David Garrett

STATE OF MISSOURI

Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

September 1, 2005

CERTIFIED MAIL – 7003 0500 0002 3723 9908
RETURN RECEIPT REQUESTED

454931

RCRA RECORDS

Mr. Thomas S. Sanicola
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, WI 53403-2552

RE: Response to Modine's May 4, 2005, Response to Comprehensive Groundwater Monitoring Evaluation Report (CME), Modine Manufacturing Company (Modine) Camdenton, Missouri

Dear Mr. Sanicola:

This letter is in response to your May 4, 2005, response to the CME Report submitted to Modine by the Missouri Department of Natural Resources' (DNR) on March 22, 2005. The CME raised several issues regarding the groundwater monitoring program and site characterization at and surrounding Modine in Camdenton, Missouri. Modine's responses are repeated below followed by DNR's comments.

I. **Groundwater Monitoring Well Network**

Modine Response: Modine does not agree with the need for any further groundwater investigation including the installation of any additional wells. Instead Modine agrees with the conclusions provided in the "Remedial Investigation (RI) Summary Report" prepared by Hamilton Sundstrand and submitted to the DNR in November 2003 which correctly states that the extent of trichloroethylene (TCE) in groundwater is adequately defined for the area.

DNR's Comment: The DNR submitted a letter to Modine on August 29, 2001, indicating that groundwater data gaps still exist and required Modine to submit a work plan to address these data gaps. Due to the large expansion of the soil remediation project occurring at that time, Modine requested a 180-day extension for submittal of the data gap work plan. DNR granted the 180-day extension; however, due to the concurrent

Recycled Paper

RECEIVED
SEP 14 2005
ARTD/RCAP

investigation by Hamilton Sundstrand under the Superfund program Modine was again allowed to postpone addressing the groundwater data gaps until Sundstrand completed their investigation. The RI Summary Report prepared by Hamilton Sundstrand as part of the Superfund investigation has been verbally approved by the Superfund Section. Due to the close proximity of the Modine facility to the former Hulett lagoon and the Mulberry Well it is appropriate to evaluate all available data to assess the hydrogeologic conditions at the site. However, the RI prepared by Hamilton Sundstrand was focused primarily on groundwater contamination from the former Hulett lagoon while, the CME prepared by the Permits Section focused on the Modine facility.
The Permits Section does not agree that the full extent of groundwater contamination has been adequately defined or that all of the sources of groundwater contamination have been identified or fully characterized. In addition, the TCE plume does not appear to be stable. This is evidenced by fluctuating TCE concentrations in on-site monitoring wells and increasing concentrations of TCE in the Mulberry Well. DNR agrees that there are other factors that could contribute to fluctuating concentrations in on-site monitoring wells and increasing concentrations in the Mulberry Well. However, contaminants leaching to groundwater from an as yet undiscovered or inadequately characterized source(s) is still a potential cause for increased concentrations and cannot be discounted until all potential source areas have been adequately identified and characterized. This is necessary for establishing an adequate site conceptual model and for selecting an appropriate remedy for the site.

DNR agrees that Modine and Hamilton Sundstrand should continue working together to complete the characterization of the site and avoid any duplicative work. Modine should recognize, however, that this approach does not exempt Modine from fulfilling their corrective action obligations under the Corrective Action Order on Consent.

A. Additional Deep Well South of Modine

Modine Response: Additional delineation to the south of Modine in the "deep" zone is not necessary based on the current groundwater monitoring data. As stated in the RI, the extent of TCE in the deep zone is defined by the non-detect MW-10 (RI page 5-8). Deep wells MW-18, MW-1, and MW-2 show that the extent of TCE in the deep zone does not extend much beyond these wells. The DNR prepared isoconcentration maps illustrate this point (CME Appendix H Deep Aquifer Isoconcentration Maps – June 2003 through October 2004). TCE concentrations in both MW-18 and MW-1 have been below detectable levels during recent past monitoring events (RI Figure 4.4) TCE concentrations in all three wells typically are below the maximum contaminant level of 5 ppb. An additional deep well in this area would provide no additional data useful in further defining the extent of TCE in the deep groundwater zone because the existing groundwater data demonstrates that the edge of the plume in the deep zone south of Modine has been delineated.

DNR's Comment: Groundwater monitoring well MW-10 was installed as a sentinel well to confirm that contaminated groundwater is not migrating towards the city of Camdenton's Blair Well and is screened at a depth equivalent to the production zone of the Blair Well. MW-10 is screened from 553 to 493 feet above mean sea level, while the remaining "deep" zone monitoring wells (MW-14, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, and MW-22) are screened at approximately 755 to 650 feet above mean seal level. On average, MW-10 is screened approximately 200 feet deeper than the rest of the deep zone monitoring wells. While this well confirms that contaminated groundwater is not migrating towards the city of Camdenton's Blair Well at depth, its distance from the Modine facility and screened interval do not allow for adequate determination of the southern extent of contamination immediately south of Modine in the zone of contamination.

Modine's conclusions regarding delineation of the groundwater plume are based on data from the 2003 RI. More recent analytical results from 2004 quarterly sampling indicate increasing TCE concentrations in the Mulberry Well. A concentration vs. time graph for the Mulberry Well is included in the enclosure to this letter. Installation of a "deep zone" monitoring well immediately south or southwest of Modine, replacing abandoned monitoring well MW-3, may be necessary to delineate the plume in that direction. The last four quarterly sampling events show TCE concentrations in MW-1 and MW-2 are below the maximum contaminant level of 5 ppb.

DNR is willing to defer the installation of a deep monitoring well to replace MW-3 immediately south of Modine until after the Remedial Design (RD)/Remedial Action (RA) process is conducted as part of the Superfund investigation. The RD will determine if additional wells are necessary for monitoring the effectiveness of the selected remedy and the appropriate location of those wells. It is anticipated that the RD will be completed within the next year. Modine should continue to closely monitor TCE concentrations in MW-1 and MW-2. If evaluation of monitoring wells during the RD/RA process do not satisfy DNR's concerns as stated in the CME, then Modine will be required to install the requested monitoring wells.

B. Additional Perched Well South of Modine

Modine Response: A perched well south of Modine is also not necessary. The topography of the Modine facility drops steeply in elevation. An evaluation of the topographic elevation of the valley floor south of the Modine facility compared to that of the top of the argillaceous dolomite aquitard shows that "perched" groundwater "daylights" or discharges to the surface in the ravine south of the facility. Therefore the southern extent of the TCE in "perched" groundwater is physically defined and limited by this valley. Any TCE concentrations present on the "perched" groundwater discharging to the surface would rapidly volatize. In addition, TCE concentrations in the area as observed in shallow well MW-9 located east of the Modine facility, have shown a

decreasing concentration trend over the last three quarterly monitoring events. Combined with the groundwater monitoring data suggesting that declining TCE concentrations exist near the facility, Wells MW-9, MW-13, and the valley floor sufficiently delineate the perched zone to the south of Modine.

DNR's Comment: Modine asserts that a "perched" zone monitoring well south of the facility is not necessary, citing that concentrations in MW-9 have decreased over the past three quarterly monitoring events. Review of analytical results for MW-9, since its installation in June 2000, show that TCE concentrations were non-detect during both the Phase I and Phase II pre- and post-aquifer pumping test sampling events. TCE was not detected in MW-9 until July 2002 at 17 ppb. TCE reached a peak concentration of 450 ppb in January 2004 before declining to 33 ppb in October 2004. Concentrations in MW-13 follow a similar trend, spiking at 290 ppb in January 2004. A concentration vs. time graph for MW-9 and MW-13 are included in the enclosures to this letter. While concentrations appear to be decreasing, the sharp peak in concentrations indicates that the TCE plume in the "perched" zone aquifer is mobile. Although the ravine south of the facility may limit the horizontal extent of the "perched zone," the vertical extent of contamination is not limited by the ravine. TCE in the "perched" zone can be carried to the "deep" zone through secondary porosity such as fractures, bedding planes, and dissolution cavities. In addition, the cone of depression of the Mulberry Well could accelerate TCE migration through secondary porosity features. Installation of a "perched zone" monitoring well nested with a "deep zone" monitoring well immediately south of Modine (replacing abandoned monitoring well MW-3) would help to determine the extent of the plume south of the facility.

As stated above, DNR is willing to defer the installation of a perched monitoring well to replace MW-3 immediately south of Modine until after the RD/RA process is conducted as part of the Superfund investigation. If evaluation of monitoring wells during the RD/RA process do not satisfy DNR's concerns as stated in the CME, then Modine will be required to install the requested monitoring wells.

C. Perched Zone Well North of Hulett Lagoon

Modine Response: The addition of a perched well north of the former Hulett Lagoon is not necessary to advance the understanding of contamination in the shallow "perched" zone. The primary direction of groundwater flow in the shallow zone has been established as being west-southwest (RI Figure 4.6). As a result, though there appears to be some mounding effect associated with the former lagoon, the potential for TCE in groundwater to migrate north is minimal. Moreover, the Target Risk assessment findings presented in the recently completed feasibility study (October 2004) concluded that impacts to the "perched" zone do not pose a significant risk to human health. Therefore, there is no need of the additional well to protect human health.

DNR's Comment: The depth and slope of the "perched" aquifer control the general groundwater flow direction in the "perched" zone. However, groundwater within both the "perched" zone and "deep" aquifer occur primarily within secondary porosity features such as fractures, bedding plane separations, and dissolution cavities. According to the RI Summary Report submitted by Hamilton Sundstrand the primary fracture orientation is N50°E with a secondary fracture orientation of N35°W. Migration of TCE is likely to occur along these fractures. In particular, migration of contaminants in the vadose zone likely follows the secondary porosity features. Due to the network of primary and secondary fracture sets across the site, TCE contamination could easily be transported from any suspected source areas to the deeper zone municipal wells. Especially once contamination enters a well's cone of depression. Pump testing of the Mulberry Well showed that there is some interconnection between the perched and deep zones.

There are currently no "perched" zone monitoring wells located north of the lagoon, even though contamination in the "deep" zone extends well beyond the lagoon to the north. Monitoring wells MW-5 and MW-8 are the northern most "perched" zone monitoring wells and are both located on the southern edge of the lagoon. Concentrations of TCE in MW-5 and MW-8 during the October 2004 quarterly sampling event were 98 ppb and 2300 ppb, respectively. Concentrations of TCE in MW-8 increased from 650 ppb in April 2004 to 2300 ppb in October 2004, indicating that the TCE plume is mobile. A concentration vs. time graph for MW-8 is provided as an enclosure to this letter. Adequate delineation of the "perched" zone north of the lagoon is necessary to determine the size of the source area, for developing an adequate site conceptual model, and selecting an appropriate remedy for the site. Therefore, an additional "perched" monitoring well near "deep" monitoring well MW-16 should be installed.

As stated above, DNR is willing to defer the installation of a "perched zone" monitoring well north of the former lagoon until after the RD/RA process is conducted as part of the Superfund investigation. If evaluation of monitoring wells during the RD/RA process do not satisfy DNR's concerns as stated in the CME, then Modine will be required to install the requested monitoring wells.

II. Site Characterization

Modine Response: The DNR previously raised these issues in a teleconference between DNR and representatives from Modine and Hamilton Sundstrand on February 6, 2004. A response letter and enclosures addressing these issues was submitted to the DNR on March 5, 2004, and another copy of that submittal is enclosed for your convenience. Based on our review of the CME, it does not appear that the information provided in this submittal was fully considered in preparation of the CME. In fact, the March 5, 2004, submittal is not included in the list of references in the CME.

DNR Comment: The entire March 4, 2004, submittal was evaluated during preparation of the CME report. The March 5, 2004, submittal was inadvertently left out of the references; however, a portion of the enclosure from the March 5, 2004, was listed separately in the references.

A. Further Investigation Beneath the Building

Modine Response: DNR is basing the need for additional investigation beneath the building foundation slab on an eight year old recommendation made in a 1997 Dames & Moore report that suggests that additional soil samples be collected from within the trough of the Monorail Vapor Degreaser. Modine believes that additional sampling near the former degreaser is no longer necessary based on the information that is provided below, a majority of which was also part of the March 2004 submittal.

The Dames & Moore report summarized an investigation conducted to address potential historic releases in the area of the Monorail Vapor Degreaser. This area also encompassed two Solid Waste Management Units (SWMUs) identified by the United States Environmental Protection Agency: SWMU 26 – Still M567 and SWMU 31 – Former Drum Storage Area #3. The Monorail Vapor Degreaser was formerly located in the southern portion of the building adjacent to SWMU 26. As part of the Dames & Moore investigation, ten borings were advanced in this area and 17 soil samples analyzed for volatile organic compounds (VOCs). The highest TCE concentration reported was 4 ppm. A copy of the May 16, 1997, letter report was provided as Attachment A to our March 5, 2004, submittal. Though this concentration exceeds the calculated site-specific level protective of groundwater by an order of magnitude, the mobility of any VOCs present beneath the building would be minimal to non-existent because the building precludes infiltration of precipitation as a vehicle for contaminant movement.

As part of the remodeling and reconstruction of the facility, Modine conducted additional sampling of soil beneath the floor of the building later in 1997. Soil samples were collected for toxic characteristic leaching procedure (TCLP) VOCs during floor reconstruction, subgrade soil work, and internal storm waterline replacement for the purpose of disposal characterization. TCLP data cannot be directly correlated to total VOC data; however, the TCLP data demonstrate that no substantial source area was identified. A substantial source of chlorinated VOCs in soil would have resulted in detectable TCLP concentrations yet the chlorinated TCLP VOC results from the sampling were all below detectable levels. The analytical data sheets and a map showing the sample locations were provided as Attachment B to the March 5, 2004, submittal. One of the sample locations (Location 7) was immediately adjacent to the former degreaser. This sample contained no VOCs at detectable concentrations. Thus, the issue of residual contamination associated with a former degreaser has already been addressed and no further delineation investigation beneath the building is necessary.

DNR's Comment: DNR's position regarding contamination beneath the building foundation is not premised solely on the Dames & Moore Report. The Dames & Moore report is merely part of the supporting evidence. Additional evidence that a contaminant source exists beneath the building include: the presence of VOCs in indoor air based on a one-time sampling event at levels just below the United States Environmental Protection Agency risk-based thresholds; the presence of VOCs in excess of screening levels in 2 water and 2 soil samples collected in the vicinity of the former monorail degreaser in 1997; the presence of pervasive soil contamination adjacent to the west side of the building which was previously addressed via a removal action (interim measure); and historical allegations by a former Modine employee that releases to soil occurred in an area that is now covered by an extension of the manufacturing building.

In lieu of collecting soil samples from beneath the floor of the building at this time, DNR agrees that preparation of a comprehensive report, by Modine, summarizing all the historic work that supports the absence of a source under the building floor may be sufficient to close the issue. The comprehensive report will also provide an evaluation of the indoor air sampling results and an assessment of chemical inventory at the facility to further support the conclusion that no source exists. The evaluation will determine if residual concentrations remaining in soil on the west side of the building could account for the observed indoor air concentrations and an assessment of chemical inventory will determine if any chemical products used on-site could contribute to the observed indoor air concentrations. The comprehensive report will provide this information in a modified Resource Conservation and Recovery Act Facility Investigation Report format. Should further investigative work be required relative to this issue, the DNR remains committed to minimizing any disruption of Modine's manufacturing operations.

B. Further Investigation Along Former Wastewater Sewer Line

Modine Response: The DNR is concerned that a potential release from the domestic wastewater sewer line that conveyed wastewater from the Modine facility to the former Hulett Lagoon could have resulted in soil contamination that could be a continuing source of contamination to groundwater. DNR's basis for this concern is the elevated TCE concentrations in shallow groundwater in wells between the former lagoon and the facility (shallow wells MW-8 and MW-12).

DNR suggests that soil samples be collected along the route of the former off-site wastewater line to identify any potential source of continuing contamination to groundwater. Modine responded in the March 2004 letter that fulfilling this request would be difficult because of access issues. In the DNR cover letter to the CME, the DNR has offered to assist Modine in obtaining access to off-site properties if Modine's "Best Efforts," as defined under Section XI. of the Order, fail to obtain access. In the

March 2004 response letter, Modine also indicated that additional investigation was unnecessary. The reasoning, as originally detailed in the March 2004 submittal, is reiterated below.

Any release that may have occurred in the past that may have resulted in a contributing source near the sewer line is unlikely identified at this time. A TCE release to the sewer system would have been flushed from the system by flows from connected domestic wastewater source. Correspondingly, a leak from the line would have provided a continual flushing of the soil. Therefore, only low residual concentrations of TCE contaminants likely remain in the soil near the domestic sewer lines. Samples collected in 2000 during removal and replacement of an on-site wastewater line that discharged to the off-site city sewer line confirm that this is the case. Samples taken of the soils would not be a continuing contributing source to groundwater contamination beneath the site. Since the volume of the flow through the city sewer line was greater, thus providing a much greater flushing mechanism, the results along the city sewer line are likely lower than the results were along the on-site wastewater line. Accordingly, no additional investigation of the soil along the sewer line is necessary.

DNR's Comment: Increasing concentrations of TCE in both the "perched" zone and "deep" zone monitoring wells indicates a source of contamination remains in the soil and the contaminant plume is mobile. This is evidenced by the pervasive TCE concentrations in "perched" zone monitoring wells MW-12 and MW-8 immediately east of the former sewer line, a spike in concentrations in monitoring wells MW-9 and MW-13, and increasing TCE concentrations in the Mulberry Well. Modine asserts that samples taken from the soil surrounding the on-site wastewater line demonstrate that residual VOC concentrations would not be a continuing source to groundwater contamination beneath the site. The structural integrity of the sewer line from Modine to the lagoon may be inconsistent along the length. Therefore, releases from the sewer line on Modine's property are not necessarily comparable to releases throughout the length of the pipe to the lagoon. Further, depending upon where domestic sewage entered the sewer line, any leakage of Modine's discharges to the sewer may or may not have been diluted with domestic sewage. Differences in soil properties such as density, porosity, and pore throat size would also affect the rate and extent of contaminant releases.

Non-aqueous phase TCE released from the sewer line may exist as a residual saturation providing a source for dissolution to groundwater. Non-aqueous phase constituents are not easily flushed from residual saturation because of the physics holding them in small and dead-end porosity. They also tend to cling to the soil. Investigation of the soil along previously-uninvestigated portion of the sewer line is necessary to assess potential remaining source(s) of contamination to the "perched" and "deep" zone aquifers.

III. **Additional Issues**

A. **Annual Groundwater Monitoring Report**

Modine Response: The DNR is requesting that Modine prepare and submit an Annual Groundwater Monitoring Report in accordance with the provisions of 40 CFR 265.94.

Hamilton Sundstrand has been conducting groundwater monitoring of all wells at and surrounding the Modine facility as part of a cooperative action under the comprehensive environmental response, compensation and liability act program. Hamilton Sundstrand reported results from these sampling events in the RI and the recently completed FS along with additional SECOR-submitted results to DNR. Modine and Hamilton Sundstrand are working toward a common goal (closure of their respective sites) through different DNR regulatory programs. Annual reporting of the same information by Modine would be an unnecessary duplication of effort with respect to DNR's understanding of groundwater conditions in Camdenton.

DNR's Comment: DNR does not expect Modine and Hamilton Sundstrand to duplicate efforts to comply with the different regulatory programs; however, if Modine and Hamilton Sundstrand plan to make joint submittals to the DNR, such submittals must satisfy the regulatory requirements of both RCRA and Superfund. Modine and Hamilton Sundstrand must also make sure that both regulatory programs receive copies of these submittals. Modine is still subject to RCRA requirements and is obligate d to satisfy these requirements as provided in 40 CFR 265 and Section VI. – Work to be Performed, Section VIII. – Additional Work, and Section XX. – Other Applicable Laws of the Corrective Action Order on Consent.

B. **Groundwater Sampling and Analysis Plan (SAP)**

Modine Response: DNR is requesting that Modine develop a regular groundwater-monitoring program and document that program in a SAP.

As previously stated, Hamilton Sundstrand has been conducting groundwater monitoring for the area. The monitoring is conducted in accordance with a SAP developed by Hamilton Sundstrand's consultant, SECOR, as part of the DNR approved RI Work Plan. Any additional monitoring of the groundwater monitoring well network required in support of the selected remedial alternative defined in the FS will be done in accordance with this SAP as modified to reflect relevant changes in procedures, contractors, etc.

DNR's Comment: As stated earlier, DNR does not expect Modine and Hamilton Sundstrand to duplicate efforts to comply with the different regulatory programs; however, they must satisfy the regulatory requirements of both RCRA and Superfund. Modine is still subject to RCRA requirements and is obligated to satisfy these

requirements as provided in 40 CFR 265 and Section VI. – Work to be Performed, Section VIII. – Additional Work, and Section XX. – Other Applicable Laws of the Corrective Action Order on Consent.

C. Well Integrity Inspection

Modine Response: The DNR requested that the following actions be implemented to maintain monitoring well integrity:

- Repair cracked surface seal at monitoring well MW-18.
- Replace O-ring seals beneath the bolt cap at monitoring wells MW-13 and MW-14.
- Clearly identify well number through permanent well identification method (stencil, tag, etc.), such that the well is easily identifiable in the field without the aid of a map.

As previously stated, Hamilton Sundstrand has been conducting groundwater monitoring for the area. DNR's comments regarding well integrity will be forwarded to Hamilton Sundstrand to review and address.

DNR's Comment: DNR has no problem with Hamilton Sundstrand addressing the comments regarding the well integrity inspection. However, Modine should coordinate with Hamilton Sundstrand to ensure that DNR's comments are adequately addressed in a timely manner.

D. Groundwater Sampling and Analysis Procedures

Modine Response: The DNR made a few suggestions with regard to field sampling procedures. The most significant change suggested by the DNR was a change to low-flow purge and sampling methods. Other suggestions dealt with decontamination procedures, field instrument calibration, use of individual well sampling sheets, and sample label information.

A previously stated, Hamilton Sundstrand has been conducting groundwater monitoring for the area. DNR's comments regarding groundwater sampling procedures will be forwarded to Hamilton Sundstrand to review and address.

DNR's Comment: DNR has no problem with Hamilton Sundstrand addressing the comments regarding groundwater sampling and analysis procedures. However, Modine should coordinate with Hamilton Sundstrand to ensure that DNR's comments are adequately addressed in a timely manner.

IV. **Conclusion**

Modine Response: In summary, this letter demonstrates that the issues raised by DNR in the CME have already been adequately addressed or will be addressed by future activities undertaken by Hamilton Sundstrand pursuant to the Superfund program process. No additional work is necessary to protect human health and the environment and the provisions of the area of concern have been satisfied. Modine strongly encourages DNR to combine the results of the comprehensive environmental response, compensation and liability act and RCRA programs to come to a common solution to these issues so the area's human health and environment can be protected.

DNR's Comment: As previously stated, DNR does not agree that the issues raised in the CME have been adequately addressed. The source of groundwater contamination has not been adequately characterized. The contaminant plume is mobile, as seen by fluctuating concentrations in "perched" zone monitoring wells and increasing TCE concentrations in the Mulberry Well. As stated above, DNR is willing to defer the installation of additional monitoring wells until after the RD/RA process is conducted as part of the Superfund investigation. If evaluation of monitoring wells during the RD/RA process do not satisfy DNR's concerns as stated in the CME, then Modine will be required to install the requested "perched" and "deep" zone monitoring wells.

In lieu of collecting soil samples from beneath the floor of the building at this time, DNR agrees that preparation of a comprehensive report, by Modine, summarizing all the historic work that supports the absence of a source under the building floor may be sufficient to close the issue. Should further investigative work be required relative to this issue, the DNR remains committed to minimizing any disruption of Modine's manufacturing operations.

Investigation of the soil along previously-uninvestigated portion of the sewer line is necessary to assess potential remaining source(s) of contamination to the "perched" and "deep" zone aquifers.

DNR does not expect Modine and Hamilton Sundstrand to duplicate efforts to comply with the different regulatory programs; however, they must satisfy the regulatory requirements of both RCRA and Superfund. This does not exempt Modine from fulfilling their corrective action obligations under 40 CFR 265 and Section VI. – Work to be Performed, Section VII. – Additional Work, and Section XX. – Other Applicable Laws of the Corrective Action Order on Consent. If DNR and Modine are unable to resolve these issues informally, they will be handled pursuant to Section XVI. – Dispute Resolution, of the Corrective Action Order on Consent.

If you have any questions, or would like to schedule a meeting to discuss these issues further please contact me at the Missouri Department of Natural Resources, 7545 South Lindbergh, Suite 210, St. Louis, MO 63125-4839, or by phone at (314) 416-2960.

Sincerely,

HAZARDOUS WASTE PROGRAM

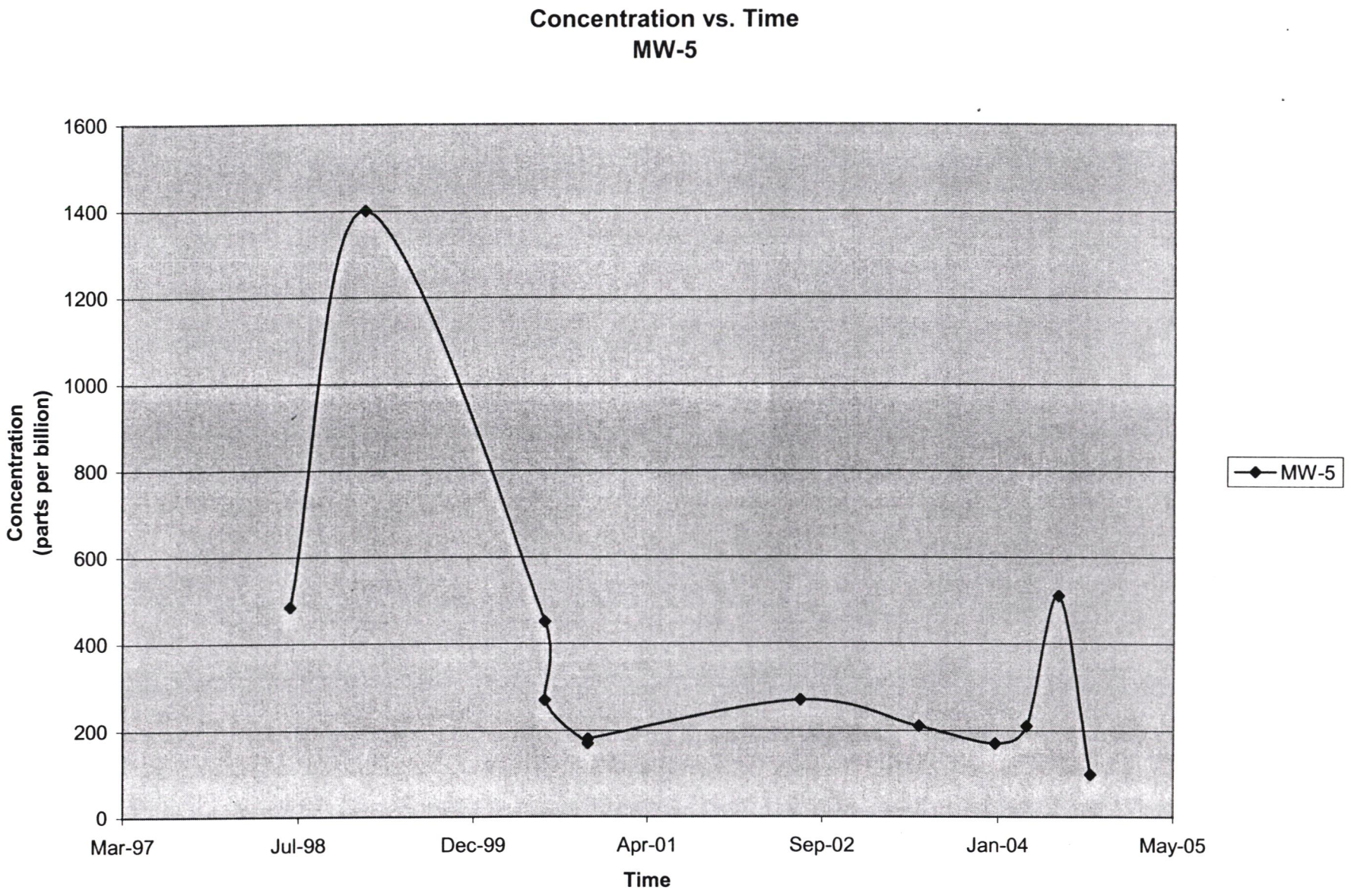
for CKM

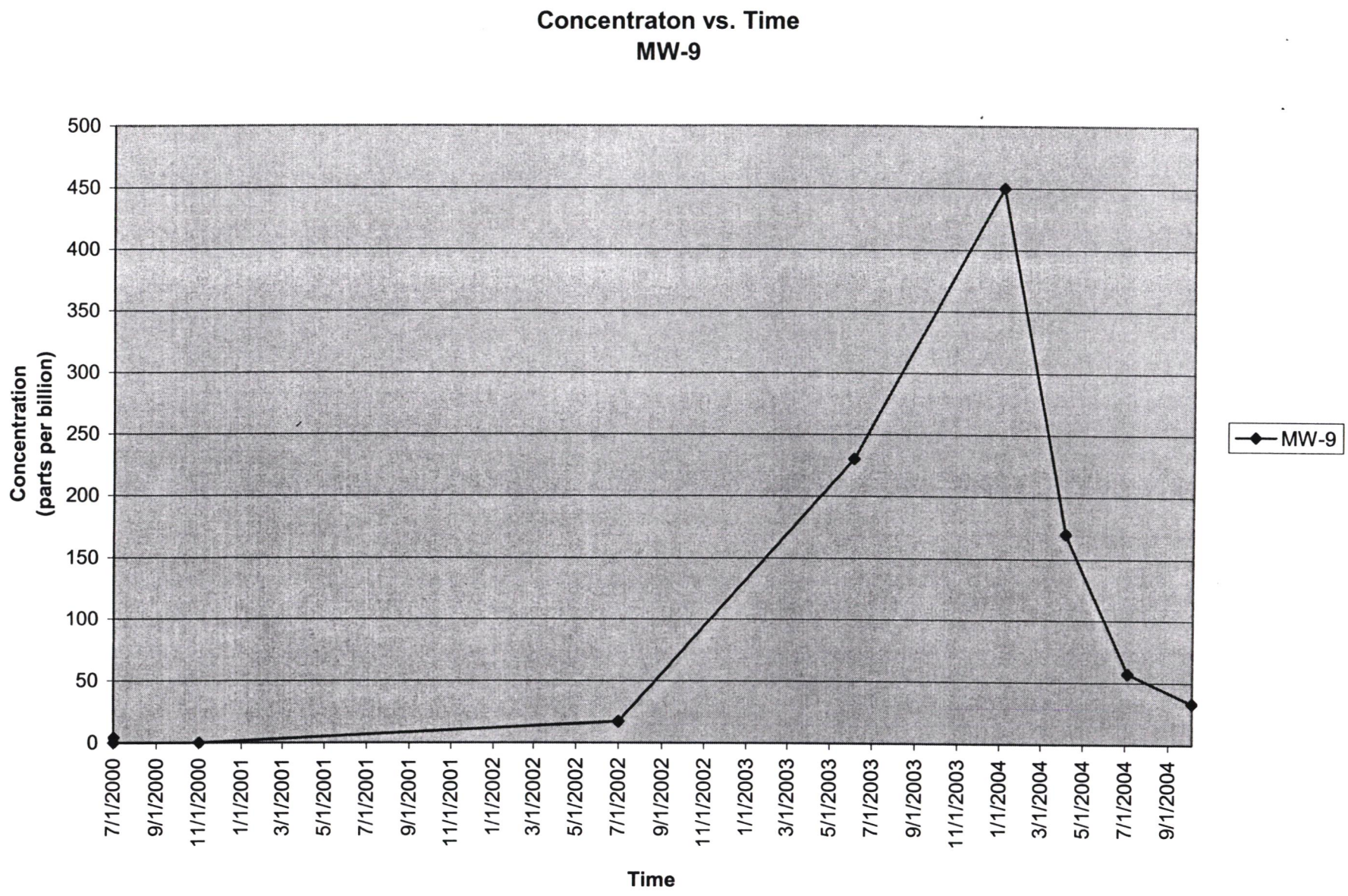
Christine Kump-Mitchell, P.E.
Environmental Engineer
Permits Section

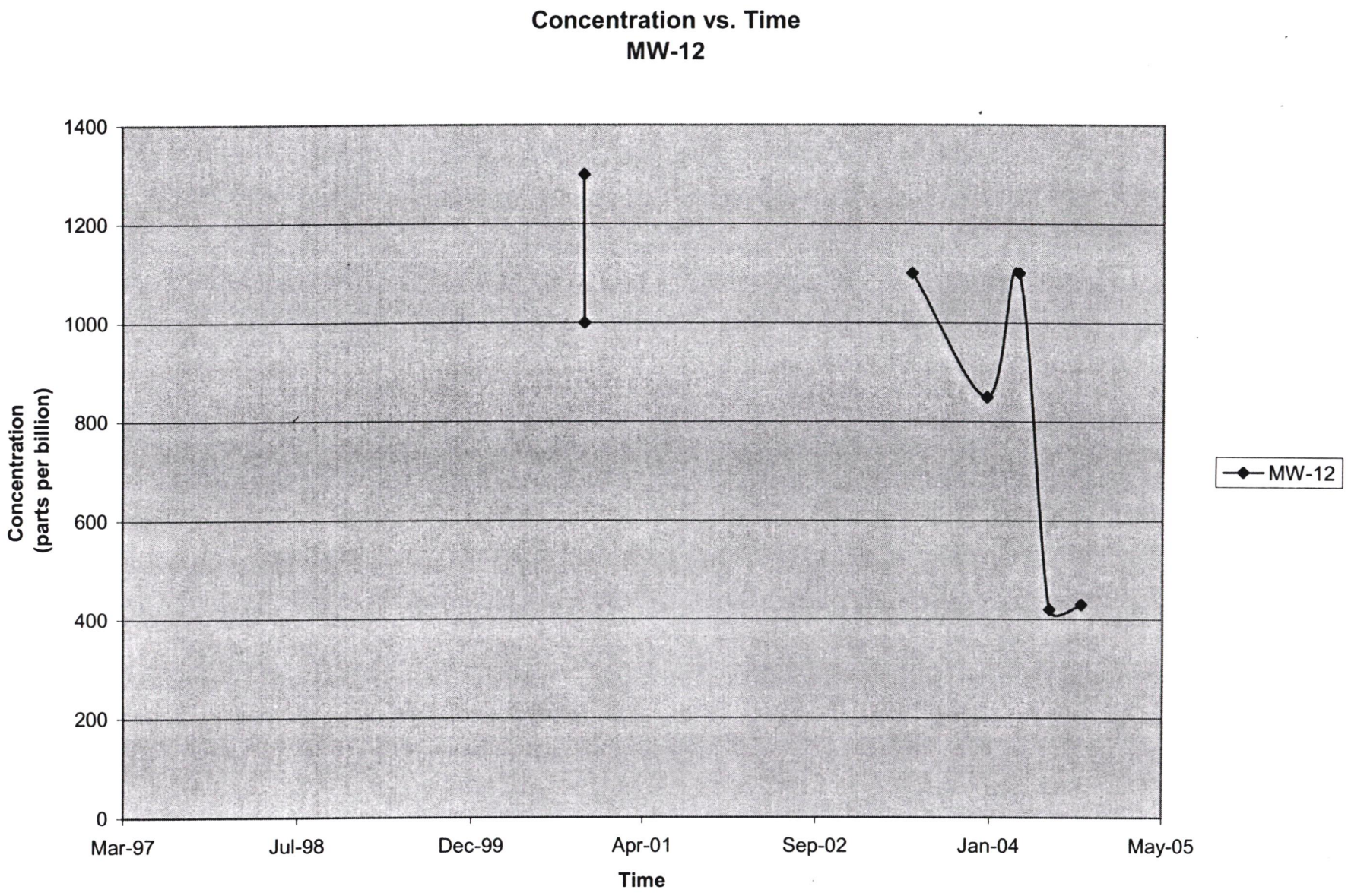
CKM:mj

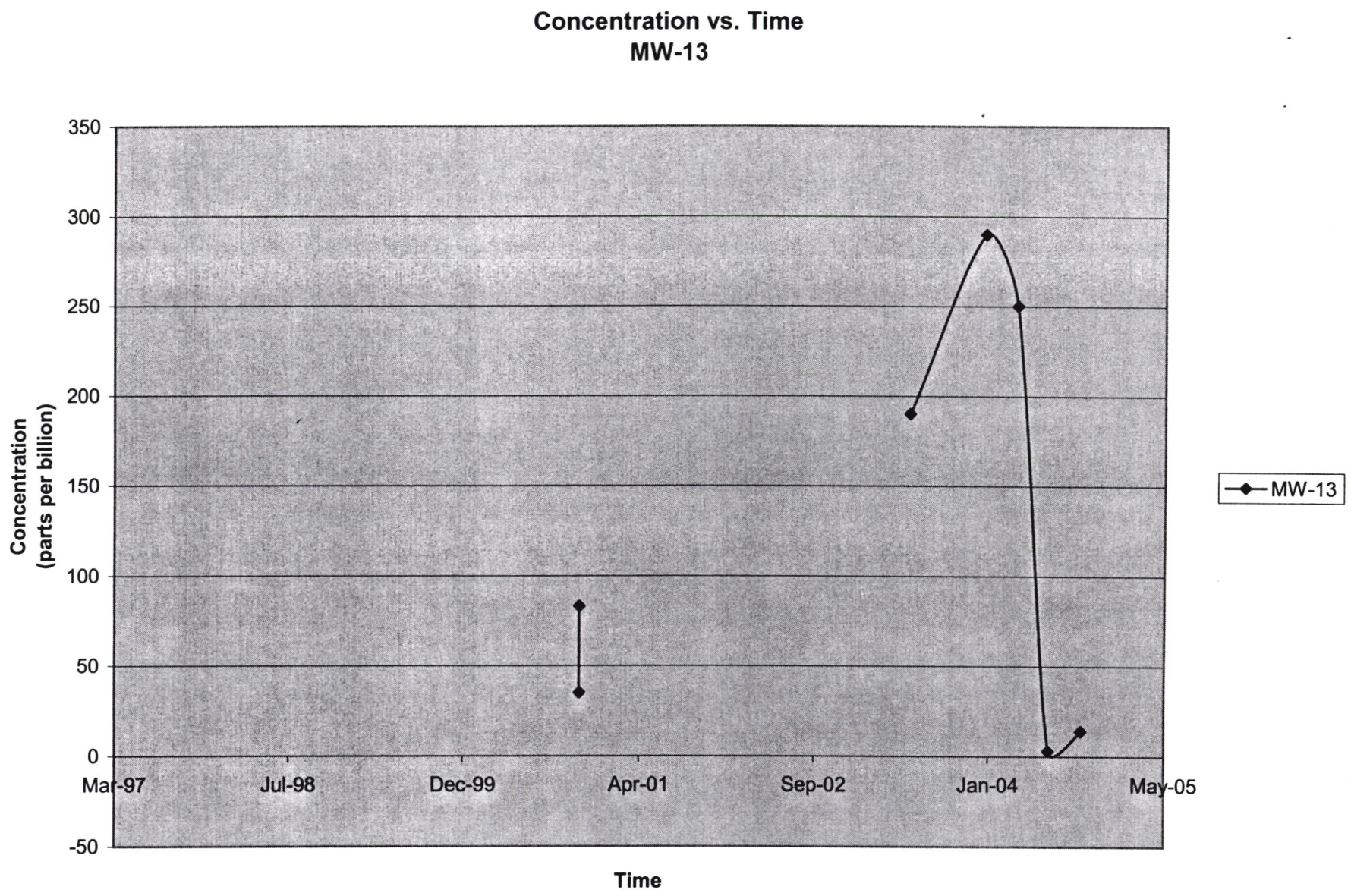
Enclosures

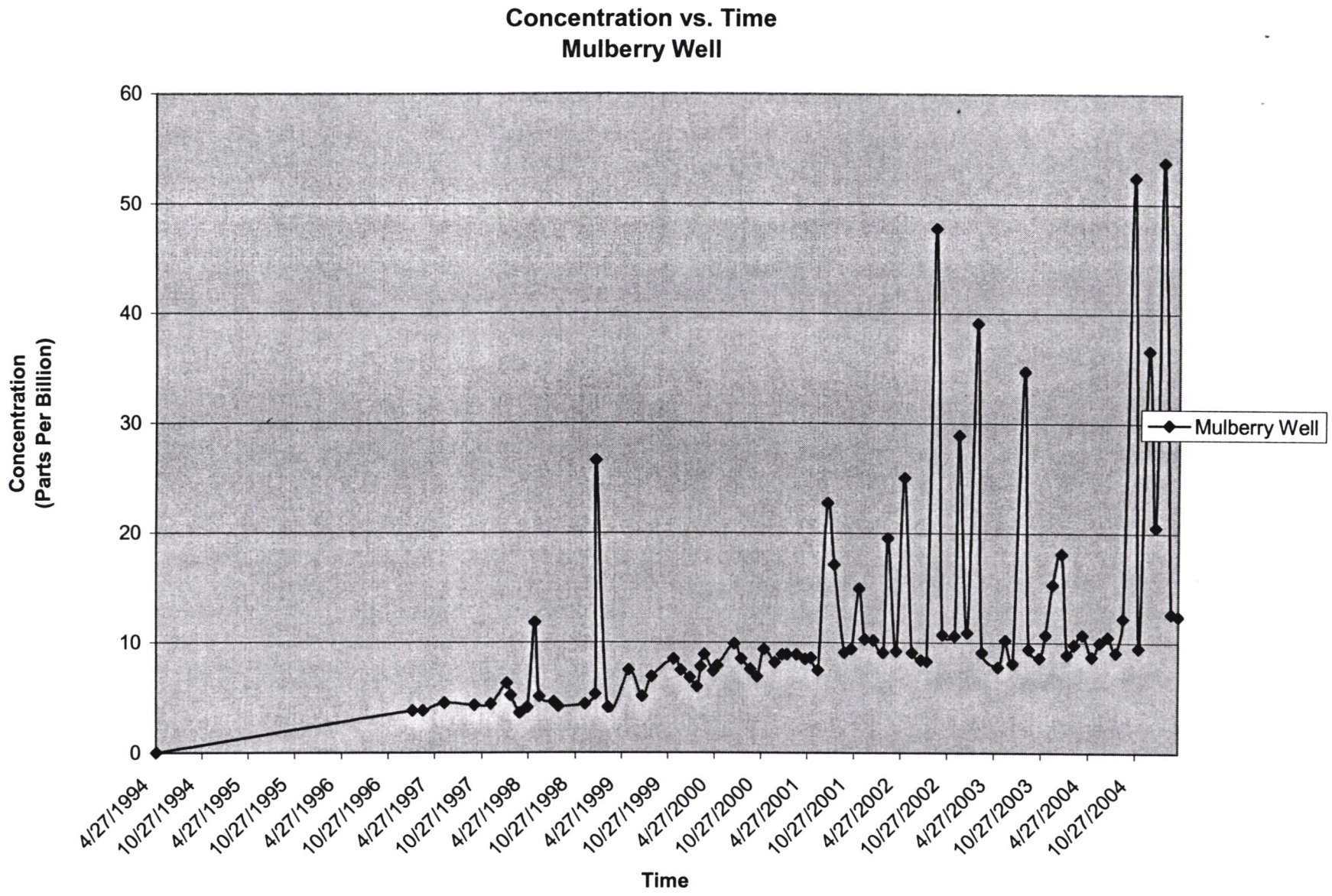
c: Mr. David Garrett, U.S. EPA, Region VII


Concentration vs. Time
MW-5
1600
1400
1200
1000
800
600
400
200
0
Concentration
(parts per billion)
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Time
MW-5


Concentraton vs. Time
MW-9
Concentration (parts per billion)
500
450
400
350
300
250
200
150
100
50
0
7/1/2000
9/1/2000
11/1/2000
1/1/2001
3/1/2001
5/1/2001
7/1/2001
9/1/2001
11/1/2001
1/1/2002
3/1/2002
5/1/2002
7/1/2002
9/1/2002
11/1/2002
1/1/2003
3/1/2003
5/1/2003
7/1/2003
9/1/2003
11/1/2003
1/1/2004
3/1/2004
5/1/2004
7/1/2004
9/1/2004
Time
MW-9


Concentration vs. Time
MW-12
1400
1200
1000
800
600
400
200
0
Concentration
(parts per billion)
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Time
MW-12


Concentration vs. Time
MW-13
350
300
250
200
150
100
50
0
-50
Concentration
(parts per billion)
Mar-97
Jul-98
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Time
MW-13


Concentration vs. Time
Mulberry Well
Concentration
(Parts Per Billion)
60
50
40
30
20
10
0
4/27/1994
10/27/1994
4/27/1995
10/27/1995
4/27/1996
10/27/1996
4/27/1997
10/27/1997
4/27/1998
10/27/1998
4/27/1999
10/27/1999
4/27/2000
10/27/2000
4/27/2001
10/27/2001
4/27/2002
10/27/2002
4/27/2003
10/27/2003
4/27/2004
10/27/2004
Time
Mulberry Well