMW location #1 is a preferred location because I expect it to be outside of the plume, and upgradient from known source areas. Contaminant concentrations should continue to decline as long as the groundwater flow direction remains west to east.

15. A change in water table elevations, and/or increasing trends in 1,4-dioxane concentrations levels at MDEQ CMW #1 would indicate that the reduction in purge rates has changed groundwater flow dynamics.

16. PLS's proposed CMW location A, which is the MW-133 nest, is approximately 1100 feet north of the boundary of the defined plume. PLS's

CMW A and subsequent PLS CMW location references are depicted in Figure 2 of the MDEQ's May 25, 2011 letter. Utilizing the MW-133 nest as a CMW, where concentrations of 1,4-dioxane have been detected at up to 3 ppb since they were installed in March 2011, would allow the plume to expand into an area where there is no infrastructure to return the plume to its original extent. Plume expansion would not be detected until long after the existing extraction wells could pull it back. Data from the MW-133 nest is included in the administrative record.

17. I recommend the existing MW-134 nest as MDEQ CMW location #2. The monitoring data from the shallow, intermediate, and deep nested wells, collected subsequent to installation in March 2011 has detected low concentrations of 1,4-Dioxane, up to 9 ppb. Data from the MW-134 nest is included in the administrative record.

18. As explained above, PLS depicts a groundwater flow direction from west to east at this location. MDEQ CMW location #2 is an optimal location as it located outside of the plume, but upgradient from known source areas. Contaminant concentrations should continue to decline as long as the west to east flow remains consistent. An increasing contaminant trend at this location would reflect that the reduction in purge rates has resulted in a change in flow direction, and plume expansion to the north.

19. I have identified the MDEQ CMW location #3 as a preferred CMW monitoring location due to the large distance between MDEQ CMW locations #2 and #4. The distance between these points is approximately 1,500 feet. 1,4-dioxane was encountered in the 2000 to 3000 ppb range when purge well TW-11 was started up in May 2002. TW-11 is located at the south end of Nancy Drive, about 700 feet south of location #3. The historical contaminant concentrations levels at the TW-11 location, reflects that contamination has migrated to the north, from the Core Source Area. Data for TW-11 is included in the administrative record.

20. Three residential water supply wells on Elizabeth Street (3537, 3563 and 3573), located approximately 2500 feet north of TW-11 have also historically and currently encountered detectable levels 1,4-Dioxane. Data for these wells are included the administrative record. The detection of low concentrations of 1,4-Dioxane on Elizabeth Street beginning in 1995, again reflects that low concentrations of 1,4-dioxane had previously migrated to the north, as suggested by Figure 6 of the Keck Report. Municipal water is not available for that area, which is north of Interstate 94. The CMW location #3 is critical for monitoring contaminant migration before it migrates north, beyond the hydraulic control capabilities of purge well TW-11.

21. While a compliance monitoring well is needed in this area, we have expressed to PLS that the MDEQ location CMW #3 can be moved about 200 - 300 feet to the north, subject to MDEQ approval.

22. I have identified the MDEQ CMW location #5 as a preferred CMW monitoring location. MDEQ CMW location #5 is required due to the distance of over 1000 feet between MDEQ CMWs #4 and #6. Plume expansion between these CMWs may not be detected without a monitoring well nest at MDEQ CMW #5. MDEQ CMW #5 is needed to monitor groundwater flow direction, and 1,4-dioxane concentration levels as purging is reduced or terminated. It's my opinion that groundwater flow direction will revert back to the west and north, as depicted in Figures 5 and 6 of the Keck Report, when purging is terminated, increasing the possibility for expansion of the plume.

23. I recommend the existing MW-56 nest as MDEQ CMW location #9. The MDEQ CMW location #9 (MW-56s&d) is an optimal location for monitoring plume expansion, and would replace PLS CMW location F (MW-63s&d), and PLS CMW location G (MW-62s&d). The MW-63 nest is located approximately 650 feet southwest of MW-56s&d, and the MW-62 nest is approximately 600 feet south of MW-56. The MW-56s&d monitoring well nest was installed in August 2000. Approximately 12 years of groundwater monitoring data from MW-56s has demonstrated that 1,4-dioxane concentrations have generally declined over the 12 year period, and have been below 85 ppb since January 2010. Data from

MW-56s is included in the administrative record. As stated in James Brode's affidavit (paragraph 22), the water table is approximately 3 feet higher in monitoring well MW-63. The southwest to northeast groundwater flow direction (MW-63 to MW-56) should therefore result in a continual decline in 1,4-dioxane concentration levels at MW-56s. If an increase in contaminant levels are observed at MW-56s, when purge rates are reduced, it would indicate the flow directions have changed and plume expansion is occurring.

24. I have identified the MDEQ CMW location #12 as a preferred CMW monitoring location due to the anomalies encountered with 1,4-dioxane distribution in the Saginaw Forest area during the most recent phase of investigation. 1,4-Dioxane was detected at 910 ppb during vertical profiling activities at boring location PLS 11-04 and at 461 ppb in boring PLS 10-02 (monitoring well MW-125). The contaminant levels at PLS11-04 and MW-125 were significantly higher than levels encountered in an existing well (MW-78) that is screened at a similar elevation and located approximately 20 - 40 feet east of MW-125 and PLS 11-04. Data for MW-125 is included in the administrative record.

25. 1,4-dioxane has also been detected in the Saginaw Forest Cabin wells #1 and #2, and at boring PLS 10-05 during vertical profiling activities for installation of MW-127d. The monitoring results from the Saginaw Forest Cabin wells, profiling results from PLS11-04, MW-125, and the detection of 1 ppb of

1,4-dioxane at MW-127d in a split sample collected by the MDEQ, indicates that significant contaminant mass has migrated to the southwest, from the PLS property to the Saginaw Forest area. Due to limited accessible drilling locations in the Saginaw Forest, I have determined that a nested CMW #12, in the southwest corner of the PLS property, may be an acceptable location for compliance monitoring, rather than requiring further investigation to define the extent, closer to the known plume boundary. This location should be capable of monitoring changes in flow direction and contamination migration to the southwest, as purge rates are reduced.

26. The deep, Unit E water table elevation data, in the Fleis & Vandenbrink, March 17, 2011 Unit E Potentiometric Surface Map, indicates that a potential east to west groundwater flow gradient exists across the southern perimeter of the study area. The water table drops approximately 2.5 feet between PLS CMW K, existing MW-68, and the Saginaw Forest Cabin Wells #1, and #2, and MW-127d to the west.

27. There are no deep, Unit E monitoring wells, located between Third Sister Lake, and Wagner Road. The MDEQ CMW location #12 is required to monitor groundwater flow and contaminant migration from the Southwest Area to the Saginaw Forest Area, in the deep Unit E aquifer, as well as the shallower aquifers.

28. I have identified the MDEQ CMW location #14 as a preferred CMW monitoring location due to the distance of approximately 900 feet between CMW locations #13 and #15. A CMW is required at this location to monitor potential expansion to the southeast. The Prohibition Zone boundary is located about 500 feet southeast of the CMW location #14. If the plume migrates to the southeast, it could impact an area with residential wells, (Lakeview Ave.) outside of the Prohibition Zone, east of Wagner Rd.

29. I recommend the existing MW-65 nest as MDEQ CMW location #15. The MW-65 nest was installed in July 2001 and the three screened intervals (shallow, intermediate and deep) have all demonstrated a steady decline in 1,4-dioxane concentration levels since monitoring began in October 2001. 1,4-dioxane concentration levels have been below 85 ppb in the shallow, intermediate and deep wells, since at least April 2005. An upward trend or observed concentrations of 1,4-dioxane, above 85 ppb, would indicate that the change in purge rates has resulted in a significant change in plume migration, making the MW-65 nest an optimal location for compliance monitoring. Data from the MW-65 nest is included in the administrative record.

30. PLS's proposed CMW location K is the existing MW-68. MW-68 is located approximately 900 feet south of the MW-65 nest. MW-68 has only one screened interval that monitors the deep Unit E aquifer. Shallow and intermediate aquifers were not encountered at this location. This well is located

proximal to Wagner and Liberty Roads. Possible plume expansion to the southeast could result in contaminant migration into an area east of Wagner Road, and south the prohibition zone. In my opinion, PLS's proposed use of MW-68 as a CMW is not acceptable.

31. The DEQ has requested that Gelman continue to Gamma log the Rotosonic borings. Gamma logging provides a standardized method for correlating the field Geologist soil descriptions, with a gamma signatures. The Gamma logging procedure has enhanced sensitivity, and method uniformity that provides a consistent methodology for identifying specific stratigraphic units in the study area.

32. The gamma logs also provide confirmation that the soil cores were described/recorded in the proper sequence with the vertical profiling results by the field geologist. During drilling activities the drilling crew may have two to three 10 foot soil cores, waiting for the field geologist analysis. Communication issues between the "driller" and the geologist may result in the assignment of an incorrect depth interval to a specific 10 foot soil core. The gamma log signature provides a standardized method for correlating vertical profiling results with the borehole lithology.

33. The identification/characterization of stratigraphic units for the compliance wells will be more consistent if Gelman continues to gamma log the

borings. The new gamma signature can be compared with historical gamma signatures ranges that have been already assigned to specific confining and/or aquifer units (D2-Unit E) designation.

34. It is imperative that the compliance monitoring wells are vertically profiled through out the entire saturated interval, that is subject to monitoring. The vertical profiling data is needed to determine where the screened intervals for the compliance wells should be installed. The vertical profiling results for the compliance well borings may detect low concentrations of 1,4-dioxane, and those results could be critical to determine the appropriate depth for well screens that are intended for monitoring future expansion. It is unclear from Brode's affidavit what procedure Gelman would use to determine screened interval elevations if they are not going to rely on vertical profiling results.

This affiant says nothing further.

James M. Coger

Subscribed and sworn to before me, November 7, 2011.

Notary

RACHEL MATTHEWS
Notary Public, State of Michigan
County of Ingham
My Commission Expires 09-11-2017
Acting In the County of Jackson