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., d/b/a PALL LIFE SCIENCES, a Michigan Corporation,

Defendant.
_____/

Case No. 88-34734-CE

Hon. Timothy P. Connors

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CITY OF ANN ARBOR'S MOTION TO INTERVENE

The City of Ann Arbor ("City") moves to intervene in this case as a plaintiff as of right under MCR 2.209 and MCL 324.20137(8). The Attorney General does not object to the City's intervention. Defendant does not concur.

In further support of its motion, the City relies on the attached brief.

Respectfully Submitted,

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BRIEF IN SUPPORT OF CITY OF ANN ARBOR'S MOTION TO INTERVENE

INTRODUCTION

This case involves the well-publicized pollution of the groundwater of the City of Ann Arbor ("City") by the Defendant, and Defendant's subsequent failure to cleanup or contain the toxic groundwater plumes that have migrated to and spread under the City. Thirty years after

defendant's release of the hazardous chemical 1,4 dioxane was discovered, it continues to spread through Ann Arbor and surrounding communities, threatening the environment and public health.

Prior litigation by both the State of Michigan and the City of Ann Arbor has not resulted in the remediation of the pollution. MCL 324.20114 requires (among other things) that one who is responsible for a "Release" of hazardous substances must: (i) "...determine the nature and extent of the Release at the facility"; (ii) "Immediately stop or prevent an ongoing release at the source"; and (iii) "diligently pursue response activities necessary to achieve the cleanup criteria established under [Part 201]..."

Despite the requirements of the current consent judgment in this case and decades of cleanup activity, those statutory mandates have not been met. Defendant's property remains a highly contaminated and ongoing source of contamination. As MDEQ admitted just last month, the extent of 1,4 dioxane groundwater contamination in and around Ann Arbor is still "unknown." And Defendant's cleanup efforts have failed to contain or control the 1,4 dioxane plumes. Monitoring wells have detected "New Contamination," and "unforeseen changes in the migration pathway of a known plume," for which additional action was reserved by the City in its prior settlement with the Defendant.

The State and the Defendant now plan to again amend the consent judgment to address the recent emergency rule establishing a residential drinking water cleanup criterion for 1,4 dioxane in groundwater of 7.2 parts per billion, effective October 27, 2016. Stakeholders such as the City of Ann Arbor need to be at the table to participate in those negotiations. Therefore, as outlined more fully below, the City's request to intervene in this case should be granted.

FACTS

A. CURRENT CONDITIONS – MDEQ DECLARES AN EMERGENCY AS 1,4 DIOXANE CONTINUES TO SPREAD THROUGH ANN ARBOR – EXTENT OF CONTAMINATION REMAINS "UNKNOWN" 30 YEARS AFTER DISCOVERY

Between 1966 and 1986, Defendant used a carcinogenic chemical solvent called 1,4 dioxane in its manufacturing process, and dumped or sprayed wastewater containing close to one million pounds this hazardous substance at its facility, located at 600 Wagner Road in Scio Township (the "Source Property"). Numerous plumes of 1,4 dioxane have spread throughout Ann Arbor and surrounding communities, and the plumes now stretch north toward M-14, east toward downtown Ann Arbor, and west along Jackson Avenue (a plume map is attached as Exhibit A).

The discovery and subsequent failed cleanup of Defendant's pollution spans 30 years. But events of the last 30-days put into sharp relief the need both to change the laissez-faire approach to remediation that has dominated this case, and to include critical stakeholders like the City of Ann Arbor as parties.

Last month, the Michigan Department of Environmental Quality ("MDEQ") released the results of a shallow groundwater investigation. (Ex. B). The investigation discovered 1,4 dioxane in two test wells located in a residential area on Seventh Street between Huron and Liberty. *Id.* The static groundwater level in this area of the city is only 5 to 6 feet below ground level, meaning that homeowners, construction workers, and others now risk direct 1,4 dioxane exposure.[1] (Ex. B). Shortly thereafter, MDEQ issued emergency rules, citing the shallow

[1] Fortunately, the current test levels of 1,4 dioxane discovered in the test is below the current cleanup standard. However, the location of the well is near the leading edge of a concentrated 1,4 dioxane plume, meaning that further expansion of the plume could lead to significantly higher levels of exposure in the future.

groundwater investigation results, and the resulting threat to the health, safety and welfare of citizens and the environment. (Ex. C).

In addition to discovery of 1,4 dioxane in shallow groundwater, 1,4 dioxane plumes continue to spread, despite Defendant's "containment" obligation. For example, in the area between Wagner and Maple roads near Dexter Rd., the plume has visibly expanded northward in just three years, as shown by these maps which detail the area between I-94 and M-14, between Wagner and Maple roads:

2014 2015 2016

Indeed, dozens of monitoring wells have recently recorded their highest ever levels of 1,4 dioxane, as the plumes continue to spread. And monitoring wells that for many years tested clean of 1,4 dioxane are now recording measurable concentrations of it. Efforts to "contain" the plumes have failed.

As part of its recent emergency order, MDEQ imposed stricter cleanup criteria. (Ex. C). Between 2002 and October 27, 2016, the 1,4 dioxane cleanup criterion for drinking water was 85 parts per billion (ppb). MDEQ now has concluded that standard "outdated and not protective of public health," and changed the criterion, on an emergency basis, to 7.2 ppb in drinking water, with a residential vapor intrusion screening criterion for 1,4 dioxane of 29 ppb. *Id.* These new

cleanup and screening criteria will require additional, more stringent enforcement actions, potentially including the amendment of the current consent judgment between the State of Michigan and Gelman. The Attorney General and Gelman are currently negotiating proposed amendments.

In its announcement of the new, emergency rules, MDEQ also made the startling admission that, 30-years after Defendant's releases were first discovered, "the extent of 1,4 dioxane groundwater contamination … greater than 7.2 parts per billion *is unknown.*" (Ex. C). (emphasis added). Nevertheless, MDEQ found that contamination between 7.2 and 85 ppb "is expected to be present beneath many square miles of the city of Ann Arbor occupied by residential dwellings." *Id.*

The consent judgment, as currently amended, has not sufficiently protected the public or the City. Contamination has been allowed to spread for decades and, despite numerous judgments and promises from Gelman, has not even been controlled, contained, or delineated, let alone cleaned up.

B. HISTORICAL BACKGROUND - DEFENDANT'S ILLEGAL RELEASES OF 1,4 DIOXANE.

Defendant's use of 1,4 dioxane generated significant waste. Defendant had difficulty handling the volume of wastewater that its operations produced. Although defendant obtained (without disclosing the toxic nature of what it was dumping) a permit allowing it to dispose of up to 9,000 gallons of wastewater per day, by 1967, discharges averaged 20,000 gallons per day; by 1969, 40,000 gallons. Defendant built retention lagoons on its property to store its wastewater. The ponds frequently overflowed and unlawfully discharged into an adjoining swampy area. On at least one occasion, Defendant installed a corrugated metal pipe from a retention lagoon that allowed direct discharges to the swampy area. On another, it simply pumped wastewater out of a

pond through a hose to its fence line. It dredged one of the ponds to the gravel layer to allow for increased seepage into the ground. Later, it resorted to spraying wastewater over fields at the Source Property.

Defendant also maintained an unpermitted "burn pit," a 225 square foot pit where waste solvents and plastics were dumped. Defendant had been cited as early as August, 1968, for burning off solvents in a large open fire pit. But the burning of solvents continued. Gelman Vice President James Marshall testified that buckets of waste 1,4 dioxane were disposed of in the burn pit regularly and routinely until 1979. Marshall estimated that 50,000 pounds or more of 1,4 dioxane were disposed of at the pit. A Gelman employee tipped off state investigators to the practice in 1979.

Gelman knew that its wastewater contained toxic substances, but misled state regulators about what it was dumping, spraying and burning. 1,4 dioxane is a Group B2 chemical ("probable human carcinogen") and a "Hazardous Substance." 40 CFR 302.4. It attacks the liver and kidneys, and is proven to cause liver, gall bladder, and nasal cavity cancers in animals. *See, e.g., National Toxicity Program Second Annual Report on Carcinogens (December, 1981).*

Scientific articles chronicling the toxicity of 1,4 dioxane date to the 1930s. *See, e.g.,* Barber, *Hemorrhagic nephritis and necrosis of the liver from dioxane poisoning.* Guy's Hop. Rep. 84:267-280 (1934). By early 1965, articles in major scientific journals had concluded that 1,4 dioxane was a probable human carcinogen. *See, e.g.,* Argus, *Studies on the carcinogenic activity of protein denaturing agents: hepato-carcinogenicity of dioxane.* J. Natl. Cancer Inst. 35:949-958 (1965). Thus, Defendant knew or should have known that 1,4 dioxane was hazardous and persistent when it began using and disposing of 1,4 dioxane.

Yet, in 1970, Defendant represented to state regulators that its "waste contains water-soluble organic solvents which are not toxic or noxious per se." This contradicted not only the science, but a contemporaneous internal Gelman memo which asked: "Pond II Seepage – **Can we safely continue to drain Pond II** at a rate of 4000 – 5000 gallons per day? **[The] answer was a definite 'NO'** since eventually this waste will reach somebody's well." A follow up memo stressed that the discharges were a "serious situation" and recognized that some of the chemicals in Defendant's wastewater did not degrade. "It will be very desirable to have made a change to answer a real trouble situation in case of pond overflow or ground water reaching somebody's well." Yet Defendant did nothing to stop the seepage.

In 1978, 1,4 dioxane was listed on the "Registry of Toxic Effects of Chemical Substances." Yet, in its annual wastewater report filed in 1979, Defendant again represented to the state that it discharged only "non-toxic" organic solvents. It misled regulators again during the investigation of the burn pit. "The solvents were not disclosed, except generally … although this was asked…. It was explained that … I know of no evidence that the practice has ever hurt or damaged anyone."

In total, Defendant released approximately 850,000 pounds of 1,4- dioxane between 1966 and 1986. The 1,4 dioxane migrated into groundwater and has spread in several plumes through groundwater aquifers in the City of Ann Arbor and surrounding communities for 50 years.

C. CONSENT JUDGMENTS FAIL TO CLEANUP OR CONTAIN THE PLUMES.

The State of Michigan, through the Michigan Attorney General, first brought this action in 1988 to compel Defendant to remediate releases of hazardous substances from the Source Property. In 1992, the State of Michigan and Defendant entered into a consent judgment, the objective of which was to remove and treat all of the contaminated groundwater. These efforts failed.

Rather than demand obedience to the 1992 consent order, MDEQ ultimately acquiesced to Defendant's request for less stringent requirements, and in 2005 a second amended consent judgment and other court orders were entered changing the nature of the remediation from complete removal and treatment of the polluted groundwater to a containment strategy. Under the new consent judgment, Defendant was charged with stopping the spread of the 1,4 dioxane plumes, except in a "Prohibition Zone"[2] that traveled under the City of Ann Arbor to the Huron River. (Ex. D). The Prohibition Zone predicted the then-foreseeable migration pathway of dioxane plumes from the Source Property to the Huron River.

Residents were prohibited from drilling wells within the Prohibition Zone, and existing wells were required to be abandoned. Residents were required to obtain water service from the municipal water system of the City of Ann Arbor, and the City was required to connect those residents and supply water to them.

At about the same time, Defendant and the City of Ann Arbor entered into an agreement to settle litigation the City had brought to require Defendant to remediate the pollution. (Ex. E). In the settlement agreement, the City reserved the right to take future action against Defendant under a number of circumstances, including, among other things, for claims related to new plumes of contamination, called "New Contamination"; claims arising from an unforeseen change in the migration pathway of a known plume that results in the presence of 1,4 dioxane at

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[2] Despite its name, the "Prohibition Zone" is not an area where 1,4 dioxane contamination is prohibited. Rather, the Prohibition Zone consists of an area where 1,4 dioxane exists, or is expected to migrate to, in excess of the prior 85 ppb cleanup criteria. What is prohibited within the zone are drinking water and other wells.

levels exceeding the State cleanup criteria (as they might be amended); and claims for certain other response activity costs. *Id.* [3]

In 2011, yet another amended consent judgment was entered. An "Expanded Prohibition Zone" was created to encompass additional property in the plumes' paths. (Ex. F). Defendant promised to and was ordered to stop the migration of the 1,4- dioxane outside of the Prohibition Zone and the Expanded Prohibition Zone. Despite these agreements and court judgments, Defendant decreased its extraction and treatment volumes and reduced its monitoring and testing for 1,4 dioxane in the community.

Despite its promises and the mandates of the consent judgment, as amended, Defendant did not stop the spread of the of the 1,4 dioxane plumes, which continue to migrate, including outside of the Prohibition Zone and Expanded Prohibition Zone. For example, monitoring well MW121d, which lies on the northern boundary of a plume on Dexter Road east of Wagner Road, was established in 2008. At that time, tests showed no measurable levels of 1,4-dioxane. That has changed. 1,4 dioxane appeared in well samples taken in 2013. Moreover, just 750 feet to the southeast, a monitoring well at 465 DuPont saw dioxane levels as high as 1700 ppb in 2015 tests.

In approximately 30 years of remediation efforts, Defendant has removed only an estimated 110,000 pounds, or 13%, of the 850,000 pounds of 1,4 dioxane that it sprayed, dumped, and pumped into the environment. Defendant has not complied with mandates in the

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[3] Such circumstances have occurred. For example, test results in 2014 from monitoring well MW54d, which is sited outside of the Prohibition Zone, showed levels of 1,4-dioxane exceeding both the former generic criterion for groundwater based on ingestion (85 ppb) and the newly adopted generic criterion for groundwater based on ingestion (7.2 ppb). In addition, those values exceed the state's newly adopted residential vapor screening criterion of 29 ppb in groundwater.

consent judgments requiring it to stop the migration of the toxic plumes outside of the prohibition zones. By any account, its cleanup must be deemed an abject failure.

LEGAL BASIS FOR INTERVENTION

Under MCR 2.209, a person has the right to intervene in an action: (1) "when a Michigan statute or court rule confers an unconditional right to intervene;" (2) by stipulation of the parties; or (3) "when the applicant claims an interest relating to the property … which is the subject of the action and is so situated that the disposition of the action may as a practical matter impair or impede the applicant's ability to protect that interest."

MCL 324.20137(8) states that, where the Attorney General has, on behalf of the state, commenced a civil action seeking relief under Part 201, "any person may intervene as a matter of right if that person claims an interest relating to the subject matter of the action and is situated so that the disposition of the action may, as a practical matter, impair or impede the person's ability to protect that interest, unless the court finds the person's interest is adequately represented by an existing party."

The City of Ann Arbor claims an interest relating to the subject matter of this action. A probable carcinogen, 1,4-dioxane, has been allowed to migrate under the City of Ann Arbor for decades, polluting groundwater that Ann Arbor could otherwise utilize to provide municipal water and threatening the health and safety of its citizens.

Furthermore, the continued northward expansion of the plume poses a threat to the City's primary source of drinking water at Barton Pond, and the drinking water supplies of hundreds of households that currently rely on well water. If the dioxane migration is not finally stopped, households will likely have to be included in yet another, further expansion of the Prohibition Zone, requiring the City of Ann Arbor to supply them with municipal water, most by contractual

arrangement between the City and the resident's township whereby the City delivers water to the township and the township then delivers it to the property. Even if Defendant covers the cost for the resident, the City and/or township still have the burden and obligation to construct the infrastructure necessary to supply the water. Moreover, the recently discovered shallow groundwater contamination and the continued spread of the 1,4 dioxane plumes create new risks for the City, its drinking water, and its residents.

In the past, the Prohibition Zone and Expanded Prohibition Zone were implemented without Ann Arbor's consultation or consent, leaving the City with the unanticipated and sudden burden of supplying water to households and businesses required to abandon their wells. Any further consideration of remedy or remediation of the continued spread of the 1,4 dioxane plumes outside of the Prohibition Zone, and/or new requirements designed to meet the cleanup criterion for 1,4 dioxane of 7.2 ppb and the new 29 ppb vapor screening level, should not be conducted without Ann Arbor's participation, to protect its interest and the interest of its citizens in the use of groundwater for its municipal water system, and its interest as provider of municipal water to any households and/or businesses that must abandon the use of wells because of the continued migration of contaminated groundwater.

The State of Michigan does not adequately represent the City's interests in this matter. The 30-year cleanup history in this case shows that Defendant is unable or unwilling to appropriately remediate the 1,4 dioxane contamination it caused. Unfortunately, to date, MDEQ has allowed 1,4 dioxane plumes to continue to spread through Ann Arbor and surrounding communities, and has allowed Defendant to first breach its promise to fully cleanup the pollution, and later to contain it. Even MDEQ admits that, today, 30 years after the cleanup began, the extent of the 1,4 dioxane contamination in and around Ann Arbor is "unknown."

For these reasons, the City of Ann Arbor requests that the Court grant its motion to intervene as a plaintiff in this action, and to file the intervening complaint attached as Exhibit G.

Respectfully Submitted,

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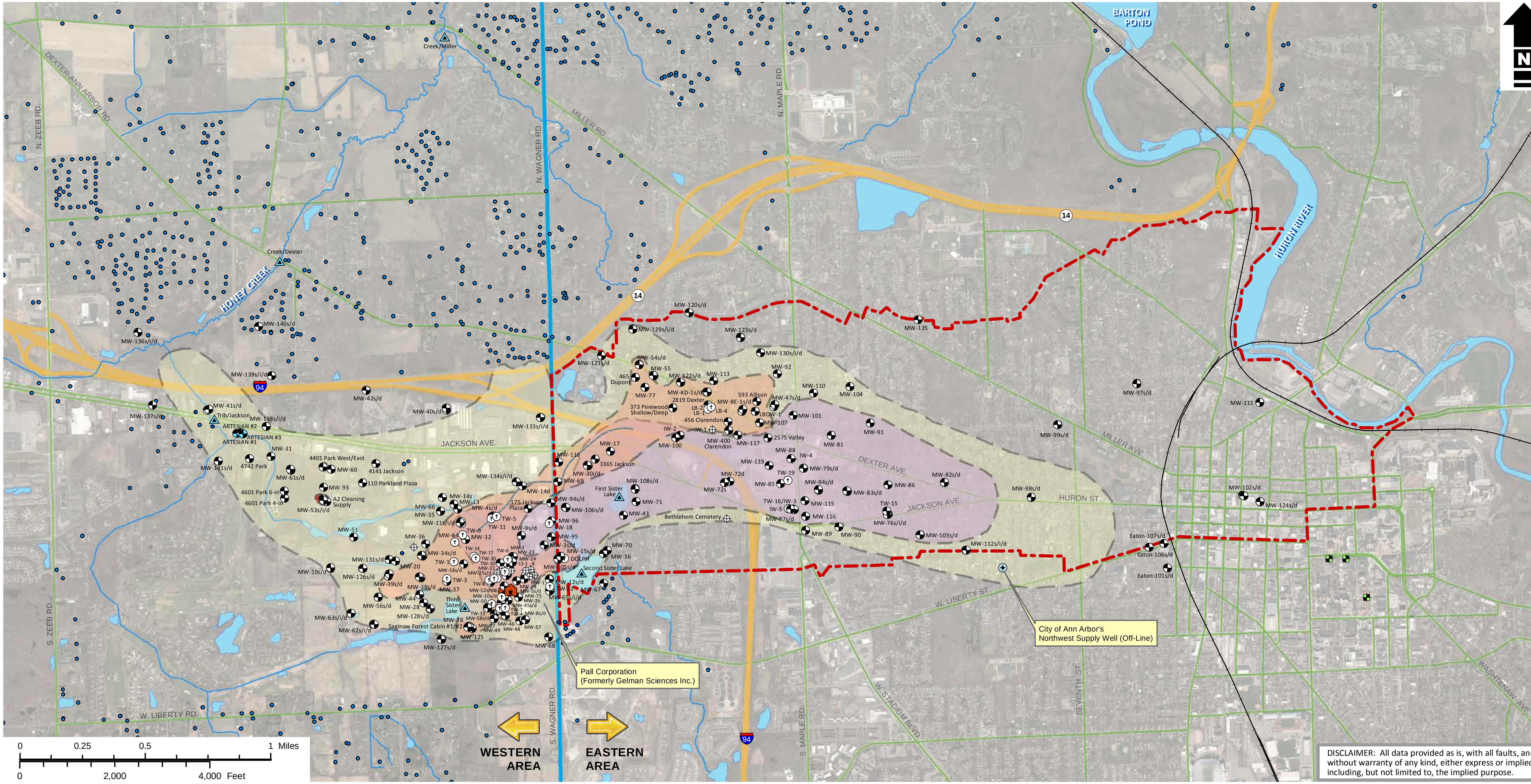
EXHIBIT A

PALL CORPORATION (formerly Gelman Sciences, Inc.)

1,4-Dioxane Plumes, Well Locations, and Groundwater Use Prohibition Zone (PZ)

Washtenaw County, Michigan



DISCLAIMER: All data provided as is, with all faults, and without warranty of any kind, either express or implied, including, but not limited to, the implied purpose.

KEY

- Monitoring Well
- Injection Well
- Extraction Well
- Artesian Well
- Miscellaneous Well
- U of M Research Water Supply Well
- Surface Water Sampling Location
- Residential Wells
- Horizontal Pipeline/Well Screen
- Treatment System
- Unit E or Deep Aquifer Plume (>85 ppb)
- Core & Evergreen Plume (>85 ppb)
- Groundwater Water Use Prohibition Zone
- Little Lake Area Plume (>1 ppb)
- Estimated Plume (>1 ppb)

--Depiction represents an estimation of the 1,4-dioxane plume based on sampling locations that have detections of 1,4-dioxane greater than 1 part per billion (ppb) or sampling locations with historical detections greater than 1 ppb that may currently be below detectable levels.

MAP PRODUCED BY:
Environmental Health Division
Department of Public Health
Washtenaw County, Michigan

SOURCES:
MiGDL
PALL/MDEQ Database
Washtenaw County GIS

EXHIBIT B

SHALLOW GROUNDWATER INVESTIGATION

OF

CITY OF ANN ARBOR AND
SCIO TOWNSHIP
WASHTENAW COUNTY, MICHIGAN

FOR

GELMAN SCIENCES

OCTOBER 2016

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

Fleis & VandenBrink (F&V) was retained by Gelman Sciences to conduct a Shallow Groundwater Investigation (Investigation) of areas located in the western portion of the City of Ann Arbor and eastern portion of Scio Township (Investigation Area). The Investigation Area is shown on Figure 1.

Specifically, the Investigation was conducted in general accordance with the Michigan Department of Environmental Quality (MDEQ) Interoffice Correspondence dated July 19, 2016 titled "Shallow Groundwater Work Plan, Ann Arbor" (Appendix A).

The purpose of the Investigation was to collect groundwater elevation and groundwater quality data from the first occurrence of groundwater near select locations where the top of the groundwater table was believed to be located within 20 feet of the ground surface.

The objectives of the Investigation, as stated in the MDEQ Shallow Groundwater Work Plan, are:

1. Determine and evaluate the presence of 1,4-dioxane contaminants in the first occurrence of groundwater at select locations.
2. Better define the areal extent and characteristics of the 1,4-dioxane in the first occurrence of groundwater in residential areas downgradient from known deeper groundwater contamination.
3. Compare the groundwater data with proposed risk-based assumptions and screening levels in the April 15, 2016 proposed cleanup criteria rule revisions.

The Groundwater Investigation locations were selected by the MDEQ.

This Investigation fieldwork was conducted by F&V August 8-17, 2016. The MDEQ staff observed and documented the Investigation activities and collected split groundwater samples for independent laboratory analyses.

2.0 INVESTIGATION FIELD ACTIVITIES

Field activities conducted during the Investigation include the following:

- Temporary Monitoring Well Installation
- Groundwater Elevation Measurement
- Groundwater Sampling
- Surveying

Fieldwork and instrument calibration was conducted in accordance with F&V's Field Standard Operating Procedures.

2.1 Temporary Monitoring Well Installation

F&V contracted with TerraProbe of Ottawa Lake, Michigan (TerraProbe) who utilized a track-mounted Geoprobe® direct-push drilling rig to install temporary monitoring wells at the MDEQ-selected locations. At each location, a soil boring was installed using the Geoprobe® and a 2-inch diameter dual-tube sampling system. The inner 1-inch diameter core barrel was equipped with single-use acetate liners. A continuous core of soils was collected at each location from the surface to the water table interface or 20 feet below the ground surface (bgs), whichever was encountered first.

Soils were observed and logged by the F&V Geologist and boring logs are included in Appendix B. The water table was identified by the observation of saturated soils in the sampling liners. If the water table was not encountered within 20 feet bgs, a temporary well was not installed and the soil boring was plugged with bentonite hole plug.

At the locations where groundwater was encountered, a temporary monitoring well was installed using the Geoprobe®. The temporary monitoring wells were constructed of one-inch diameter polyvinyl chloride

(PVC) flush-coupled well riser equipped with a 5-foot PVC well screen. The well screen was set in the upper 5 feet of the first encountered water-bearing unit and/or materials considered productive to yield sufficient groundwater volumes to sample. Each well was developed by purging with a peristaltic pump until the purged water was relatively free of suspended sediment. Details regarding temporary monitoring well construction are provided on the boring logs.

The Investigation locations are shown on Figure 1 and in greater detail on Figures 2A-2H. The MDEQ originally identified 29 sample locations. Three locations (14, 15 and 20) were eliminated from the Investigation by the MDEQ. In total, 16 temporary wells were installed. Water was not encountered within 20 feet bgl at 10 locations and therefore temporary wells were not installed.

2.2 Surveying

The MDEQ-selected groundwater assessment locations were surveyed and staked by Atwell of Ann Arbor, Michigan (Atwell). Atwell also surveyed and determined the ground level elevation of each Investigation location, nearby residential homes, and nearby sewer manhole covers. The survey information prepared by Atwell is provided in Appendix C. The Investigation locations and ground surface elevation data are shown on Figures 3A -3H.

2.3 Groundwater Elevation Measurement

The depth to groundwater was measured from the top of casing (TOC) in each temporary well using a decontaminated, electronic water level indicator. The groundwater elevation was calculated by subtracting the TOC stick-up measurement from the depth to groundwater and then subtracting that resultant from the ground surface elevation. The groundwater elevation values for each location where groundwater was encountered are shown on Figures 3A-3H.

2.4 Groundwater Sampling

Groundwater samples were collected from each temporary monitoring well using low flow sampling methods. Field measurement of temperature, pH, specific conductance, dissolved oxygen, and turbidity was conducted at the time of sample collection. Groundwater samples were collected upon stabilization of the field parameters or after one hour of purging, whichever occurred first. Low flow sampling records are provided in Appendix D.

2.5 Field Quality Control Samples

Duplicate samples were collected at a frequency of one 1 duplicate per 10 investigative samples. Trip blanks were included in the shipping coolers. The MDEQ collected split samples and submitted the samples to the State Environmental Laboratory for independent analyses.

2.6 Sample Handling, Custody and Analysis

2.6.1 Sample Containers and Preservation

The sample containers were provided by the analytical laboratory. Each sample was collected directly into the laboratory prepared containers. Sample preservation was used to prevent or retard the degradation or modification of chemical compounds during transit and storage prior to laboratory extraction and analysis. Sample preservatives were based on the type of sample and required analyses.

2.6.2 Chain of Custody

Chain-of-custody procedures are intended to document sample possession from collection to disposal in accordance with federal guidelines. A chain-of-custody record was used to document and track possession of the samples.

2.6.3 Sample Storage, Transport and Analysis

Samples were held on ice in an insulated cooler during the collection process. The samples were submitted to Gelman Sciences Laboratory for analysis of 1,4-dioxane, and to Ann Arbor Technical Services, Inc. of Ann Arbor, Michigan (ATS) for analysis of volatile organic compounds (VOCs) by USEPA Method 8260B.

The MDEQ collected and handled their split samples and submitted them to the MDEQ Environmental Laboratory in Lansing, Michigan for analysis of 1,4-dioxane by USEPA Method 8260 - Modified (Selective Ion Monitoring) and VOCs by USEPA Method 8260B.

The laboratory analytical data reports provided by Gelman Sciences, ATS and the State laboratory are included in Appendix E.

The analytical data for the collected samples are summarized on Table 1.

2.7 Investigative-Derived Waste

Excess soil cuttings were mixed with bentonite chips and used to fill the borehole where the drill cuttings were generated. Excess purged groundwater was returned to the ground surface adjacent to the well where it was generated.

2.8 Boring and Temporary Well Abandonment

Upon completion of site assessment activities, borings and temporary monitoring wells were abandoned. Temporary well materials were removed from the boreholes and properly disposed offsite. Boreholes were abandoned by placing bentonite chips and/or bentonite chips mixed with soil cuttings into the borehole until each was completely filled. The grout was hydrated using distilled or tap water.

2.9 Equipment Decontamination

Contact sampling equipment was decontaminated prior to use and in between sampling events to ensure the accuracy of data collected. Single-use sampling equipment was properly disposed after use.

2.10 Field Documentation

Detailed records of the field activities were maintained in field notebooks, field forms, laboratory data sheets and chain of custody forms. These records documented field activities including sampling locations, sampling times, types of samples collected, weather conditions and other information pertinent to the assessment.

3.0 DATA ANALYSIS

3.1 1,4-Dioxane

The data provided by the Gelman Sciences laboratory indicated that 1,4-dioxane was detected in only two of 16 groundwater samples:

- RL-12 3.3 ug/L
- RL-13 1.9 ug/L

The data provided by the MDEQ Environmental Laboratory indicated that 1,4-dioxane was detected in only two of 15 groundwater samples at the same locations. An MDEQ split-sample was not collected at RL-8 because the temporary well went dry.

- RL-12 2.7 ug/L (estimated)
- RL-13 2.0 ug/L (estimated)

Please note that the MDEQ Environmental Laboratory qualifies results reported below 5 ug/L as estimated because the analysis is performed using selective ion monitoring (SIM).

3.2 VOCs

ATS detected the following VOC compounds:

- RL-2 Chloroform (5 ug/L)
- RL-7 1,1,1-trichloroethane (14 ug/L)

The MDEQ Environmental Laboratory detected the same VOCs at the same locations:

- RL-2 Chloroform (5.8 ug/L)
- RL-7 1,1,1-trichloroethane (12 ug/L)

While the Gelman Sciences laboratory did not specifically analyze for VOCs, measurable peaks for numerous tentatively identified compounds (TICs) were detected in the groundwater samples (see Table II – Data Summary in Appendix E):

- RL-2 trichloroethylene and 1,1,1-trichloroethane
- RL-3 2,4-dimethyl-hexane
- RL-4 2,4-dimethyl-hexane
- RL-7 1,1,1-trichloroethane
- RL-8 2,4-dimethyl-hexane
- RL-21 tetrachloroethylene

No measurable peaks for 1,4-dioxane were observed except at the two locations listed in Section 3.1, above.

4.0 SUMMARY OF FINDINGS

Shallow groundwater was encountered at depths less than 20 feet bgl at 16 of the 27 drilling locations.

Groundwater sampled from the temporary wells identified 1,4-dioxane at only 2 locations:

- RL-12 (2.7-3.3 ug/L)
- RL-13 (1.9-2.0 ug/L)

Two VOCs were detected at levels above their respective reporting limits at two separate locations:

- RL-2 Chloroform (5-5.8 ug/L)
- RL-7 1,1,1-trichloroethane (12-14 ug/L)

The detected concentrations of 1,4-dioxane and 1,1,1-trichloroethane are well below the proposed residential vapor intrusion Tier 1 screening levels set forth in the draft Revised Administrative Rules for Part 201, Environmental Contamination (posted 10/5/16), for those compounds:

Parameter	Concentration Detected	Proposed Tier 1 Screening Level
1,4-dioxane	1.9-3.3 ug/L	29 ug/L
1,1,1-trichloroethane	12-14 ug/L	630 ug/L

However, the detected concentrations for Chloroform (5-5.8 ug/L) are well above the proposed residential vapor intrusion Tier 1 screening level of 1.0 ug/L. (1.0 ug/L is the default screening level based on the compound's target detection limit. The heath-based Tier 1 screening level for Chloroform is listed in the draft Revised Administrative Rules as 0.49 ug/L).

Neither of the two VOCs detected above their respective reporting limit nor the numerous VOC TICs identified by the Gelman Sciences lab are related to the Gelman Sciences site.

FLEIS&VANDENBRINK

LOG OF BORING / WELL: RL-12

Project: Gelman Sciences

Location: Ann Arbor/Scio Twp, MI

Project No.: 806500

Logged By: JWB, Geologist

Start Date: 08/17/2016

End Date: 08/17/2016

Drilling Co.: Terra Probe Environmental

Drilling Method: Geoprobe

Sampling Methods: 2" Dual-Tube 1" Core Barrel

Total Depth (ft. below grade): 12'

Depth to Water.: 5.46 (feet below TOC)

Screened Interval: 6'-11'

TOC Stick Up: 3'

Notes: Temporary Well Removed and Boring Plugged with Bentonite Chips

SUBSURFACE PROFILE

Depth (ft.)	LITHOLOGY: Sample Invl. (ft.)/ Recovery (ft.)	Graphic Log	Description	PID Reading/ Sample Location	Monitoring Well Construction Detail	Depth (ft.)
0			Ground Surface			0
0			TOPSOIL: Sandy, Dark Brown, Moist			0
1			SILTY/CLAY: Sand Present, Fill Present, Trace Gravel, Brown, Moist			1
2	0' - 4'/ 2' Recovery				1" PVC Casing	2
3						3
4			SAND: Dark Brown, Silt/Clay Present, Trace Gravel, Moist			4
5					Static Water Level	5
6	4' - 8' / 2' Recovery					6
7			PEAT/MARL: Organic Fibrous			7
8			SAND & GRAVEL: Very Coarse Grained, Saturated, Brownish Gray		1" PVC Screen Set at 6'-11'	8
9	8' - 12' / 0.5' Recovery					9
10						10
11						11
12						12
13						13
14						14
15						15
16						16
17						17
18						18
19						19
20						20

FLEIS&VANDENBRINK

LOG OF BORING / WELL: RL-13

Project: Gelman Sciences

Location: Ann Arbor/Scio Twp, MI

Project No.: 806500

Logged By: JWB, Geologist

Start Date: 08/17/2016

End Date: 08/17/2016

Drilling Co.: Terra Probe Environmental

Drilling Method: Geoprobe

Sampling Methods: 2" Dual-Tube 1" Core Barrel

Total Depth (ft. below grade): 16'

Depth to Water.: 6.14 (feet below TOC)

Screened Interval: 10'-15'

TOC Stick Up: 3"

Notes: Temporary Well Removed and Boring Plugged with Bentonite Chips

SUBSURFACE PROFILE

Depth (ft.)	LITHOLOGY: Sample Invl. (ft.)/ Recovery (ft.)	LITHOLOGY: Graphic Log	LITHOLOGY: Description	PID Reading/ Sample Location	Monitoring Well Construction Detail	Depth (ft.)
0			Ground Surface			0
0			TOPSOIL: Dark Brown, Clayey Sand-Gravel, Moist			0
1			SILTY SAND: Brown, Trace Gravel, Moist			1
2	0' - 4'/ 3' Recovery					2
3						3
4						4
5			SILTY SAND: Very Fine to Very Coarse Grained, Trace Gravel, Saturated		1" PVC Casing	5
6	4' - 8' / 3' Recovery				Static Water Level	6
7						7
8			MARL/PEAT: Sandy, Organic, Some Gravel, Some Sand near Bottom of Core, Saturated			8
9						9
10	8' - 12' / 3' Recovery					10
11						11
12			SANDY GRAVEL: Coarse Grained, Grading to Fine Silty Sand, Saturated		1" PVC Screen Set at 6'-11'	12
13						13
14	12' - 16' 4' Recovery					14
15						15
16						16
17						17
18						18
19						19
20						20

EXHIBIT C

DEPARTMENT OF ENVIRONMENTAL QUALITY

REMEDIATION AND REDEVELOPMENT DIVISION

ESTABLISHMENT OF CLEANUP CRITERIA FOR 1,4-DIOXANE

EMERGENCY RULES

Filed with the Secretary of State on

These rules take effect upon filing with the Secretary of State and shall remain in effect for 6 months.

(By the authority conferred on the Department of Environmental Quality by 1994 PA 451, 1969 PA 306, MCL 324.20104(1), MCL 324.20120a(17), and MCL 24.248)

FINDING OF EMERGENCY

These rules are promulgated by the Department of Environmental Quality to establish cleanup criteria for 1,4-dioxane under the authority of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. The Department of Environmental Quality finds that releases of 1,4-dioxane have occurred throughout Michigan that pose a threat to public health, safety, or welfare of its citizens and the environment. Recent shallow groundwater investigations in the Ann Arbor area have detected 1,4-dioxane in the groundwater in close proximity to residential homes. The known area of 1,4-dioxane groundwater contamination in Ann Arbor covers several square miles defined by a boundary of 85 parts per billion, the current residential cleanup criteria. The extent of 1,4-dioxane groundwater contamination that is less than 85 parts per billion, but greater than 7.2 parts per billion, is unknown; and 1,4-dioxane contamination is expected to be present beneath many square miles of the city of Ann Arbor occupied by residential dwellings. The current cleanup criteria for 1,4-dioxane, initially established in 2002, are outdated and are not protective of public health with respect to the drinking water ingestion pathway and the vapor intrusion pathway.

These rules establish the 1,4-dioxane cleanup criterion for the drinking water ingestion pathway at 7.2 parts per billion and the vapor intrusion screening criterion at 29 parts per billion. These criteria are calculated using the latest United States Environmental Protection Agency toxicity data for the chemical 1,4-dioxane and the Department of Environmental Quality's residential exposure algorithms to protect both children and adults from unsafe levels of the chemical.

The Department of Environmental Quality, therefore, finds that the current cleanup criteria for 1,4-dioxane are not protective of public health with respect to the drinking water ingestion pathway and the vapor intrusion pathway, which, therefore, requires

the promulgation of emergency rules without following the notice and participation procedures required by sections 41, 42, and 48 of 1969 PA 306, as amended, MCL 24.241, MCL 24.242, and MCL 24.248 of the Michigan Compiled Laws.

Rule 1. The residential drinking water cleanup criterion for 1,4-dioxane in groundwater is 7.2 parts per billion.

Rule 2. The residential vapor intrusion screening criterion for 1,4-dioxane is 29 parts per billion.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

C. Heidi Grether

C. Heidi Grether
Director

Pursuant to Section 48(1) of 1969 PA 306, as amended, MCL 24.248(1), I hereby concur in the finding of the Department of Environmental Quality that circumstances creating an emergency have occurred and the public interest requires the promulgation of the above rule.

Governor

10-27-16

Date

EXHIBIT D

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
Jennifer M. Granholm, Governor, Steven E. Chester, Director

REMEDIATION AND REDEVELOPMENT DIVISION

FACT SHEET

Prohibition Zone to Restrict Use of Groundwater

Gelman Sciences, Inc. Unit E Aquifer
Groundwater Contamination
Washtenaw Countv

Jackson District Office
Mitch Adelman, Supervisor
301 East Louis Glick Highway
Jackson, MI 49201-1556

JULY 2005

CURRENT STATUS

On May 17, 2005, the Washtenaw County Circuit Court issued an order (Order) to restrict the use of groundwater in portions of the City of Ann Arbor (City), and Ann Arbor and Scio Townships. The purpose of the Order is to prevent human exposure to groundwater that is or may become contaminated with 1,4-dioxane (see *1-4-Dioxane*) at levels that exceed acceptable criteria (see *Relevant Cleanup Criteria*) from the Gelman Sciences site. The restricted area is shown on the attached Prohibition Zone (PZ) Boundary map. A few of the properties in this area receive their drinking water from private wells; most areas are already connected to the City water supply. See *Unit E Plume History* for an explanation of the events that led to issuance of the Order.

KEY COURT ORDER FACTS FOR RESIDENTS AND PROPERTY OWNERS

- Water supply wells for any purpose may not be installed within the PZ, nor may water from within the PZ be consumed or used, with limited exceptions (see next section).
- All private water supply wells within the PZ must be properly abandoned, with certain exceptions, at the expense of Pall Life Sciences (PLS), Gelman Sciences successor.
- Very few properties in the PZ are known to rely on a private water supply well for drinking water; any that do will be connected to the municipal water supply at PLS expense, subject to limited exceptions.
- Residents and property owners within the PZ must notify the DEQ of the existence of any water supply well within the PZ that has not been properly abandoned, whether or not it is currently used for any purpose. PLS is also required to identify wells (see *Future Work Required of Pall Life Sciences*).

EXCEPTIONS TO COURT ORDER

The exceptions to consumption or use of groundwater in the PZ are listed in paragraph 5 of the Order, and are quoted below:

(a) groundwater extraction and monitoring wells as part of response activities approved by MDEQ or otherwise authorized under Parts 201 or 213 of NREPA[1], or other legal authority.

(b) dewatering wells for lawful construction or maintenance activities, provided that appropriate measures are taken to prevent unacceptable human or environmental exposures to hazardous substances and comply with MCL 324.20107a.

(c) wells supplying heat pump systems that either operate in a closed loop system, or if not, are demonstrated to operate in a manner sufficient to prevent unacceptable human or environmental exposures to hazardous substances and comply with MCL 324.20107a.

(d) emergency measures necessary to protect public health, safety, welfare or the environment.

(e) any existing water supply well that has been demonstrated, on a case-by-case basis and with the written approval of the MDEQ, to draw water from a formation that is not likely to become contaminated with 1,4-dioxane emanating from the PLS facility. Such wells shall be monitored for 1,4-dioxane by PLS at a frequency determined by the MDEQ.

BRIEF SITE HISTORY

The source of the contamination is property previously owned by Gelman Sciences, Inc., located on Wagner Road south of Jackson Road in Scio Township. Pall Life Sciences (PLS), the successor of Gelman Sciences, Inc., is now responsible for addressing the contamination. From 1966 to 1986, the company used 1,4-dioxane in the manufacture of

[1] Natural Resource and Environmental Protection Act, 1994 PA 451, as amended

medical filters. Various methods of disposal and waste handling during this period resulted in releases to the environment that caused widespread groundwater contamination.

In the fall of 1985, the first contaminated private water supply wells were discovered in the vicinity of the PLS property, and additional well sampling was done. Bottled water was provided to affected residences and businesses until the municipal water supply was extended into these areas. Beginning in 1986, investigations by the company identified soil contamination on the PLS property and groundwater contamination extending off the property.

PLS removed much of the contaminated soil and began remediation of a portion of the groundwater contamination in 1993. Comprehensive remediation of two shallow aquifers has been ongoing since 1997. This water is piped from extraction wells to PLS's treatment building, treated, then discharged to the Honey Creek Tributary. This remediation has significantly decreased the concentration and mass of 1,4-dioxane contamination in the shallow aquifers.

During an investigation in the spring of 2001, it was discovered that there was no confining layer of clay separating the two shallower aquifers from a deeper aquifer (Unit E Aquifer) in an area west of the PLS property. Additional investigation found that the Unit E Aquifer was contaminated and groundwater in it is flowing under the Maple Village Shopping Center and Veterans Park, and is expected to continue generally in an easterly direction. The exact path of the plume will be determined by investigation and monitoring to be performed by PLS with DEQ oversight. Since May 2002, PLS has been extracting contaminated groundwater from the contaminated Unit E Aquifer (Unit E Plume) through two extraction wells on its property. Low concentrations of 1,4-dioxane have been found in the City's Northwest Supply Well, and that well is no longer being used.

1,4-DIOXANE

The contaminant at this site, 1,4-dioxane, is completely soluble in water and is held together by strong bonds that prevent it from breaking down readily in groundwater. The complex geology in the vicinity of the PLS property also contributes to the widespread nature of the contamination. Toxicity testing has determined that high doses of 1,4-dioxane cause cancer in mice, and it is presumed to be a human carcinogen through long-term exposure to low doses.

RELEVANT CLEANUP CRITERIA

As specified by state law, the relevant cleanup criteria for 1,4-dioxane in groundwater are dependent on the potential exposure pathway. The generic residential cleanup criterion (GRCC) for groundwater used for drinking water is 85 parts per billion (ppb), and is the concentration to which groundwater must be remediated to allow for unrestricted use, including use as drinking water. The GRCC is based on a 30-year exposure to drinking water, accepting an increased cancer risk of 1 in 100,000 persons exposed. When restrictions are placed on use of the groundwater, such as in the Order, the only remaining relevant exposure pathway at this site is groundwater discharging to surface water. The Unit E Plume is likely to discharge to the Huron River. The generic criterion for discharge of contaminated groundwater to surface water for 1,4-dioxane is 2,800 ppb. This criterion would apply if the contamination discharges to the river downstream of the City of Ann Arbor's water supply intake at Barton Pond. If the investigation finds that the Unit E Plume will discharge into Barton Pond, where the City water intake is located, the relevant criterion would be 34 ppb. See *Future Work Required of PLS*.

UNIT E PLUME HISTORY

- 2 ppb of 1,4-dioxane was discovered in the City's Northwest Supply Well at Montgomery & Bemidji in March 2001 (currently 4 ppb);
- the City turned the well off immediately;
- 1,4-dioxane contamination flowing into Ann Arbor from the Gelman site was confirmed by investigations later in 2001;
- this contamination is in the Unit E Aquifer, which was previously believed to be protected from the shallower contamination by a continuous clay layer;
- after much investigation, concentrations of up to 2,000 ppb have been identified under the Maple Village Shopping Center, just west of Maple Road, between Jackson and Dexter Roads;
- for reasons not entirely understood, concentrations are much lower to the east, under Veterans Park, mostly below 200 ppb;
- the DEQ's preferred option was a full cleanup, which would have required extraction wells and pipelines in west side neighborhoods;

- the DEQ approach was opposed by residents of those neighborhoods, but supported by some others in the projected path of the Unit E Plume (through downtown Ann Arbor to the Huron River), including Ann Arbor Township, which has a few township islands within the City and areas east of the Huron River, that are not connected to the municipal water supply;
- the PLS alternative to allow the contamination to migrate is an option allowed by state law, provided certain conditions are in place to prevent unacceptable exposures to human health and the environment, including an institutional control to prevent use of the groundwater in the expected path of the Unit E Plume, including a buffer area (the PZ will serve as the institutional control);
- one of the DEQ's conditions for allowing the migration of contamination was that the City's Northwest Supply Well should be in the PZ, including abandonment and replacement of the well at PLS expense;
- PLS objected to the City well being included in the PZ and the Court ruled in their favor, saying it will be resolved in a separate lawsuit the City filed against PLS regarding the contamination of the City well.

RELATIONSHIP OF GELMAN SCIENCES FACILITY TO PZ

The Gelman Sciences "facility", as defined by Part 201 (Environmental Remediation) of the NREPA, includes any area where 1,4-dioxane in groundwater above the GRCC of 85 ppb is located, as well as limited areas of soil contamination above 1,500 ppb on PLS property. The Consent Judgment entered in 1992 required PLS to remediate all affected groundwater to meet the GRCC. The recent Order treats the Unit E Plume differently, but does not affect PLS's obligation to clean up the shallower aquifers addressed by the Consent Judgment.

The extent of 1,4-dioxane contamination above 85 ppb, the "facility", has been determined by monitoring wells installed and monitored by PLS on a regular basis. Inferences about the location of the plume, and thus the extent of the "facility", are based upon numerous factors including: where concentrations of 1,4-dioxane either exceed or are less than the GRCC; the space between wells measuring those concentrations; groundwater flow direction; and best professional judgment utilizing generally accepted hydrogeological principles. This data is reviewed by the DEQ periodically to determine if the location of the "facility" has changed. The Unit E Plume, as shown on the attached PZ Boundary map, depicts the portion of the PZ that is currently known to be a "facility". The extent of this area has not changed significantly in the past year.

Section 16(1) of Part 201 relates to property that is part of a "facility", and applies only to the portion of the PZ where groundwater containing 1,4-dioxane above 85 ppb has migrated (see *Relevant Cleanup Criteria*), as well as to other areas of the Gelman Sciences "facility" where 1,4-dioxane above 85 ppb is currently located, but which are being remediated to meet the 85 ppb criterion and therefore are not required to be part of the PZ. Section 16(1) requires anyone who is on notice or has information that their property is a "facility", to disclose the general nature and extent of the contamination to future owners.

PLS is also required to notify all property owners where 1,4-dioxane in groundwater above 85 ppb is located. PLS did such a notification in September 2003 when that requirement went into effect. PLS will need to notify additional property owners as the Unit E Plume migrates.

IF YOU SELL PROPERTY IN THE PZ

Section 16(3) of Part 201 applies to all property within the PZ. The Order is considered a resource use restriction. Section 16(3) requires property owners to disclose resource use restrictions to future owners. In other words, owners of property within the PZ need to inform future owners that they would not have the right of unrestricted use of the groundwater beneath the property. In addition, if you sell property in the PZ that you know or believe is part of the "facility", you must also disclose the nature and extent of the contamination to future owners, as described in the previous section.

FUTURE WORK REQUIRED OF PALL LIFE SCEINCES

- PLS must provide municipal water to replace any private drinking water wells that are in the PZ or are found to be impacted or threatened by the Unit E Plume.
- PLS must identify and abandon all private wells (subject to certain exceptions), including irrigation wells, within the PZ at its expense, and has submitted a work plan to the DEQ to do so.

- PLS will extract, treat and reinject 200 gallons of groundwater per minute at Maple Road to prevent 1,4-dioxane above 2,800 ppb from migrating to the east. The work plan for doing so has been approved by the DEQ and should be operational later this year.
- PLS will conduct an investigation, the first phase of which the DEQ has approved, to better determine the path of the Unit E Plume. Current indications are that the plume will discharge to the Huron River downstream of Barton Pond, the location of the City's water supply intake.
- The DEQ will require ongoing monitoring of the Unit E Plume by PLS to verify that the area of the PZ is protective (the Order allows the PZ to be revised based on investigation or monitoring results). The monitoring will continue for as long as the PZ remains in effect, and additional monitoring wells will likely be installed in multiple phases, as the exact course of the plume is determined.

ROLE OF WASHTENAW COUNTY

The Washtenaw County Department of Planning and Environment (WCDPE) has the authority and responsibility to permit installation of wells in Washtenaw County. The DEQ has been and will continue to work closely with the WCDPE to ensure that the requirements of the Order are complied with and will adequately protect human health and the environment from the contamination that will be allowed to migrate toward the Huron River. The DEQ has asked that the existence of any wells within the PZ be reported to DEQ (see below). DEQ will notify WCDPE and PLS as soon as it learns of any such wells.

REPORT A WELL IN THE PROHIBITION ZONE & DIRECT QUESTIONS TO:

Sybil Kolon, Project Manager
Department of Environmental Quality
Remediation and Redevelopment Division
Jackson District Office
301 E. Louis Glick Highway
Jackson, MI 49203
telephone: 517-780-7937
facsimile: 517-780-7855
e-mail: kolons@michigan.gov

NOTE: It will be difficult for PLS or anyone else to identify all wells subject to the Order without the cooperation of all residents and property owners. Please report any wells in the PZ to Sybil Kolon.

DETAILED INFORMATION AVAILABLE

More detailed information about this site is available on the DEQ's Gelman Sciences, Inc. web site: www.michigan.gov/deqrrd, scroll to Contaminated Site Lists and click on Gelman Sciences, Inc.

Additional information, along with this fact sheet, is available for review at the following locations, during regular business hours, and at the DEQ Jackson District Office, by appointment.

Ann Arbor District Library
Downtown Library
343 South Fifth Avenue
734-327-4200

Scio Township Hall
827 North Zeeb Road, Ann Arbor
734-665-2123

City of Ann Arbor Water Utilities Department
100 North Fifth Avenue
Contact: Mary Gordon 734-994-8286

Washtenaw County Department of Planning and Environment
705 North Zeeb Road, Ann Arbor
Contact: Michael Gebhard 734-222-3855

PERTINENT DOCUMENTS
(also on the DEQ's Gelman web site)

6/17/05: PLS Work Plan to Identify Wells
5/17/05: Court Order to Restrict Groundwater Use
12/17/04: Court Opinion & Order
9/1/04: DEQ Decision Document
7/04: DEQ Fact Sheet

Part 201 of the NREPA: www.michigan.gov/deqrrd, right column, Laws & Rules, Part 201, then click on Printer Friendly Version at top of page.

The Department of Environmental Quality (DEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or comments should be directed to the DEQ Office of Personnel Services, P.O. Box 30473, Lansing, MI 48909.

Gelman Sciences Inc. Prohibition Zone Boundary

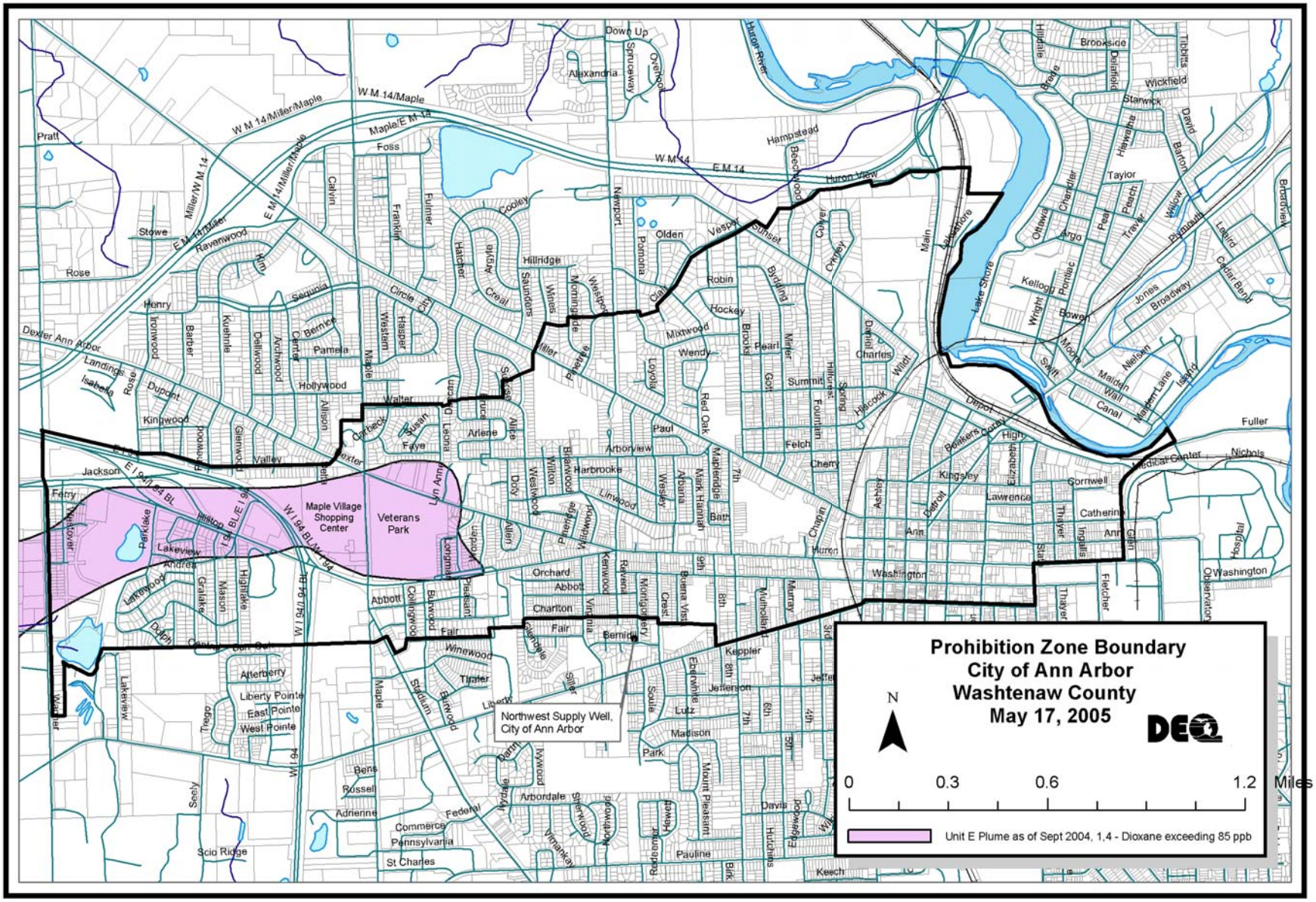


EXHIBIT E

RELEASE OF CLAIMS AND SETTLEMENT AGREEMENT

This Release of Claims and Settlement Agreement ("Settlement Agreement" or "Agreement") is made and entered into this ___ day of _____, 2006, between the City of Ann Arbor ("City"), a Michigan municipal corporation, with offices at 100 N. Fifth Ave, Ann Arbor, Michigan, 48104, and Gelman Sciences, Inc., a Michigan Corporation, d/b/a Pall Life Sciences ("PLS"), with offices at 600 South Wagner Road, Ann Arbor, Michigan, 48103.

I. GENERAL PROVISIONS

A. Proceedings. The City and PLS (collectively, the "Parties") acknowledge that this Settlement Agreement is a compromise of claims made in the following proceedings:

1. *City of Ann Arbor v. Gelman Sciences, Inc. d/b/a Pall Life Sciences,* Case No. 04-513-CF (Washtenaw Cty. Cir. Ct.) ("State Lawsuit");

2. *City of Ann Arbor v. Gelman Sciences, Inc. d/b/a Pall Life Sciences,* Case No. 05-73100 (U.S. Dist. Ct., E.D. Mich.) ("Federal Lawsuit"); and

3. *In Re Point Source Pollution Control National Pollution Discharge Elimination System (NPDES) Petition of the City of Ann Arbor on Permit NPDES No. MI 0048453 (Pall Life Sciences)* ("Contested Case").

B. Compromise of Claims. The Parties recognize that this Settlement Agreement is a compromise of disputed claims and defenses. By entering into this Settlement Agreement, neither Party admits any fault or liability under any statutory or common law, and does not waive any rights, claims, or defenses with respect to any person except as otherwise provided herein. By entering into this Settlement Agreement, neither Party admits the validity or factual basis of any of the positions or defenses asserted by the other Party. The Settlement Agreement and the compromises reflected therein shall have

no *res judicata* effect and shall not be admissible as evidence in any other proceeding, except in a proceeding between the Parties seeking enforcement of this Agreement.

C. Parties Bound. This Settlement Agreement applies to and is binding upon and inures to the benefit of the City, PLS, and their successors and assigns. This Settlement Agreement shall be binding upon the successors and assigns, if any, of PLS to its obligations and rights under the Consent Judgment entered into in *Attorney General v. Gelman Sciences,* Case No. 88-34734-CE (Washtenaw Cty. Cir. Ct.) (as modified by subsequent orders of the court) (the "Consent Judgment").

II. DEFINITIONS

The following terms, when capitalized in this Agreement, shall have the meanings specified in this Section II.

A. 1,4-Dioxane means the 1,4-dioxane present in surface water and the groundwater aquifers in the vicinity of the PLS Property, including the Unit E Aquifer, but this term as it is used in this Agreement shall not include any 1,4-dioxane that PLS establishes by a preponderance of the evidence to have originated from a release for which PLS is not legally responsible. For purposes of this Agreement only, "1,4-Dioxane" includes the 1,4-dioxane currently identified in the Unit E Aquifer, including but not limited to that which currently is below 85 ppb in concentration, which is located either (a) in the Prohibition Zone; or (b) at and in the vicinity of the Northwest Supply Well. PLS acknowledges that, as of the date of this Agreement, it is not aware of another source of the currently known 1,4-dioxane. Accordingly, the Parties agree that any 1,4-dioxane found in and near the Prohibition Zone or in and near the vicinity of the Northwest Supply Well shall be presumed to be within the above definition unless PLS can make

the proof stated above to the contrary. This definition shall not have any evidentiary effect in any future dispute or litigation between PLS and any person or entity other than the City.

B. Bromate means the bromate present in the surface water and the groundwater aquifers in the vicinity of the PLS Property, including the unnamed tributary to Honey Creek, which is the location of Outfall 001 under the NPDES Permit (the "Honey Creek Tributary"), Honey Creek and Unit E Aquifer, but this term as it is used in this Agreement shall not include any bromate that is established by PLS to have originated from a release or discharge for which PLS is not legally responsible.

C. City Property means property, buildings and facilities owned by the City.

D. Claims means any claim, allegation, demand, order, directive, action, suit, cause of action, counterclaim, cross-claim, third-party action, or arbitration or mediation demand, whether at law or in equity, and whether sounding in tort, equity, nuisance, trespass, negligence, strict liability or any other statutory, regulatory, administrative, or common law cause of action of any sort, asserted and unasserted, known and unknown, anticipated and unanticipated, past, present, and future of any nature whatsoever, including, without limitation, any and all claims for injunctive relief, declaratory relief, contribution, indemnification, reimbursement, Response Costs, Response Activity Costs, loss in the value of property, statutory relief, damages, expenses, penalties, costs, liens, or attorney fees.

E. Effective Date: The Effective Date of this Agreement shall be the latest date of the entry of the orders of dismissal specified in Section III. This Agreement shall be effective only if all of the orders of dismissal specified in Section III are entered.

F. Escalator Factor shall be calculated by as follows:

Escalator Index (Month of Trigger) - Escalator Index (November 2006)
Escalator Index (November 2006)

The percentage change from the November 2006 Index to the Index for the month during which the Contingent Payment is triggered under Section VI.B will be calculated to the second decimal place.

G. Escalator Amount shall be computed by multiplying the Escalator Factor by the Contingent Payment.

H. Escalator Index shall be the Engineering News Record Construction Cost Index, available at the www.enr.com web site. In the event the Escalator Index is no longer published by McGraw Hill or its successor, the Parties agree to establish an alternative method of determining the Escalator Amount based on a currently published and generally accepted construction cost index.

I. Federal Maximum Contaminant Level means the maximum contaminant level established by the Environmental Protection Agency under the Federal Safe Drinking Water Act. 42 U.S.C. 300f, et seq.

J. GCGI means the generic residential criterion for groundwater based on ingestion of groundwater developed by the MDEQ for 1,4-dioxane under Part 201 of the Michigan Natural Resources and Environmental Protection Act ("NREPA") MCL 324.20101 *et seq.*, and Mich. Admin. Code R. 299.710, as such criteria may be amended, adjusted or replaced.

K. Hazardous Substances has the same definition as that term in Section 20101(1) of NREPA, MCL 324.20101(1).

L. HCT Water Treatment System means the system used by PLS to treat water collected by the PLS remediation systems and to discharge that water to the Honey Creek Tributary at Outfall 001, as described in the NPDES Permit.

M. Major Reports means those reports that PLS is required to submit under the Consent Judgment or a MDEQ-approved work plan that address response activities affecting properties within the City or City Property, and any other final reports that PLS in good faith determines would be of significant interest to the City.

N. MDEQ means the State of Michigan Department of Environmental Quality, and its successor state agencies.

O. NPDES Permit means, unless specified otherwise, National Pollutant Discharge Elimination System Permit No. MI 0048453, as amended, renewed, or replaced, that authorizes PLS' discharge of treated water and effluent limits for such discharge.

P. Northwest Supply Well means the City's municipal water supply wells located on Montgomery Street in the City of Ann Arbor.

Q. Northwest Supply Wellfield means the municipal well field associated with the Northwest Supply Well.

R. Prohibition Zone means the area within which groundwater use is restricted pursuant to the Prohibition Zone Order, the boundaries of which are as depicted on the attached Figure 3, including a proposed expansion of the Prohibition Zone boundary that, as of the date of this Agreement, has not been approved by the MDEQ. The Prohibition Zone as that term is used in this Agreement shall include the proposed expansion as approved by the MDEQ. Upon MDEQ approval of the expansion, the document attached as Figure 3 and identified as "PROPOSED EXPANSION 4/18/06" will be replaced with a new Figure 3 showing the

expansion as approved by the MDEQ. The Prohibition Zone, as that term is used in this Agreement, shall not include any further expansion of the Prohibition Zone beyond the boundaries depicted on Figure 3.

S. Prohibition Zone Order means the May 17, 2005 Order Prohibiting Groundwater Use entered in *Attorney General, et al. v. Gelman Sciences, Inc.* Case No. 88-34734-CE (Washtenaw Cty. Cir. Ct.).

T. PLS Property means the PLS facility located at 600 S. Wagner Road, Ann Arbor, Michigan.

U. PLS Remediation means the response activities PLS is required to undertake by the Consent Judgment, associated court orders and MDEQ-approved workplans.

V. Response Activity Costs has the same meaning as the definition of that term in Section 20101(1)(ff) of NREPA, MCL 324.20101(1)(ff).

W. Response Costs has the same meaning as the definition of that term in 42 U.S.C. 9607(a).

X. State Maximum Contaminant Level means the maximum contaminant level established by the State under Michigan's Safe Drinking Water Act, MCL 325.1001, *et seq.*

Y. Trigger Level, as of the date of this Agreement, means the current GCGI for 1,4-dioxane of 85 parts per billion ("ppb"). If a new GCGI value is promulgated by the MDEQ, that value will become the Trigger Level from the time of promulgation forward, unless the new GCGI value is based on the development by the State of Michigan of a State Maximum Contaminant Level for 1,4-dioxane that is not a Federal Maximum Contaminant Level developed by USEPA. If, however, a Federal Maximum Containment Level is developed for 1,4-dioxane, a change in the GCGI value based on

that Federal Maximum Containment Level will become the new Trigger Level upon promulgation of the revised GCGI value by the MDEQ.

Z. Unit E Aquifer means the groundwater aquifer that is the subject of the Unit E Order.

AA. Unit E Order means the December 17, 2004 Order and Opinion Regarding Remediation of the Contamination of the "Unit E" Aquifer in *Attorney General, et al. v. Gelman Sciences, Inc.*, Case No. 88-34734-CE (Washtenaw Cty. Cir. Ct.), as may be amended.

BB. USEPA means the United States Environmental Protection Agency.

CC. Verified Monitoring Results shall be the results of the laboratory analysis of groundwater samples obtained from the Series A and Series B Wells described in Section VI, below, following completion of the Quality Assurance/Quality Control ("QA/QC") and verification procedures described in Appendix A.

DD. Well Information Database means the information PLS maintains with groundwater monitoring well information and outfall water quality information, including the following: well identification information (address, X and Y coordinates, top of casing and ground elevations, well and screen depths, survey information), dates of sampling, and sampling results.

III. SETTLEMENT PAYMENT AND DISMISSAL OF PROCEEDINGS.

A. Settlement Payment By PLS. Within Twenty-one (21) days after the Effective Date of this Agreement, PLS shall pay to the City the sum of Two Hundred Eighty Five Thousand Dollars ($285,000). The payment shall be made by check or draft payable to "The City of Ann Arbor" and be sent by overnight delivery to: Stephen K. Postema, City Attorney, 100 N. Fifth Avenue, Ann Arbor, Michigan 48104.

B. Dismissal of Proceedings. Upon execution of this Agreement, the City shall promptly dismiss with prejudice all Claims in the State Lawsuit, the Federal Lawsuit, and the Contested Case, with each Party to bear its own costs. Each Party shall, at its own expense, take whatever steps are necessary on its behalf to effectuate such dismissals.

IV. RELEASE OF CLAIMS AND RESERVATION OF RIGHTS

A. City Release. Except as provided in Paragraph IV.B, below, the City hereby irrevocably and unconditionally forever releases, discharges, and covenants not to sue, proceed against, or seek contribution from PLS, and any of its predecessors, successors, assigns, parents, subsidiaries, affiliates, officers, directors, employees, attorneys, agents, and/or representatives (the "Released Parties") and shall forever relinquish, remise, discharge, waive, and release any and all Claims that it may now or in the future have against the Released Parties in connection with the Covered Matters. Covered Matters are defined as:

1. All Claims arising directly or indirectly from Hazardous Substances in soil, groundwater, and surface water at or emanating, released, or discharged from the PLS Property (collectively "Contamination"), including, without limitation, all Claims that were or could have been asserted in the State Lawsuit, the Federal Lawsuit and/or the Contested Case.
2. All Claims, past, present and future, for civil fines, penalties and costs.
3. All Claims and rights under the Administrative Procedures Act to petition, challenge or contest any future NPDES permit issued to PLS that authorizes the discharge to the Honey Creek Tributary from PLS' groundwater treatment system(s).

B. Exceptions and Reservation of Rights. Notwithstanding Paragraph IV.A, above, the City reserves, and this Agreement is without prejudice to, its right to petition, challenge, sue, proceed against or otherwise seek reimbursement, contribution, indemnification and/or other remedy from PLS, with respect to:

1. Enforcement of this Agreement.

2. Any future necessary Response Activity Costs or Response Costs to address a new plume of Contamination or Contamination in a previously uncontaminated aquifer that is discovered after the date of this Agreement that could not have been brought in the State Lawsuit or Federal Lawsuit ("New Contamination"). This exception to the general release set forth in Paragraph IV.A shall not apply to:

   a. The future migration of Contamination within the Prohibition Zone;

   b. Contamination present in the groundwater at levels below the then applicable GCGI or State or Federal Maximum Contaminant Level, if any, that is associated with the plumes of Contamination known to exist as of the date of this Agreement ("Known Plumes") or;

   c. Contamination present at the Northwest Supply Wellfield or the property on which the Northwest Supply Well is located.

3. Claims that arise from the unforeseen change in the migration pathway of a Known Plume that: (a) Results in the presence of 1,4-Dioxane at levels above the then applicable GCGI or State or Federal Maximum Contaminant Level at locations where such concentrations are not present as of the date of this Agreement; and (b) causes a City Property to be considered a "facility" as defined under Part 201. This exception to the general release set forth in Paragraph IV.A shall not apply to any Claims associated with:

a. The migration of Contamination within the Prohibition Zone; or

b. The Northwest Supply Wellfield or the property on which the Northwest Supply Well is located.

4. The presence of Contamination at the Steere Farm Wellfield.

5. Necessary Response Costs and/or Response Activity Costs to extent the City may recover such costs under 42 U.S.C. 9607a and/or MCL 324.20126a that arise from the continued presence of 1,4-Dioxane at levels above the GCGI within the Prohibition Zone and one or more of the following:

a. Soil and/or water sampling and analysis from areas within the Prohibition Zone, to determine if 1,4-Dioxane is present in wells, excavations, and similar locations where groundwater is present or evident;

b. Dewatering costs and disposal costs, including permit costs, for soil and groundwater removed from the Prohibition Zone that is contaminated with 1,4-Dioxane if permits are required for such dewatering or disposal;

c. Worker training and use of protective gear;

d. Increased costs of contracting in areas affected by 1,4-Dioxane (e.g., need to use 40-hour OSHA hazardous substance/waste trained personnel rather than standard contractors; increased time for completion of projects and the like); and

e. The City's due care obligations under MCL 324.20107a and 42 U.S.C. 9607(q)(1)(A)(iii).

This exception to the general release set forth in Paragraph IV.A shall not apply to any Claims associated with the Northwest Supply Wellfield or the Northwest Supply Well itself.

6. The issuance of any future NPDES Permit or renewal of PLS' current NPDES Permit that authorizes PLS' discharge of treated groundwater to the Honey Creek Tributary, but only to the extent that a future proposed NPDES Permit/renewal:

a. Contains a new effluent limitation for a compound that is less restrictive than the effluent limitation in the current NPDES Permit;

b. Contains an effluent limitation for a compound that is not subject to an effluent limitation in the current NPDES Permit;

c. Allows the discharge of compounds that are not present in PLS' current effluent; or

d. Authorizes PLS to discharge a greater volume of treated water to the Honey Creek Tributary than the current NPDES Permit.

Unchanged portions of any future NPDES Permit shall not be subject to petition, challenge or contest.

7. The City's rights, if any, to take action to require the MDEQ to enforce violations of the NPDES Permit.

V. HONEY CREEK RESPONSE ACTIONS REGARDING BROMATE

A. Monitoring. Except as otherwise provided in this Agreement, monitoring for Bromate shall be accomplished at a single location. Sampling procedures and methods shall be as follows:

1. *Monitoring Location and Frequency:* PLS will sample surface water for Bromate on a daily basis, Monday through Friday, at the confluence of Honey Creek and the Huron River (hereinafter, "HC/HR"), as generally depicted in the diagram attached as Figure 1. The City may, at its discretion, collect samples on Saturday and Sunday of each week and is responsible for retaining any such samples. Except as provided below, PLS will only be responsible for analyzing one of the City's weekend samples (Saturday or Sunday) per month on the Monday following collection if and when the City collects such samples. PLS will also analyze the City's weekend samples if equipment malfunction or other

circumstance causing an "upset" condition occurs or is discovered on a Friday or Monday.

2. *Sampling Method and Transmission of Results*: Surface water will be collected as a grab sample. Samples will be collected between 7:00 a.m. and 10:00 a.m. or as soon as weather permits. For any samples PLS is required to obtain under this Section, the PLS analytical laboratory will analyze and report the results on the same day (for Monday through Friday samples) by email to the City's Environmental Coordinator and to the City's Water Quality Manager. Bromate analyses at PLS shall be conducted using USEPA Method 317 (or an equivalent, USEPA approved, method). The method detection limit (MDL) for Bromate using this method is currently 2 ppb, which constitutes the MDL that will be used with reference to determining action under this section. A lower MDL may be substituted for the agreed MDL if future changes in laboratory capabilities using acceptable methods allow.

3. *Split Sampling:* The City: (1) may split samples with PLS at any time, with 24 hours notice to PLS; (2) may collect samples at any time independent of the PLS sampling schedule; and (3) may utilize the PLS analytical laboratory as a backup laboratory for analyzing the City's split samples at a reasonable charge not to exceed PLS' costs.

B. Action Plan. If an analysis of a sample by PLS or the City indicates that the concentrations of Bromate at the HC/HR exceed 2 ppb, PLS will take the following actions:

1. PLS will perform a quality control and quality assurance review to determine if the monitoring result was due to an analytical or reporting error.

2. PLS will review the performance of its HCT Water Treatment System to determine if that system is operating properly, and, if it determines the functioning of the HCT Treatment System to be a possible cause of the monitoring result, PLS will make such adjustments as it deems necessary and collect an effluent sample shortly after those adjustments to determine system performance after such adjustments.

3. Within thirty-six (36) hours after completing the actions in subparagraphs 1 and 2, PLS will collect another surface water sample at HC/HR ("Confirming Sample"). PLS will collect another surface water sample at HC/HR on any Saturday following a Friday with a monitoring result in excess of 2 ppb. The City may collect a split sample of the Confirming Sample. If the Confirming Sample shows that Bromate at HC/HR is no longer present at concentrations in excess of 2 ppb, then monitoring shall resume as provided in this Section and no further action is necessary.

4. If the Confirming Sample shows the presence of Bromate in excess of 2 ppb, PLS will take actions as soon as practicable to reduce Bromate levels at HC/HR below 2 ppb. The initial actions may include, but are not limited to, the following:

    a. PLS may alter the flow composition into the HCT Water Treatment System so as to reduce the Bromate levels, but maintain the total flow of water treated and discharged by the system.

    b. PLS may reduce the total flow at the point of discharge to the Honey Creek Tributary (Outfall 001 in NPDES Permit MI 00 48453).

5. If the steps outlined in the previous subsections are not sufficient to reduce concentrations of Bromate to 2 ppb at the HC/HR within a reasonable time, PLS will take additional actions to achieve this reduction. Such actions may include, but are not limited to, the following:

   a. PLS may replace the current HCT Water Treatment System technology (ozone and hydrogen peroxide) with a combination of ultraviolet light (UV) and ozone technologies or other technology.

   b. PLS may install a pipeline to deliver treated water to a point along the Huron River downstream from the City's water intake.

C. Unavailability of PLS' Laboratory. In the event PLS' laboratory is no longer available, the Parties agree to negotiate in good faith to make appropriate adjustments, if any, to the laboratory turn around times set forth in this Section V. All commercially reasonable efforts will be made by PLS to identify and use a laboratory that will meet the turn around times set forth in this Section V.

D. Termination of Honey Creek Monitoring. PLS' obligations under this Section V shall terminate once PLS is no longer discharging treated groundwater to the Honey Creek Tributary or any other surface water body connected to Honey Creek or the Huron River or if PLS' HCT Water Treatment System is changed to a system that does not produce or otherwise cause Bromate to be present in the discharge.

VI. NORTHWEST SUPPLY WELL RESPONSE ACTIVITIES

A. Groundwater Monitoring Plan. PLS will undertake the following groundwater monitoring:

1. *Series A Well Location.* Within 90 days of the Effective Date of this Agreement, PLS will install a nested well configuration at the approximate location identified on the map attached hereto as Figure 2 (the "Series A Wells").

2. *Monitoring of Series A Wells.* PLS shall sample the Series A Wells for 1,4-Dioxane quarterly until termination using the procedures set forth in Appendix A.

3. *Series B Wells.* If the Verified Monitoring Result obtained from any Series A Well exceeds one-half (1/2) of the Trigger Level, PLS will install a nested well configuration at each of the locations described below within 90 days of obtaining access (the "Series B Wells"). One location will be in the general vicinity of Bemidji as shown on the map attached as Figure 2. The second well location will be determined by the Parties at the time the Verified Monitoring Result obtained from any Series A Well exceeds one-half (1/2) of the Trigger Level.

4. *Monitoring of Series B Wells.* PLS shall sample the Series B Wells for 1,4-Dioxane quarterly until termination as provided in Paragraph VI.A.6 using the procedures set forth in Appendix A.

5. *Well Installation.* Wells required under this Section VI are to be installed by PLS and shall follow the well construction procedures described in Appendix A.

6. *Termination.* PLS' obligations under this Section VI will continue until such time as the earliest of the following occurs:

    a. The MDEQ (or other regulatory body with oversight of the PLS Remediation) no longer requires groundwater monitoring in the Unit E Aquifer upgradient of the Northwest Supply Well;

    b. The Northwest Supply Wellfield is rendered unsuitable for drinking because of reasons other than the presence of 1,4-Dioxane;

    c. The Northwest Supply Well fails or becomes unusable and cannot legally be replaced for reasons other than the presence of 1,4-Dioxane; or

    d. By mutual agreement of the Parties.

B. Contingent Payment.

1. *Trigger of Contingent Payment.* In the event the Verified Monitoring Results indicate that the average concentration of 1,4-Dioxane in the nested wells at either Series B Well location exceeds the Trigger Level, then PLS shall make the payments described in Paragraphs VI.B.2 and 3. PLS' obligation to make such payments shall not be affected or reduced by the presence of 1,4-dioxane other than "1,4-Dioxane" (as defined in this Agreement) if the Trigger Level would have been exceeded even absent the presence of such 1,4-dioxane.

2. *Contingent Payment.* In the event the Contingent Payment is triggered, as described in Paragraph VI.B.1, PLS shall pay the City the sum of Four Million Dollars ($4,000,000) (the "Contingent Payment") within Sixty (60) days of receipt of the Verified Monitoring Results. The payment shall be made by check or draft payable to "The City of Ann Arbor" and be sent by overnight delivery to: Stephen K. Postema (or his successor), City Attorney, 100 N. Fifth Avenue, Ann Arbor, Michigan 48104.

3. *Escalator Payment.* In the event the Contingent Payment is triggered, as described in Paragraph VI.B.1, PLS shall, in addition to the Contingent Payment, pay the City the Escalator Payment within Sixty (60) days of the date the Escalator Index for the month during which the Contingent Payment is triggered becomes publicly available.

C. Additional Provisions

1. *Operation of Northwest Supply Wellfield.* The City shall only operate the Northwest Supply Wellfield in a manner that benefits the City's public water

supply system. The City shall not operate the Northwest Supply Well or install and operate a new well in the Northwest Supply Wellfield for the purpose of moving the plume of 1,4-Dioxane toward the Northwest Supply Well.

2. *Response Activities.* PLS may undertake additional response activities in the vicinity of the Northwest Supply Well to provide additional assurance that concentrations of 1,4-Dioxane in the monitoring wells do not reach the Trigger Level. If these additional response activities entail installation of infrastructure within the City, the City will cooperate with such activities in a manner consistent with Section IX of this Agreement.

VII. ADDITIONAL RESPONSE ACTIVITIES

A. PLS Performance of Future Laboratory Analyses.

1. *Analysis of City Samples.* PLS at its sole cost will perform laboratory analyses for 1,4-Dioxane, and provide the results of same and related laboratory QA/QC documentation to the City, with regard to samples the City obtains from the City's source waters. PLS' obligation to analyze such samples shall be limited to samples taken at the following frequencies and from the following locations:

   a. Quarterly groundwater samples from either the Northwest Supply Well or from the existing monitoring well located at the Northwest Supply Wellfield.

   b. Monthly groundwater samples from the transmission main from the Steere Farm Wellfield. If 1,4-dioxane is detected in a monthly sample from the transmission main, PLS will analyze monthly groundwater samples obtained by the City from the individual Steere Farm production wells.

   c. Monthly surface water samples from the Huron River and from Barton Pond.

2. *Split Sampling.* PLS agrees that, for quality control and quality assurance (QA/QC) purposes, on occasion the City may obtain duplicate (split) samples of water from the same sources or locations noted in Paragraph VII.A.1, above, and will cause those duplicate samples to be analyzed by a separate, independent laboratory. PLS will reimburse the City the amounts it pays in the future to obtain such independent laboratory analyses, provided that the number of such split samples is not greater than that reasonably required for appropriate QA/QC purposes.

3. *City Staff Time.* The City shall be responsible for obtaining the water samples from the locations described in Paragraph VII.A, above, and for following all appropriate sampling protocols and procedures. Except for Claims reserved in Section IV, above, PLS will not be required to reimburse the City for costs of obtaining such samples, including City staff time.

4. In the event PLS' laboratory is not available, PLS will be responsible for the cost of obtaining the laboratory analyses described in this Section VII.

VIII. TRANSPARENCY

A. Well Information Database. Within 30 days after the Effective Date, PLS shall transmit to the City its current Well Information Database as of the date of transmittal. This information shall be provided electronically in one or more Excel® files. Data to be provided in the Well Information Database will include at a minimum: the well or other sample location information (X and Y coordinates, top of casing and ground elevations, well and screen depths, address, etc.); sampling results for 1,4-Dioxane and/or Bromate; and other water quality data from the analysis. Submittals from PLS may also include

other fields of data mutually agreed upon by the City and PLS. Thereafter, no later than the 20th day of the first full month following the initial submittal, and continuing monthly thereafter, PLS will provide to the City an update to the Well Information Database ("Update") in Excel® format. Each Update shall include dates and sample results for the previous month and any new well information developed and entered into the Well Information Database by PLS after the last submittal.

B. Major Reports. PLS will provide the City with copies of final versions of Major Reports submitted to the MDEQ at the same time and in the same format they are submitted to the MDEQ, provided that the City can request any Major Report, or portion thereof, in electronic form, and PLS will then provide the requested material in electronic form when reasonable. PLS shall also provide copies of additional reports reasonably requested by the City. PLS shall also provide copies of requests by PLS to the MDEQ for permit modifications and copies of reports showing trend analysis of 1,4-Dioxane or Bromate concentrations in surface or groundwater. If any of the foregoing reports or documents is in paper format, the City may request that the report or document or portion(s) thereof be provided electronically, and PLS will cooperate to the extent practicable. Except as explicitly modified above, PLS will continue to provide to the City all data and reports that it is otherwise required to provide and/or which it already is providing to the City. The data and reports addressed in this Section VIII are in addition to or are modifications of those data and reports.

C. Use of Information and Data. The City may manipulate data and information provided under this Section in any manner it chooses and understands. The City may release the data and any reports the City creates, in either paper or electronic format, provided,

however, that any such document or electronic file shall clearly state on its face that it has been created by the City. The City will provide PLS with copies of all reports that are released or that are subject to release to the public. The City shall not release any of the reports or data provided by PLS pursuant to this Section VIII in the form provided by PLS in either paper or electronic format except in response to a Freedom of Information Act ("FOIA") request. The City shall not publish any of the reports or data PLS provides to the City on the Internet in the form provided by PLS. PLS is responsible for marking each document that PLS asserts is protected by copyright.

D. Data Gaps. The City may review the Well Information Database and Updates and identify any perceived data gaps to PLS. After the City identifies such a gap, PLS will fill in the field(s) with information, if it is available, with the next Update. PLS will identify those gaps for which there is no information. To the extent practical, within 90 days after the City identifies a data gap to PLS, PLS will complete the dataset(s) or document why data are incomplete. The Parties acknowledge that the PLS Remediation has been ongoing for many years, and, in some cases, information regarding wells may not have been collected or may be missing or lost.

E. Provision of Reports from the City to PLS. The City will provide PLS with any final reports that the City in good faith determines would be of significant interest to PLS. The City shall also provide copies of additional reports reasonably requested by PLS. If any of the foregoing reports is in paper format, PLS may request that the report or portion(s) thereof be provided electronically, and the City will cooperate to the extent practical.

F. Disputes. Any issue arising under this Section which cannot be resolved quickly at a staff level shall be referred to the Coordination Committee for discussion and resolution.

IX. COOPERATION AND COORDINATION

A. Access. The City shall provide access to City Property and rights of way to facilitate the installation of monitoring wells PLS is required to install under MDEQ-approved work plans at appropriate locations and pursuant to mutually acceptable license agreements. The City shall process PLS' access requests in an expeditious manner. The City has the right to discuss the proposed location with PLS and to recommend an alternate location(s) for the well prior to submittal of sites to the MDEQ. PLS will submit to the City an application for a license for a monitoring well at that location, subject to approval by the MDEQ. PLS will endeavor to provide both the City and property owners on the same and intersecting street(s) within 200 feet of the well location with a minimum of seventy-two (72) hours notice prior to the installation date for any such well(s).

B. Master Bond. PLS will provide a "Master Bond" in the form attached hereto as Appendix B. The Master Bond will satisfy the surety bonding requirements of all current license agreements between the City and PLS for existing monitoring wells on City Property or rights of way and up to an additional ten (10) monitoring wells that may be installed by PLS on City Property or rights of way in the future.

C. Communication.

1. *Communications from PLS.* PLS will use reasonable efforts to inform the City contemporaneous with the MDEQ of any unexpected findings regarding conditions on City Property and property within the City limits, conditions both inside or outside City boundaries that may or do affect property within the City limits, City-owned facilities or City-provided services, and any other findings PLS in good faith deems to be of significant concern to the City. PLS will copy

the City (if in writing) on any communications with the MDEQ and will use reasonable efforts to inform the City of other communications from PLS regarding the foregoing. To the extent possible, Mr. Fotouhi will contact Ms. McCormick and/or Mr. Naud by telephone, facsimile, or email to communicate the relevant information.

PLS will copy the City (if in writing) on any communications with the MDEQ and will use reasonable efforts to inform the City of other communications from PLS regarding the promulgation of a maximum contaminant level ("MCL") for 1,4-dioxane. To the extent possible, Mr. Fotouhi will contact Ms. McCormick and/or Mr. Naud by telephone, facsimile, or email to communicate the relevant information.

2. *Communications from the City.* The City will copy PLS (if in writing) on any communications with the MDEQ and will use reasonable efforts to inform PLS of other communications from the City regarding City comments on PLS' cleanup efforts or regarding the promulgation of a maximum contaminant level ("MCL") for 1,4-Dioxane. To the extent possible, Mr. Naud and/or Ms. McCormick will contact Mr. Fotouhi by telephone, facsimile, or email to communicate the relevant information.

D. Meetings.

1. *City Council Meetings.* In the event that City Council intends to consider an issue that the City in good faith deems to be a significant concern to PLS, the City will use reasonable efforts to provide PLS with advance notice and the opportunity to make a written or oral presentation to City Council. To the extent possible, Mr.

Naud or Ms. McCormick will contact Mr. Fotouhi by telephone, facsimile, or email to communicate the relevant information.

2. *Public Meetings.* In the event the City intends to hold or co-sponsor a public meeting related to PLS, the City will provide PLS with advance notice and the opportunity to participate in the meeting. PLS will use reasonable efforts to participate in any such public meeting. The City agrees that its participation in any such meeting shall be consistent with its agreement to cooperate with PLS' implementation of the Unit E Order and all MDEQ-approved plans entered under the Unit E Order.

3. *Intergovernmental or Citizen/Governmental Coalitions and Organizations.* In the event the City participates in any intergovernmental coalitions or citizen/governmental coalitions or organizations regarding the PLS Remediation, the City's participation shall be consistent with its agreement to cooperate with PLS' implementation of the Unit E Order and all MDEQ-approved plans entered under that Order. The City will use reasonable efforts to have a PLS representative included in any such coalition or organization. The City will copy PLS (if in writing) on any communications to such groups and will use reasonable efforts to inform PLS of other communications that the City in good faith determines would be of interest to PLS.

4. *Quarterly/Semiannual Meetings of Coordination Committee.* The City and PLS shall meet on a regular basis to discuss issues of interest to the City and/or to PLS related to the PLS Remediation. Issues of interest to the City and/or to PLS are issues related to conditions on City Property, to conditions on property within the

City limits, and to conditions both within and outside the City boundaries that may or do affect City-owned facilities or City-provided services and any other topics mutually agreed upon by the Parties. The meetings will take place quarterly for the first two years, followed by semiannual meetings thereafter, unless a different schedule is mutually agreed upon by the Parties. The participants shall be Mr. Fotouhi, Mr. Naud, and Ms. McCormick. Ms. Bartlett will participate in such meetings by telephone. Members of City Council also may participate. This group shall be referred to as the Coordination Committee. At least one week prior to each meeting, Mr. Naud and/or Ms. McCormick will notify Mr. Fotouhi of any questions or topics they wish Mr. Fotouhi to answer or address at the meeting, and Ms. Bartlett and/or Mr. Fotouhi will notify Mr. Naud and Ms. McCormick of any questions or topics they wish Mr. Naud and/or Ms. McCormick to answer or address at the meeting.

E. Use of City Utilities. The City shall evaluate any application by PLS to use the City sanitary sewer system in accordance with the provisions of Chapter 28 of the Ann Arbor City Code. PLS understands that sanitary sewer services may be extended to a property outside the City under only certain, limited circumstances, that a service connection to the sanitary sewer within the City may only be made by agreement with the owner of the property that is serviced, and that Chapter 28 requires users of the sanitary sewer system to comply with specified pretreatment standards. If PLS requires use of the City's sanitary or storm water sewer systems in the future as a short-term method of disposing of purged groundwater, the City will consider such requests on a case-by-case basis in accordance with the provisions of Chapters 28 and 33 of the Ann Arbor City Code.

F. City Resolution. To the extent it is inconsistent, City Council Resolution No. R-583-12-96, entitled Resolution Regarding the Immediate Cleanup of Gelman Sciences' Groundwater Contamination, is superseded by the provisions of this Agreement.

G. Cooperation with Implementation of Unit E Order. The City shall cooperate with PLS' implementation of the Unit E Order and all MDEQ-approved plans entered under the Unit E Order. The City's cooperation shall include, but is not limited to, maintaining the Prohibition Zone Order and the attached map that depicts the Prohibition Zone established by the Prohibition Zone Order, as amended, in the same manner as the City already has done pursuant to the Prohibition Zone Order.

H. *Successor Responsibilities.* All references to specific persons in this Section IX also include the individual's successor in the event he or she leaves the employ of the respective Party.

X. FORCE MAJEURE

A. Force Majeure. Any delay attributable to a Force Majeure shall not be deemed a violation of a Party's obligations under this Agreement. "Force Majeure" is defined as an occurrence or nonoccurrence arising from causes beyond the control of a Party or of any entity controlled by the Party. Such occurrence or nonoccurrence includes, but is not limited to: (1) an Act of God; (2) acts or omissions of third parties for which the Party is not responsible; (3) insolvency of any vendor, contractor, or subcontractor retained by a Party as part of implementation of this Agreement; and (4) delay in obtaining necessary access agreements that could not have been avoided or overcome by due diligence. "Force Majeure" does not include unanticipated or increased costs or changed financial circumstances.

B. When circumstances occur that a Party believes constitute Force Majeure, the Party shall notify the other Party by telephone, facsimile, or email of the circumstances within 48 hours after the Party first believes those circumstances to apply. Within 14 working days after the Party first believes those circumstances to apply, the Party shall supply to the other Party, in writing, an explanation of the cause(s) of any actual or expected delay, the anticipated duration of the delay, the measures taken and the measures to be taken by the Party to avoid, minimize, or overcome the delay, and the timetable for implementation of such measures.

XI. TERMINATION OF AGREEMENT

The Parties' obligations under this Agreement shall terminate upon PLS' receipt of the Certificate of Completion from the MDEQ confirming that PLS has completed satisfactorily all requirements of the Consent Judgment, as provided in Section XXV of the Consent Judgment, or after the MDEQ determines that 1,4-Dioxane within the Prohibition Zone does not exceed the applicable GCGI, whichever is later. Notwithstanding the foregoing, Section IV shall survive the termination of this Agreement.

XII. MISCELLANEOUS

A. Severability. The provisions of this Agreement shall be severable. Should any provision be declared by a court of competent jurisdiction to be inconsistent with federal or state law, and therefore unenforceable, the remaining provisions of this Agreement shall remain in full force and effect.

B. Warranties. The Parties each represent and warrant that:

1. The execution and delivery of this Agreement has been duly and validly authorized and approved by all requisite action required under applicable law and that no further action is necessary to make this Agreement valid and binding.

2. Each is fully authorized to enter into this Agreement and is duly organized and validly existing in good standing under the laws of one of the states of the United States of America.

3. Each has taken all necessary governmental, corporate and internal legal actions to duly approve the making and performance of this Agreement and that no further corporate or other internal approval is necessary.

4. The making and performance of this Agreement will not, to the knowledge of either of the Parties, violate any provision of law or of their respective articles of incorporation, charter or by-laws.

5. Knowledgeable officials, officers, employees and/or agents of each Party have read this entire Agreement and know the contents hereof and that the terms of the Agreement are contractual and not merely recitals. Each Party has authorized this Agreement to be signed of its own free act, and, in making this Agreement, each has obtained the advice of legal counsel.

C. Signatories. Each person executing this Agreement warrants that he or she has the authority and power to execute this Agreement from the Party on whose behalf he or she is executing.

D. Change of Circumstances. Each Party to this Agreement acknowledges that it may hereafter discover facts in addition to or different from those which it now knows or believes to be true with respect to the subject matter of this Agreement. The Parties each expressly accept

and assume the risk of such possible difference in facts and agree that this Agreement shall be and remain effective notwithstanding such difference in facts.

E. No Rights to Non-Parties. Except as expressly provided herein, this Agreement is intended to confer rights and benefits only upon the City and PLS, and is not intended to confer any right or benefit upon any other person or entity. Except as expressly provided herein, no person or entity other than PLS and the City shall have any legally enforceable right under this Agreement.

F. Arms-Length Negotiations. This Agreement is the product of arms-length negotiation, and the language in all parts of this Agreement shall be construed as a whole according to its meaning, and not strictly for or against any Party. The Parties hereto agree that this Agreement shall not be construed according to any special rules of construction applicable to contracts of adhesion and/or insurance contracts.

G. Modification. This Agreement may not be modified in whole or in part except by written agreement signed by the City and PLS.

H. Headings. The headings used in this Agreement are for convenience only and shall not be used to construe the provisions of this Agreement.

I. Cooperation. The City and PLS shall execute promptly any and all voluntary dismissals, stipulations, supplemental agreements, releases, affidavits, waivers and other documents of any nature or kind which the other Party may reasonably require in order to implement the provisions or objectives of this Agreement.

J. No Representations. The Parties represent and agree that in executing this Agreement they do not rely and have not relied upon any representation or statement made by any other Party or by any other person or entity released herein with regard to the subject

matter, basis, or effect of this Agreement, or otherwise, which is not specifically set forth herein.

K. Entire Agreement. This Agreement represents the entire understanding of the City and PLS, and this Agreement shall supersede and control any and all prior communications, correspondence, and memorialization of agreement or prior communication between the City and PLS or their representatives relative to the matters contained herein.

L. Counterpart Signatures. This Agreement may be executed in multiple counterparts, each of which, when so executed and delivered, shall be an original, but such counterparts shall together constitute one and the same instrument and agreement.

M. Governing Law. This Agreement shall in all respects be interpreted, enforced, and governed under the law of the State of Michigan and the law of the United States without regard to Michigan's conflict of laws principles.

N. No Waiver. The failure of any of the Parties to exercise any power given such Party hereunder or to insist upon strict compliance by any Party with its obligations under this Agreement, and no custom or practice of the Parties at variance with the terms of this Agreement shall constitute a waiver of the Parties' right to demand exact compliance with the terms hereof.

O. Enforcement. The Parties agree that the Washtenaw County Circuit Court and the United States District Court for the Eastern District of Michigan each may retain jurisdiction to enforce the terms of this Agreement as appropriate.

****SIGNATURE PAGE FOLLOWS****

IN WITNESS WHEREOF, the Parties have executed this Agreement, consisting of Thirty (30) pages plus Appendices A and B and Figures 1 – 3, by their duly authorized representatives as set forth below.

City of Ann Arbor

By: John Hieftje,
Its: Mayor

By: Jacqueline Beaudry,
Its: City Clerk

Roger W. Fraser,
City Administrator

Sue F. McCormick, Public Services Administrator

Stephen K. Postema,
City Attorney
Counsel for the City of Ann Arbor

Fredrick J. Dindoffer,
Bodman, LLP
Counsel for the City of Ann Arbor

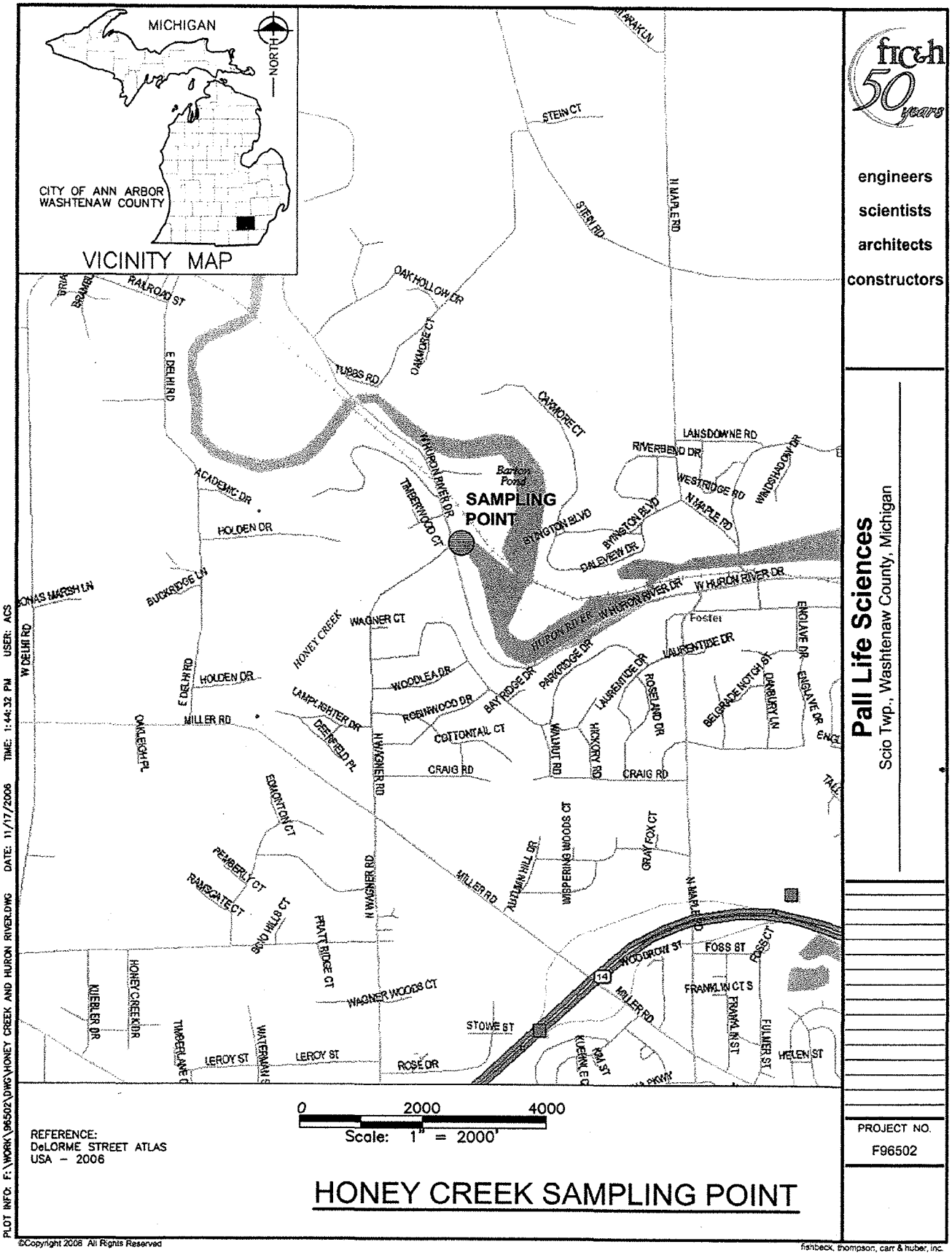
Gelman Sciences, Inc., d/b/a Pall Life Sciences

By: Mary Ann Bartlett
Its: Secretary and Director

Michael L. Caldwell,
Zausmer, Kaufman, August & Caldwell, PC
Counsel for Gelman Sciences, Inc. d/b/a Pall Life Sciences

Alan D. Wasserman,
Williams, Acosta, PLLC
Counsel for Gelman Sciences, Inc. d/b/a Pall Life Sciences

Figure 1


MICHIGAN
NORTH
CITY OF ANN ARBOR
WASHTENAW COUNTY
VICINITY MAP
SAMPLING POINT
Barton Pond
W HURON RIVER DR
HURON RIVER
HONEY CREEK
RAILROAD ST
E DELHI RD
W DELHI RD
TUBBS RD
OAK HOLLOW DR
OAKMORE CT
STEIN CT
STEIN RD
N MAPLE RD
LANSDOWNE RD
RIVERBEND DR
WESTRIDGE RD
WINDSHADOW DR
ACADEMIC DR
HOLDEN DR
TIMBERWOOD CT
BYNGTON BLVD
DALEVIEW DR
BUCKRIDGE LN
JONAS MARSH LN
WAGNER CT
WOODLEA DR
ROBINWOOD DR
LAMPLIGHTER DR
DEERFIELD PL
COTTONTAIL CT
PARKRIDGE DR
BAYRIDGE DR
LAURENTIDE DR
ROSELAND DR
HICKORY RD
WALNUT RD
CRAIG RD
BELGRADE NOTCH ST
DARBURY LN
ENCLAVE DR
MILLER RD
OAKLEIGH PL
H N WAGNER RD
EDMONTON CT
PEMBERLY CT
RAMSGATE CT
BOND HILLS CT
PRATT RIDGE CT
WAGNER WOODS CT
AUTUMN HILL DR
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DeLORME STREET ATLAS
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HONEY CREEK SAMPLING POINT
fresh 50 years
engineers
scientists
architects
constructors
Pall Life Sciences
Scio Twp., Washtenaw County, Michigan
PROJECT NO.
F96502
©Copyright 2006 All Rights Reserved
fishbeck, thompson, carr & huber, inc.
PLOT INFO: F:\WORK\96502\DWG\HONEY CREEK AND HURON RIVER.DWG DATE: 11/17/2006 TIME: 1:44:32 PM USER: ACS
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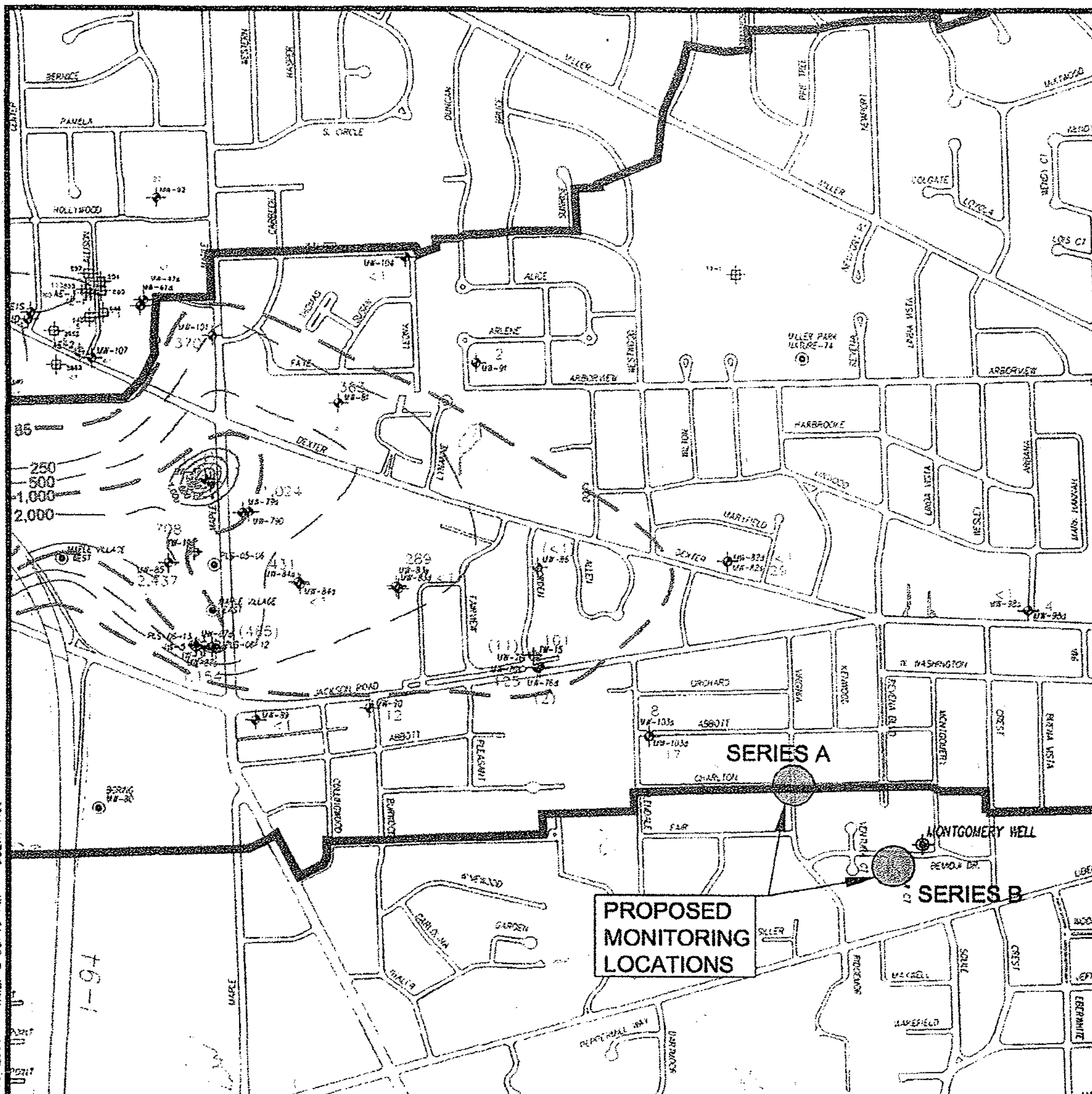
Figure 2



NORTH

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Scale: 1" = 1000'

LEGEND

- MONITOR WELL
- RESIDENTIAL WELL
- PURGE WELL
- HYDROGEOLOGIC TEST BORING
- UV/OX. TREATMENT SYSTEM
- TEMPORARY PURGE WELL
- SURFACE WATER ELEVATION POINT
- UNIT E 1,4-DIOXANE ISOCONCENTRATION CONTOUR (ug/L) - APRIL - SEPTEMBER 2006
- PROHIBITION ZONE BOUNDARY

MONTGOMERY WELL AREA PROPOSED MONITORING LOCATIONS

ftc&h 50 years

engineers
scientists
architects
constructors

Pall Life Sciences
Scio Twp., Washtenaw County, Michigan

PROJECT NO.
F96502

fishbeck, thompson, carr & huber, inc.

Gelman Sciences Inc. Prohibition Zone Boundary

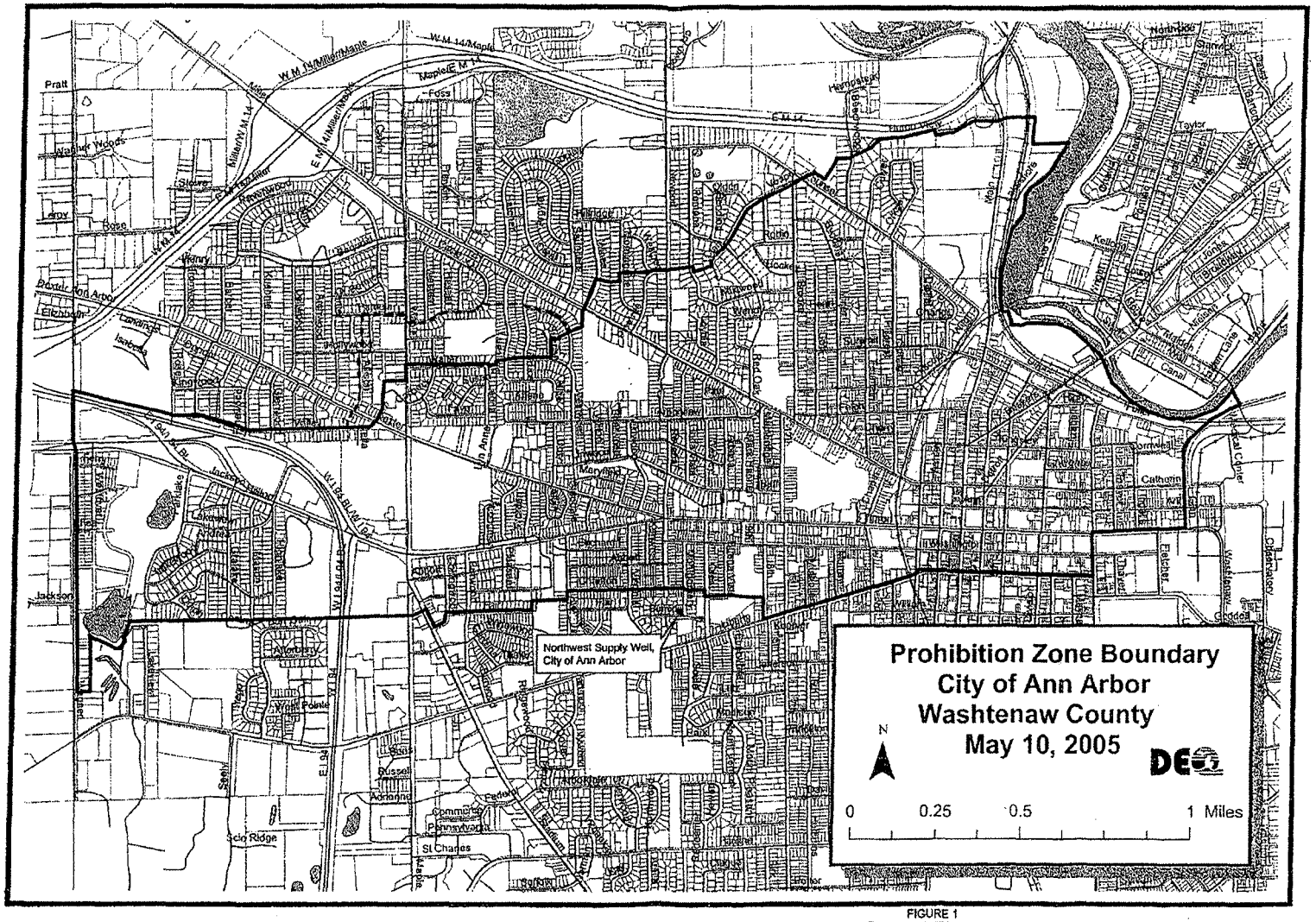
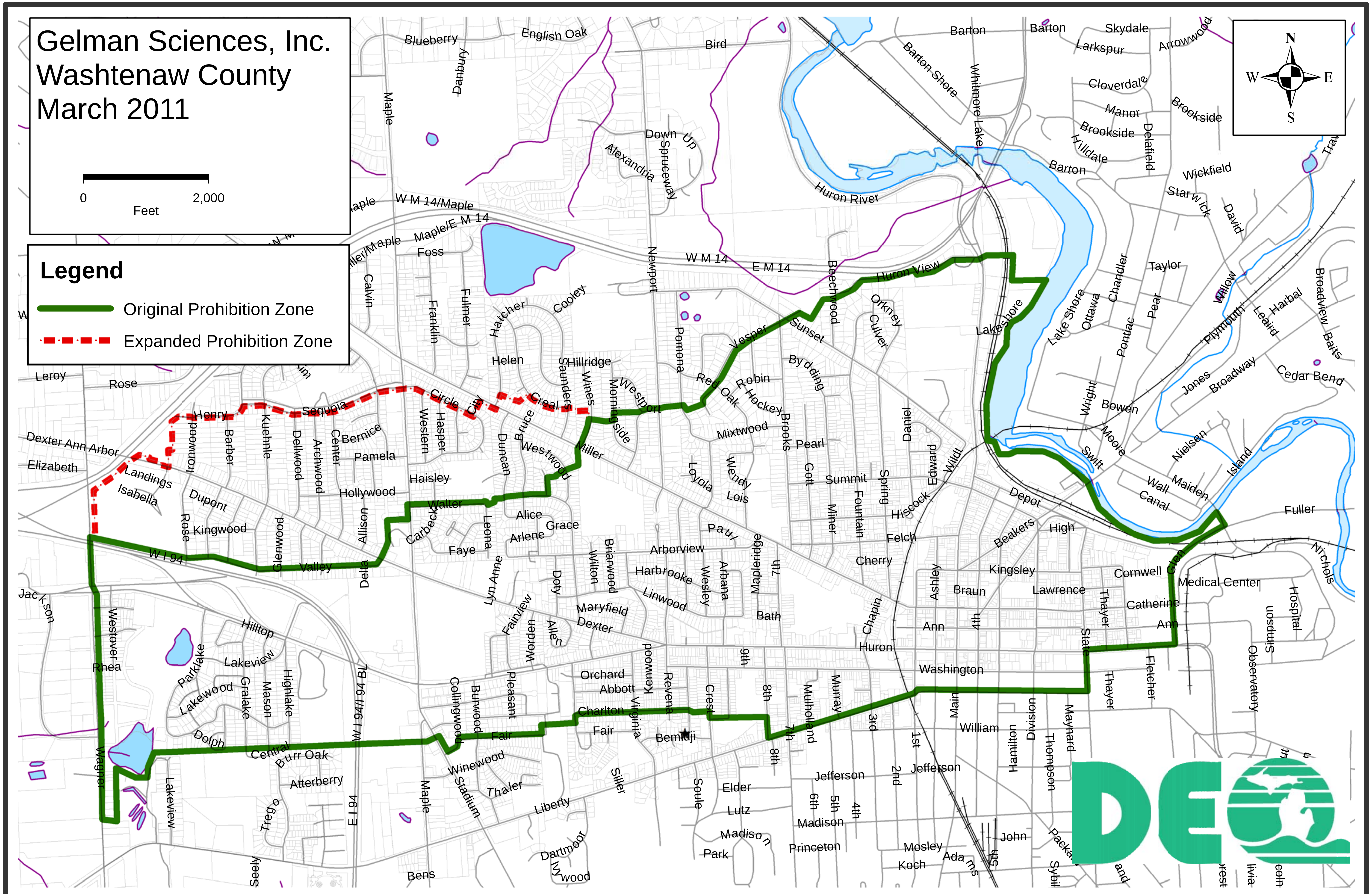


FIGURE 1
PROPOSED EXPANSION
4/18/06

Figure 3

EXHIBIT F



Gelman Sciences, Inc.
Washtenaw County
March 2011
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Original Prohibition Zone
Expanded Prohibition Zone
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EXHIBIT G

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,	Case No. 88-34734-CE Hon. Timothy P. Connors

Plaintiffs,

and

CITY OF ANN ARBOR

Intervening Plaintiff

vs.

GELMAN SCIENCES, INC., d/b/a PALL LIFE SCIENCES, a Michigan Corporation,

Defendant.
_____/

BODMAN PLC
BY: FREDRICK J. DINDOFFER (P31398)
THOMAS P. BRUETSCH (P57473)
NATHAN D. DUPES (P75454)
Attorneys for Plaintiff
1901 St. Antoine, 6th Floor
Detroit, Michigan 48226
(313) 259-7777
_____/

INTERVENOR CITY OF ANN ARBOR'S COMPLAINT

The City of Ann Arbor, a municipal corporation ("Ann Arbor" or the "City") states as follows for its complaint as intervenor:

JURISDICTION AND VENUE

1. This Court has jurisdiction over this matter pursuant to MCL 324.1701, MCL 324.20135 and MCL 324.20137, and because damages sought by Ann Arbor exceed $25,000. Ann Arbor also seeks injunctive relief.

2. Venue is proper in this court pursuant to MCL 324.1701(1), MCL 324.20135(7), MCL 324.20137(3) and MCL 600.1629 because the release (within the meaning of MCL 324.20101) of Hazardous Substances that is the subject of this complaint, and the acts, omissions, injuries and damages complained of herein, occurred in Washtenaw County.

THE PARTIES

3. The City is a municipal corporation located in Ann Arbor, Michigan.

4. Defendant Gelman Sciences, Inc. d/b/a Pall Life Sciences ("Pall" or "Defendant") is a Michigan corporation that conducts business in Washtenaw County.

5. Defendant Pall is the successor of the 1997 merger between Gelman Sciences, Inc. and Pall Acquisition Corporation through a stock purchase agreement and merger.

6. Defendant Pall owns real property located at 600 South Wagner Road, Ann Arbor, Michigan, 48103 ("Source Property").

7. Defendant operates the Source Property.

8. In 2013 Defendant ceased commercial operations at the Source Property, but continues to occupy and operate the Source Property and utilize it.

NATURE OF THE CLAIM

A. Introduction.

9. In 2004 and 2005, the City filed actions in state and federal courts against Defendant regarding Hazardous Substances[1] [principally 1,4 dioxane, which according to EPA is a probable carcinogen] Released[2] by Defendant at and migrating from Defendant's property, as well as a petition for a contested case hearing to challenge Defendant's permit to discharge treated water to Honey Creek.

10. In 2006, the parties entered into a settlement agreement ("Settlement Agreement") in which Defendant agreed to, among other things, compensate the City, monitor water quality, and provide the City with extensive and detailed reports on its sampling activities and other data. In exchange the City granted Defendant a limited release of claims.

11. The City entered into the Settlement Agreement under the belief that Defendant would undertake and successfully complete its obligations under the then-existing consent judgment, among them to contain the spread of the contaminated 1,4 dioxane plumes.

12. In the Settlement Agreement, the City reserved the right to assert future claims with respect to among other things: (A) Claims for response costs and response activity costs to address new plumes of contamination; and (B) All Claims related to the unforeseen change in the migration pathway of a known plume, which results in contamination above the applicable cleanup criteria (as they might be amended in the future) and which causes City property to be considered a Facility under Part 201 of Michigan's Natural Resources and Environmental Protection Act ("NREPA").

[1] As "Hazardous Substance" is defined by MCL 324.20101(1)(x).
[2] As "Release" is defined by MCL 324.20101(1)(pp).

13. The City disclaims any attempt to make a claim in this suit which exceeds what is allowed by the Settlement Agreement.

B. Current Conditions

14. Among other things, MCL 324.20114 requires that the Owner or Operator of a "facility" who is liable for a "Release" of hazardous substances must: (i) "…determine the nature and extent of the Release at the facility"; (ii) "Immediately stop or prevent an ongoing release at the source"; and (iii) "diligently pursue response activities necessary to achieve the cleanup criteria established under [Part 201]…"

15. Despite the requirements of MCL 324.20114, Defendant's releases of 1,4 dioxane have not been stopped at the source, but instead have been allowed to continue to migrate away from Defendant's property.

16. On October 27, 2016, the Michigan Department of Environmental Quality ("MDEQ") declared that Defendant's releases of hundreds of thousands of pounds of 1,4 dioxane into groundwater in and around Ann Arbor constitutes an emergency threatening the public health, safety and welfare of local citizens and the environment.

17. In declaring an emergency, MDEQ pointed to, among other things, "[r]ecent shallow groundwater investigations" that "have detected 1,4 dioxane in close proximity to residential homes."

18. This latest discovery of 1,4 dioxane in shallow groundwater near Huron and Seventh Streets in the City of Ann Arbor is simply one of many recent findings demonstrating the continued spread of 1,4 dioxane in and around the City.

19. In fact, dozens of monitoring wells have recently recorded their highest ever levels of 1,4 dioxane. And monitoring wells that for many years tested clean of 1,4 dioxane are now recording measurable concentrations of it.

20. MDEQ stated that the known area of 1,4 dioxane contamination "covers several square miles." In addition, even after 30-years of remediation efforts and despite the requirements of MCL 324.20114, MDEQ further determined that the extent of the 1,4 dioxane groundwater pollution is still "unknown".

21. Between 2002 and October 27, 2016, the 1,4 dioxane cleanup criteria for drinking water was 85 parts per billion. MDEQ now has concluded that standard "outdated and not protective of public health."

22. Therefore, MDEQ promulgated, on an emergency basis, an emergency rule establishing a residential drinking water cleanup criterion for 1,4 dioxane in groundwater of 7.2 parts per billion, effective October 28, 2016.

23. MDEQ also promulgated, on an emergency basis, an emergency rule establishing a residential vapor intrusion screening criterion for 1,4 dioxane of 29 parts per billion.

24. The new cleanup and screening criteria will require additional, more stringent enforcement actions, potentially including the amendment of the current consent judgment between the State of Michigan and Gelman, which would be necessary if Defendant is to satisfy the requirement of MCL 324.20114 to achieve the amended cleanup criteria and screening levels.

25. On information and belief, the Attorney General and Gelman already have been negotiating proposed amendments to the current consent judgment.

26. The consent judgment, as currently amended, has not sufficiently protected the public or the City. Contamination has been allowed to spread for decades and, despite numerous court orders and promises from Gelman, has not even been controlled, contained, or even delineated, let alone cleaned up.

27. Many of the burdens of prior "containment" approaches have fallen on the City of Ann Arbor and its residents, along with residents of surrounding communities.

28. The City seeks to recover from Defendant Response Activity Costs that the City has incurred already, and that it will incur in the future, that relate to Hazardous Substances Released by Defendant to the environment at, and which have migrated away from the Source Property, relating to claims that were reserved in the prior settlement with Defendant.

29. The City also seeks injunctive relief that would compel Defendant to clean up Hazardous Substances, and to prevent future migration of such Hazardous Substances, that exceed cleanup criteria recently promulgated by the state of Michigan, beyond the Prohibition Zone as it existed in the Settlement Agreement.

C. History of Gelman's Contamination.

30. For many years, Defendant Released Hazardous Substances to the environment at the Source Property.

31. More specifically, between about 1966 and 1986, Defendant unlawfully discharged the chemical 1,4 dioxane at the Source Property by several methods, including spray-irrigating fields located at the Source Property and pumping contaminated water to unlined lagoons adjacent to Defendant's manufacturing facility.

32. 1,4 dioxane is a probable human carcinogen and a Hazardous Substance. According to the Environmental Protection Agency, exposure to high concentrations of 1,4

dioxane may also result in nausea, drowsiness, headache, and irritation of the eyes, nose and throat. Exposure typically occurs through inhalation, ingestion of contaminated food or water, or dermal contact.

33. Defendant's Hazardous Substances entered the soil and groundwater at the Source Property, and have migrated, and continue to migrate, away from the Source Property and into several aquifers in Washtenaw County.

34. Drinking water wells have been contaminated by the Hazardous Substances Released at the Source Property and those Hazardous Substances have migrated into surface water bodies, including Honey Creek and its tributary, which is an intermittent stream traversing the Source Property.

35. Defendant's unlawful activity was discovered in 1984, and Defendant has made numerous representations, promises and agreements to remediate the Hazardous Substances over the years.

36. Defendant discharged approximately 850,000 pounds of 1,4 dioxane into the environment. Only about 110,000 pounds of the 1,4 dioxane, or about 13% of the amount Released, has been extracted and treated.

37. The 1,4 dioxane released by Defendant infiltrated the groundwater and has and continues to spread under and through the City of Ann Arbor and surrounding communities.

38. The City suffered damages and incurred Response Activity Costs because of the Release, threatened release and disposal of Hazardous Substances, including 1,4 dioxane that has migrated from Defendant's Source Property.

39. In 1992, Defendant entered into a consent judgment with the State of Michigan, and promised to remediate the 1,4 dioxane contamination with the objectives of both containing

the plumes of groundwater contamination emanating from the Source Property and fully extracting all contaminated groundwater for treatment and disposal.

40. In particular, contaminated groundwater was to be removed from affected aquifers, treated to eliminate the 1,4 dioxane contamination, and then returned to the environment.

41. Despite the entry of the consent judgment, Defendant did not remove and treat all of the contaminated groundwater from the Source Property or from other aquifers in Ann Arbor and surrounding communities. Nor did Defendant successfully contain the 1,4 dioxane plumes. Instead, the contaminated groundwater continued to spread.

42. In 1996, an amendment to the consent judgment was entered, under which Defendant was ordered to change its Remedial Action Plan. Among other things, Defendant was required to install additional monitoring and/or purge wells to ensure that the clean-up objectives in the original consent judgment were achieved.

43. By 1999, fifteen years after Defendant's releases were first discovered, not only was Defendant's promised remediation of the 1,4 dioxane pollution not complete, but the contaminated plumes continued to spread through Ann Arbor and surrounding communities, endangering the integrity of drinking water systems and the public health. In 1999, Defendant sought to adopt new disposal methods to purge groundwater from impacted aquifers.

44. In 2005, Defendant gave up attempting to remove all of the 1,4 dioxane-polluted groundwater. Rather than conducting the remediation required by the original consent judgment, Defendant and MDEQ agreed to seek an amendment to the consent judgment, which allowed Defendant to adopt a program that Defendant insisted would "contain" the toxic plumes and prevent them from spreading outside a court-ordered "Prohibition Zone." The purpose of the

Prohibition Zone was "to prevent human exposure to groundwater that is or may become contaminated at 1,4 dioxane at levels that exceed acceptable criteria." A map depicting the Prohibition Zone is attached as **Exhibit A**. A new amendment to the consent judgment was entered.

45. The Prohibition Zone encompassed the areas of known contamination and then-foreseeable migration pathways of known 1,4 dioxane plumes at concentrations exceeding the then-existing cleanup criteria.

46. Cleanup criteria are set and periodically revised by the Michigan Department of Environmental Quality ("MDEQ") for various Hazardous Substances in various environmental exposure pathways (e.g., groundwater used for drinking).

47. Because of the health risk posed by concentrations of 1,4 dioxane that exceed the cleanup criteria, the installation of new drinking water and irrigation wells and the maintenance of existing drinking water and irrigation wells was prohibited within the Prohibition Zone, existing wells were abandoned, and households that were previously able to use private wells were required to convert to piped municipal water supplied by the City of Ann Arbor water system. The City was required to supply water to those residents.

48. Despite Defendant's renewed promise to contain the spread of the plumes, its efforts again failed. In 2011, Defendant and MDEQ agreed to seek a further amendment to the consent judgment, to delineate an Expanded Prohibition Zone in new areas where the plumes had spread and/or were expected to spread.

49. A third amendment to the consent judgment was entered, the objectives of which were to extract groundwater for treatment and disposal to the extent necessary to prevent the

contaminated groundwater plumes from expanding beyond their then-current boundaries, except within the Prohibition Zone and Expanded Prohibition Zone.

D. The Contamination Persists and Continues to Spread as Defendant Reduces its Cleanup Efforts.

50. Despite Defendant's repeated promises to remedy or at least contain the contamination, 30 years into the cleanup, 1,4 dioxane is still present in groundwater at concentrations hundreds of times the applicable cleanup criterion. And the plumes continue to expand.

51. For example, monitoring well MW121d, which lies on the northern boundary of a plume on Dexter Road east of Wagner Road, was established in 2008. At that time, tests showed no measurable concentrations of 1,4 dioxane. However, more recent samples from MW121d have measurable 1,4 dioxane. Moreover, just 750 feet to the southeast, a monitoring well at 465 DuPont had1,4 dioxane concentrations as high as 1700 ppb in 2015 tests. As another example, test results from monitoring well MW54d, which is sited outside of the Prohibition Zone and the foreseeable 1,4 dioxane pathway as of the date of the Settlement Agreement, showed concentrations of 1,4 dioxane exceeding 85 ppb beginning in 2014.

52. Indeed, many monitoring wells in the Expanded Prohibition Zone are showing new or increased levels of 1,4 dioxane.

53. Recently, a shallow groundwater investigation found 1,4 dioxane in two test wells located near Huron and Seventh Street in the City of Ann Arbor. Groundwater in this area is less than twenty feet from the surface.

54. The presence of 1,4 dioxane in shallow groundwater opens up a new potential exposure pathway. The 1,4 dioxane in shallow groundwater can volatilize, and then migrate up through soil, entering buildings, where those vapors can be inhaled, exposing persons to these

Hazardous Substances. This possible pathway can be of special concern when the groundwater can leak into basements or be exposed by digging or construction activities under buildings.

55. Despite the continued spread of the plumes, Defendant has actually reduced the volume of water it treats on an annual basis, and has decreased monitoring efforts.

56. In addition, Defendant has not been transparent about its cleanup activities. Among other things, Defendant seeks to keep secret its latest plan to monitor and remediate the 1,4 dioxane plumes. It has not provided a copy of its plan to the City. Defendant even cut off MDEQ's access to Defendant's internal database that had allowed MDEQ real-time information on the plumes.

E. The City's Settlement Agreement with Defendant.

57. Unfortunately, this complaint does not mark the first time that the City has been forced to take legal action against Defendant for its contamination of groundwater and surface water.

58. As noted above, in 2004 and 2005, the City filed actions in state and federal courts against Defendant, as well as a petition for a contested case hearing to challenge Defendant's permit to discharge treated water to Honey Creek.

59. In 2006, the parties entered into a settlement agreement ("Settlement Agreement") in which Defendant agreed to, among other things, compensate the City, monitor water quality, and provide the City with extensive and detailed reports on its sampling activities and other data. In exchange the City granted Defendant a limited release of claims.

60. The City entered into the Settlement Agreement under the belief that Defendant would undertake and successfully complete its obligations under the then-existing consent judgment, among them to contain the spread of the contaminated 1,4 dioxane plumes.

61. In the Settlement Agreement, the City reserved the right to assert future claims with respect to among other things: (A) Claims for response costs and response activity costs to address new plumes of contamination; and (B) All types of Claims related to an unforeseen change in the migration pathway of a known plume, which results in contamination above the applicable cleanup criteria (as they might be amended in the future) and which causes City property to be considered a Facility under Part 201 of NREPA.

62. There have been unforeseen changes in the migration pathways of 1,4 dioxane contamination, resulting in groundwater contamination above the current 7.2 ppb cleanup criterion. For example, test results from monitoring well MW54d, which is sited outside of the Prohibition Zone and the foreseeable 1,4 dioxane pathway as of the date of the Settlement Agreement, showed concentrations of 1,4 dioxane exceeding 85 ppb beginning in 2014. As another example, Monitoring Well MW 110 has tested at 66 ppb.

63. The City did not release Defendant from any of the claims it asserts herein.

F. The Current Threat to Public Health and the Costs to the City.

64. The continued spread of the 1,4 dioxane plumes threatens the health, safety and welfare of Ann Arbor citizens and exposes Ann Arbor to response costs and response activity costs.

65. For example, there are approximately 83 homes that are within 600 feet of the estimated1,4 dioxane plume boundary. Approximately 62 of those homes do not currently have access to municipal water supplies.

66. Defendant's groundwater pollution threatens to impair dozens, if not hundreds, of homes both inside and outside the Prohibition Zone and Expanded Prohibition Zone by causing

1,4 dioxane levels in water under those homes to exceed the current and/or proposed cleanup criteria, for inhalation and drinking water.

67. In the past, when 1,4 dioxane has impaired drinking water wells, affected property owners have been forced to connect to the City's municipal water system.

68. In addition, Defendant's failure to contain the plumes, the continued spread of 1,4 dioxane through the groundwater in unforeseen ways, and the lack of knowledge concerning the extent of the 1,4 dioxane pollution and its future pathways endanger the City's water supplies, and the City's ability to obtain new sources of drinking water.

69. Furthermore, the continued and uncontained spread of 1,4 dioxane, and the fact that the MDEQ has concluded that, even after a 30-year cleanup effort, the extent of contamination at levels above the current cleanup criteria is "unknown," threatens the drinking water supplies of the City of Ann Arbor.

70. In particular, continued migration of 1,4 dioxane to the Huron River upstream of Barton Dam threatens Ann Arbor's primary drinking water supply. Currently, there is a lack of groundwater monitoring wells between known groundwater contamination and the Huron River upstream of Barton Dam.

71. City personnel have devoted significant time and effort, at the City's cost, to necessary monitoring, planning, and analysis activities.

72. The City has engaged consultants and attorneys to assist it in these activities, at the City's cost.

COUNT I

INJUNCTION, COST RECOVERY AND DECLARATORY JUDGMENT UNDER PART 201 OF THE MICHIGAN NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, M.C.L. 324.20201, et seq.

73. The City incorporates all preceding paragraphs of this Complaint by reference.

74. Certain areas within the City limits, including areas impacted by unforeseen changes in the migration pathway of the Hazardous Substances outside of the Prohibition Zone that have resulted in the presence of 1,4 dioxane at concentrations that exceed the applicable cleanup criteria and/or State of Federal Maximum Contaminant Level, are "Facilities," as that term is defined by MCL 324.20101(1)(o), due to Releases of Defendant's Hazardous Substances that originated at and from the Source Property owned or operated by Defendant.

75. Defendant owned the Source Property from which those Hazardous Substances (including 1,4 dioxane) were Released.

76. Defendant operated the Source Property from which those Hazardous Substances (including 1,4 dioxane) was Released.

77. Defendant arranged to treat or to dispose of those Hazardous Substances (including 1,4 dioxane) that were Released at and from Defendant's Source Property.

78. The Releases of Hazardous Substances by Defendant have migrated to and under the City's property in concentrations that either exceed the cleanup criteria for unrestricted residential use, or threaten to continue to be Released to and under the City's property (by migration) in higher concentrations, which prevent the City from continuing to use water under that property in its public supply system, until Defendant's Hazardous Substances are cleansed from the aquifers.

79. Pursuant to MCL 324.20126(4)(c), the City is not liable under Part 201 of NREPA with respect to the Hazardous Substances Released by Defendant because the Hazardous Substances have migrated to the City's property.

80. Defendant is liable under Part 201 of NREPA with respect to the Releases of the Hazardous Substances described above, in accordance with one or more of the following: MCL

324.20126(1)(a) (as an owner or operator who is responsible for the activity that caused the Releases); MCL 324.20126(1)(b) (as an owner or operator at the time of the disposal of Hazardous Substances, who is responsible for the activity that caused the Releases).

81. The City has incurred, and will continue to incur, Response Activity Costs with respect to the Hazardous Substances Released at and from Defendant's Source Property, and that have migrated to and under, and that threaten to continue to migrate to and under, the City's property.

82. The City is entitled to recover from Defendant the Response Activity Costs the City has incurred, and that the City will incur in the future, under MCL 324.20126a.

83. In accordance with MCL 324.20114, Defendant is required, among other things, to (i) "…determine the nature and extent of the release at the facility"; (ii) "Immediately stop or prevent an ongoing release at the source"; and (iii) "diligently pursue response activities necessary to achieve the cleanup criteria established under [Part 201]…"

84. Defendant has failed and refused to undertake the Response Activities required by MCL 324.20114. Defendant has further failed to comply with the terms of the consent judgments, and has failed to contain the 1,4 dioxane plumes.

85. Instead, Defendant has allowed the contaminated plumes to continue to spread in previously unforeseen ways, such that the extent of the current contamination and potential future pathways are unknown.

86. An actual, substantial legal controversy now exists between the City and Defendant, and the City is entitled to a judicial declaration of its rights and legal relationship with Defendant. The City is entitled to a declaratory judgment pursuant to Part 201 of NREPA, that as between the City and Defendant, Defendant is solely responsible and liable for all costs of

Response Activities, removal actions and remediation of the City's property, underlying aquifers, and any other property that has been contaminated by the Releases or disposal of Hazardous Substances originating at Defendant's Property, for damages to the City's property, and for payment of all costs, including attorney fees, incurred by the City in conjunction with this litigation.

WHEREFORE, the City respectfully requests that this Court enter a judgment in its favor and against Defendant that, at a minimum:

1. Enjoins Defendant and requires Defendant: (i) to undertake necessary actions to determine the full nature and extent of Defendant's 1,4 dioxane in all areas; (ii) to take all actions necessary to stop further spread of 1,4 dioxane beyond the boundaries of the Prohibition Zone that was established under the Settlement Agreement, including, as appropriate to achieve that result, stopping the release at the Source Property and in downgradient portions of the plume; and (iii) to take all necessary actions to cleanse 1,4 dioxane from groundwater to achieve the cleanup criterion and screening levels established by MDEQ in all areas outside of the Prohibition Zone established in the Settlement Agreement, such that there no further Hazardous Substances will remain in the soil or groundwater at and under the City's property;

2. Orders Defendant to pay to the City an amount equal to all Response Activity Costs that the City has incurred to date;

3. Declares that Defendant is liable to, and must pay, all past and future Response Activity Costs incurred by the City in response to the Hazardous Substances that have or in the future may contaminate the City's property, and underlying aquifers;

4. Orders Defendant to pay to the City all costs, including attorney fees, incurred by the City; and

5. Awards to the City its costs, attorney fees and expert witness fees incurred in bringing this action.

COUNT II
NEGLIGENCE

87. The City incorporates all preceding paragraphs of this Complaint by reference.

88. Defendant owed the City a duty not to cause, and a duty not to allow, Defendant's Hazardous Substances to contaminate aquifers beneath the City that the City may use to supply potable water via the municipal water supply system.

89. Defendant owed the City a duty not to cause, and a duty not to allow, Defendant's Hazardous Substances to contaminate the aquifers from which the City actually withdraws water to supply potable water via the City's municipal water supply system.

90. Defendant has breached the duties it owed to the City: (i) by allowing the Release and disposal of Hazardous Substances at Defendant's Source Property; (ii) by failing to stop the migration of those Hazardous Substances away from Defendant's Source Property through soil and groundwater to and under the City's property; (iii) by failing to take actions to adequately investigate and clean up the subject Hazardous Substances; (iv) by allowing its Hazardous Substances to contaminate the aquifers discussed above; and (v) by allowing greater concentrations of its Hazardous Substances to continue to migrate toward and to threaten to increasingly contaminate the aquifers used by the City's municipal water supply system.

91. The City has been damaged by Defendant's Hazardous Substances that have contaminated aquifers underlying the City's property and regional aquifers lying upgradient from same.

92. Defendant's breach of the duties owed to the City is both the cause in fact and the proximate cause of the damages already suffered, and to be suffered in the future, by the City.

93. Defendant's failure to contain and remove the Hazardous Substances it Released to the environment that have now contaminated the soil and groundwater at, under, and migrating to, the City's property constitutes negligence by Defendant.

94. Defendant is therefore liable to the City for all damages arising out of Defendant's negligence, including but not limited to: (i) damages to the City's property; (ii) loss of value of the City's property; (iii) the City's loss of use and enjoyment of its property caused by the Release of Hazardous Substances that have contaminated the soil and groundwater; (iv) costs of investigations, response, removal or remediation costs and costs associated with the replacement of water supplies that the City must incur to cleanse its property for use as a source of water for its municipal supply system; and (v) costs the City has incurred and will incur to upgrade its municipal water supply system in order to meet the demands for potable water caused by Defendant's Release of Hazardous Substances.

WHEREFORE, the City respectfully requests that this Court enter a judgment in its favor and against Defendant that, at a minimum:

1. Requires Defendant to pay to the City damages that the City has suffered as a consequence of Defendant's negligence;

6. Enjoins Defendant and requires Defendant: (i) to undertake necessary actions to determine the full nature and extent of Defendant's 1,4 dioxane in all areas; (ii) to take all actions necessary to stop further spread of 1,4 dioxane beyond the boundaries of the Prohibition Zone that was established under the Settlement Agreement, including, as appropriate to achieve that result, stopping the release at the Source Property and in downgradient portions of the plume; and (iii) to take all necessary actions to cleanse 1,4 dioxane from groundwater to achieve the cleanup criterion and screening levels established by MDEQ in all areas outside of the Prohibition Zone established in the Settlement Agreement, such that there no further Hazardous Substances will remain in the soil or groundwater at and under the City's property; and

2. Awards to the City interest, costs and attorney fees incurred in this litigation.

COUNT III
NUISANCE AND TEMPORARY NUISANCE

95. The City incorporates all preceding paragraphs of this Complaint by reference.

96. By allowing the Release and disposal of Hazardous Substances at Defendant's Source Property, by failing to stop migration of those Hazardous Substances through soil and groundwater away from Defendant's Source Property to the City's property, and by failing to take actions to adequately investigate and clean up the subject Hazardous Substances, Defendant has created and is maintaining a nuisance and a temporary nuisance that has damaged, and continues to damage, the City's property, among other things.

97. Defendant has continued to maintain and has failed to abate the nuisance and temporary nuisance it created.

98. It is possible for Defendant to abate the temporary nuisance through remedial efforts.

99. The value and the City's use and enjoyment of its property have been impaired and damaged by the nuisance and temporary nuisance Defendant has created, maintained and failed to abate.

100. The City has suffered damages as a consequence of the nuisance and temporary nuisance for which Defendant is responsible, in the form of impaired property value, the loss of use and enjoyment of property, investigative costs, costs associated with identifying and developing alternative water supplies that are not threatened by Defendant's Hazardous Substances, litigation costs, and other costs and damages set out herein.

WHEREFORE, the City respectfully requests that this Court enter a judgment in its favor and against Defendant that, at a minimum:

1. Orders Defendant to pay to the City all damages the City has suffered as a consequence of the nuisance that Defendant has created, has maintained and has failed to abate;

2. Enjoins Defendant from releasing or allowing the continued migration of its Hazardous Substances;

3. Orders Defendant to abate the nuisance;

4. Enjoins Defendant and requires Defendant: (i) to undertake necessary actions to determine the full nature and extent of Defendant's 1,4 dioxane in all areas; (ii) to take all actions necessary to stop further spread of 1,4 dioxane beyond the boundaries of the Prohibition Zone that was established under the Settlement Agreement, including, as appropriate to achieve that result, stopping the release at the Source Property and in downgradient portions of the plume; and (iii) to take all necessary actions to cleanse 1,4 dioxane from groundwater to achieve the cleanup criterion and screening levels established by MDEQ in all areas outside of the Prohibition Zone established in the Settlement Agreement, such that there no further Hazardous Substances will remain in the soil or groundwater at and under the City's property; and

5. Awards to the City all interest costs and attorney fees incurred in this litigation.

COUNT IV

PUBLIC NUISANCE

101. The City incorporates all preceding paragraphs of this Complaint by reference.

102. By allowing the release and disposal of Hazardous Substances at Defendant's Source Property, by failing to stop migration of those Hazardous Substances from Defendant's Source Property, through and under property of others and to and under the City's property, and by failing to take actions to adequately investigate and clean up the Hazardous Substances,

Defendant has unreasonably interfered with the property rights of the public in the vicinity of Defendant's property, thereby creating a public nuisance.

103. The City, as a governmental unit, is not required to show that it has suffered harm different from the general public as a result of the nuisance created by Defendant.

104. Even if it were required to make such a showing, the City has suffered harm that is different from and in addition to that suffered by the general public because: the City has incurred and will continue to incur costs to develop alternative water supplies and to upgrade its public water system to service the additional demand caused by Defendant's activities; the City's property value has been impaired and the City has incurred costs associated with Response Activities and this litigation.

105. Defendant is liable to the City for the costs incurred by the City and the damages suffered by the City as a consequence of the public nuisance Defendant has created, has maintained and has failed to abate.

WHEREFORE, the City respectfully requests that this Court enter a judgment in its favor and against Defendant that, at a minimum:

1. Orders Defendant to pay to the City all damages the City has suffered as a consequence of the nuisance Defendant has created, has maintained and has failed to abate;

2. Enjoins Defendant and requires Defendant: (i) to undertake necessary actions to determine the full nature and extent of Defendant's 1,4 dioxane in all areas; (ii) to take all actions necessary to stop further spread of 1,4 dioxane beyond the boundaries of the Prohibition Zone that was established under the Settlement Agreement, including, as appropriate to achieve that result, stopping the release at the Source Property and in downgradient portions of the plume; and (iii) to take all necessary actions to cleanse 1,4 dioxane from groundwater to achieve the cleanup criterion and screening levels established by MDEQ in all areas outside of the Prohibition Zone established in the Settlement Agreement, such that there no further Hazardous Substances will remain in the soil or groundwater at and under the City's property;

3. Enjoins Defendant from releasing or allowing the continued migration of Hazardous Substances; and

4. Awards to the City all interest costs and attorney fees incurred in this litigation.

COUNT V

VIOLATION OF MICHIGAN'S ENVIRONMENTAL PROTECTION ACT

106. The City incorporates all preceding paragraphs of this Complaint by reference.

107. By allowing the release and disposal of Hazardous Substances at Defendant's Property, by allowing migration of those Hazardous Substances through the soil and groundwater to the City's property, and by failing to take timely and appropriate actions to adequately investigate and clean up the Hazardous Substances, Defendant has impaired and destroyed groundwater and surface waters of the State and has violated the public trust in those resources.

108. Defendant does not have a permit or other authorization to contaminate surface or groundwater with Hazardous Substances to the City's detriment.

109. The Releases or disposals of Hazardous Substances that have caused the impairment and destruction of these resources are in violation of federal, state and local law, and in particular, Michigan's Environmental Protection Act, MCL 324.1701 et seq., and Part 201 of NREPA.

110. In accordance with Part 201 of NREPA, Defendant has affirmative obligations to take a number of actions with respect to the contamination. Those actions include, but are not limited to:

(a) Determining the nature and extent of the Release;

(b) Stopping or preventing the continuing Release at the source;

(c) Preventing exacerbation of the contamination caused by the Release;

(d) Diligently pursuing response activities necessary to meet the cleanup criteria specified in Part 201 of NREPA; and

(e) Taking other actions specified in Part 201 of NREPA.

111. Defendant has failed to satisfy its affirmative obligations to clean up the Hazardous Substance contamination it has caused, including but not limited to those required under Part 201 of NREPA. Defendant's failure has caused Hazardous Substances to migrate beyond its property, causing regional pollution, impairment and destruction of surface and groundwater resources of the state which are utilized by the City and direct damage to the City's property.

WHEREFORE, the City respectfully requests that this Court enter judgment in City's favor and against Defendant that, at a minimum:

1. Enjoins Defendant and requires Defendant: (i) to undertake necessary actions to determine the full nature and extent of Defendant's 1,4 dioxane in all areas; (ii) to take all actions necessary to stop further spread of 1,4 dioxane beyond the boundaries of the Prohibition Zone that was established under the Settlement Agreement, including, as appropriate to achieve that result, stopping the release at the Source Property and in downgradient portions of the plume; and (iii) to take all necessary actions to cleanse 1,4 dioxane from groundwater to achieve the cleanup criterion and screening levels established by MDEQ in all areas outside of the Prohibition Zone established in the Settlement Agreement, such that there no further Hazardous Substances will remain in the soil or groundwater at and under the City's property;

2. Declares that Defendant has failed to comply with state and federal environmental cleanup statutes, sets forth the legal responsibilities that Defendant has with respect to the City and determines the validity, applicability and reasonableness of the cleanup criteria applicable to Defendant's cleanup of Hazardous Substances; and

3. Awards to the City its costs, attorney fees and expert witness fees incurred in bringing this action.

Respectfully Submitted,
BODMAN PLC

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