



# **OFF-SITE WELL SURVEY AND SAMPLING WORK PLAN**

**GM POWERTRAIN – BEDFORD PLANT  
105 GM DRIVE  
BEDFORD, INDIANA**

**EPA ID# IND 006036099**

**Prepared for:  
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TABLE OF CONTENTS

	<u>Page</u>
1.0 PURPOSE .....	3
2.0 SCOPE OF WORK .....	4
2.1 NEIGHBORHOOD SURVEY.....	4
2.2 OWNER/RESIDENT INTERVIEW .....	5
2.3 ACCESS AGREEMENTS.....	5
2.4 OFFSITE WELL SAMPLING .....	6
2.4.1 FIELD PROCEDURES .....	6
2.5 RECORDS SEARCH.....	7
2.6 AVAILABILITY OF BOTTLED WATER.....	7
3.0 ANALYTICAL RESULTS .....	8
3.1 SAMPLE ANALYSIS .....	8
3.2 DISTRIBUTION OF RESULTS.....	8
4.0 SCHEDULE.....	9

LIST OF FIGURES  
(Following Text)

- FIGURE 1.1            SITE LOCATION MAP
- FIGURE 1.2            HALF-MILE RADIUS, INTENDED OFF SITE PRIVATE WELL  
                                 SAMPLING AREA

LIST OF APPENDICES

- APPENDIX A            PRELIMINARY RFI QUALITY ASSURANCE PROJECT PLAN
- APPENDIX B            HEALTH AND SAFETY PLAN
- APPENDIX C            COMMUNITY RELATIONS PLAN
- APPENDIX D            SURVEY AND SAMPLE RECORD FORMS

## 1.0 PURPOSE

The purpose of this document is to present the Off-Site Well Survey and Sampling Work Plan for the General Motors Powertrain-Bedford Plant (Facility), located in Bedford, Indiana. This Work Plan describes the specific activities to be performed for the collection and analysis of drinking water samples from properties near the Bedford Facility with water supply wells. Offsite wells that are to be sampled are those located within an approximate ½-mile radius of the Facility. Each well within this radius will be located and sampled, upon permission from the property owners. [Figure 1.1](#) presents the location of the Bedford Facility. [Figure 1.2](#) presents the ½-mile radius intended for the offsite well survey and sampling.

The scope of activities involved in this Work Plan includes steps to identify and sample all wells located on properties within a ½ mile radius of Facility operations.

## 2.0 SCOPE OF WORK

This Section describes the procedures to be followed to identify the presence and construction of wells, to gain access to these wells, and to obtain samples from each identified offsite water well (within the ½ mile radius). In order to identify existing private wells, a neighborhood survey (door-to-door) will be performed within a ½-mile radius of the Bedford Facility (see Figures 1.1 and 1.2) to identify and interview owners regarding the existence and use of water wells on their property.

The field work will adhere to the methods and procedures specified in this Section. In addition, all work (including the collection and analysis of appropriate quality control samples) will be performed in accordance with the methods and procedures specified in the Preliminary RFI Quality Assurance Project Plan (QAPP) provided in [Appendix A](#), the Health and Safety Plan (HASP) provided in [Appendix B](#), and the Community Relations Plan (CRP) provided in [Appendix C](#).

### 2.1 NEIGHBORHOOD SURVEY

Previous offsite well record searches (IDNR database) and a visual "windshield" survey were performed by CRA in February 2001, which resulted in locating approximately three wells within the ½-mile radius of the Bedford Facility. However, additional wells may be present that were not identified through the database search and the limited "windshield" survey (e.g., historic supply wells may not have been documented, potential for non-potable well use, inaccuracies in the database search, etc.). Therefore, a neighborhood survey (door-to-door) will be conducted to augment the identification of offsite water supply wells. The neighborhood survey will also be used to request sampling of any existing wells located in the door-to-door search and to obtain formal access agreements with the individual property owners for sampling.

The survey teams, consisting of two representatives (one technical and one community relations person) will visit each property within an approximate ½-mile radius of the Facility ([Figure 1.2](#)). Initially, two to three teams will be deployed due to the number of residences within the ½ mile radius, as identified on a recent aerial photograph. Each team will be conducting their portion of the neighborhood survey and will be responsible for that specific portion of the survey area. This area will be delineated on an aerial photograph and AutoCAD drawing. The team members will record the addresses, contacts, return appointments if made, and any comments requiring discussion with the property owner. All teams will meet daily to discuss their progress and any issues that may need to be addressed. Should the owners have public and/or

technical inquiries concerning the Corrective Action process, the water well sampling procedures and/or access agreement, they will be addressed in the field by the team (if possible) or will be responded to by the GM communications team if the field team cannot provide the answer.

## **2.2 OWNER/RESIDENT INTERVIEW**

Once contact is made with the property owner, the survey team will interview the owner with regard to water supply. Interviews will be conducted with the owners to determine the presence of wells and source of water supply for the property. If the property is supplied by a municipal water source and no well is identified as being present, no further investigation (or any sampling) will be conducted at that property. All information discussed in the interview will be recorded on a Survey Form (a copy of the form is presented in [Appendix D](#)).

If it is determined that a water well(s) is present (for either potable or non-potable use), the owner/resident will be interviewed to determine well information including the well depth, date of installation, and any water treatment processes used (e.g., softening, filtration).

## **2.3 ACCESS AGREEMENTS**

Decision Quest is the designated GM community relations coordinator for the private well sampling effort and will assist CRA in performing the private water well survey and conducting interviews. Access agreements will be presented to the owner for review and approval. No water samples will be collected without the owner's signed access agreement.

After the access agreement is signed, the intended sampling event will be scheduled, or if the owners allow, a sample will be collected immediately. To schedule sampling appointments, a representative of the initial contact survey team will notify the owners (and the residents, if different than the owner) of the intended sampling event via mail or by telephone concerning potential dates and times for sampling, if permission is granted.

For those properties where the neighborhood survey is unable to contact the owner or resident, the name and mailing address of the tax payer will be obtained from the tax assessor's office. A letter will be sent to each of these owners providing information on

the water survey and requesting a time and telephone number to discuss the well sampling program.

## **2.4 OFFSITE WELL SAMPLING**

Once the presence of an offsite well has been confirmed, the Survey Form has been completed, and permission from the property owner has been obtained, the water well at the residence will be sampled in accordance with the procedures described in Section 2.4.1.

All available information regarding the well, including the owners name (and renters name if a rental), address, telephone numbers, well configuration, and treatment devices will be documented using the Sample Record Form as presented in [Appendix D](#).

### **2.4.1 FIELD PROCEDURES**

When water samples are collected from wells, either by mechanical or hand pumping, the wells must be purged before the sample is collected. Purging helps to ensure that water representative of the formation is collected, not the standing water in the well casing, pipes, or holding tanks. At least one volume of water in the well casing and storage tank will be evacuated (a 15-minute period is usually sufficient for private wells). After purging for about 15-minutes, the pH, conductivity, turbidity, and temperature will be measured until constant values are obtained.

Sampling of private wells can be performed using either the existing pumping system or other pumping equipment. Use of the existing pumping system is preferred as this is more representative of the water quality being provided to the residence and there is less chance of damage to the well and existing pumping system.

Taps selected for sample collection should be located as close to the well as possible and upstream of any treatment system. Take note of all water treatment devices in use at the residence (e.g., water softener, filtration unit). The cold water tap will be opened for 10 to 15 minutes to permit cleaning the service line. A smooth-flaring water stream at moderate pressure without splashing should be achieved prior to sampling. Then, without changing the water flow which could dislodge some particles in the faucet, the samples may be collected.

Hold the bottle cap in one hand and the bottle in the other, exercising care not to touch the inside of the cap. Disposable gloves will be worn and changed between sample locations. Avoid contaminating the sample bottle with fingers or permitting the faucet to touch the inside of the bottle.

Water samples will be collected in pre-cleaned laboratory containers and analyzed for PCBs at Aqua Tech Environmental Laboratories in Melmore, Ohio<sup>1</sup>, a certified Indiana drinking water laboratory.

The well configuration will be fully documented to the extent possible (e.g., depth, casings, well materials, construction date), pumping system, piping system (e.g., pipe type – copper, galvanized, lead-joint construction, etc.), and presence of treatment devices, to the degree these can be determined during the sampling event.

## **2.5 RECORDS SEARCH**

Conestoga-Rovers & Associates (CRA) will perform a records search and review of the local health department, the City of Bedford Water Department, and the North Lawrence Water Corporation to assist in determining the location of any known private well and potential uses (potable vs. non-potable) of any well identified within a ½-mile radius of the Facility. This records search will augment the existing database search from the Indiana Department of Natural Resources (IDNR) and the neighborhood survey.

## **2.6 AVAILABILITY OF BOTTLED WATER**

As discussed in the Community Relations Plan (CRP-[Appendix C](#)), bottled drinking water from Culligan will be made available to all of the residences where private wells are being used for drinking water, if requested by the owner. This service will be provided at no cost to the owners/residents until the results of the laboratory analysis are obtained.

If it is determined that PCBs are present at unacceptable levels in a well, an alternative water supply will be investigated and bottled water for drinking will continue to be

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<sup>1</sup> The laboratory has been changed to Aqua Tech Environmental Laboratories from Test America to be consistent with the Quality Assurance Project Plan (July 18, 2001).

provided until an alternate water supply or treatment system has been provided (e.g., hookup to City water, treatment system, etc.).

### 3.0 ANALYTICAL RESULTS

#### 3.1 SAMPLE ANALYSIS

Offsite well water samples will be analyzed for PCBs (reported as total decachlorobiphenyls). All samples will be analyzed using the United States Environmental Protection Agency (U.S. EPA) Drinking Water Method 508<sup>2</sup>, as set forth in "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, (Revised July 1991) with Supplement I, EPA/600/4-90/020, July 1990 and Supplement II, EPA/600/R-92/129, August 1992. QA/QC samples will be collected for data and sample quality assessment in general accordance with the Preliminary RFI Activities QAPP ([Appendix A](#)). In order to assure proper identification of samples, the street address of each residence will be included in the sample identification number.

Following receipt of final analytical data, the Quality Assurance Officer (QAO) will prepare a data quality assessment and validation memorandum.

#### 3.2 DISTRIBUTION OF RESULTS

A daily record of field activities will be kept by each sampling team in a bound field book and on the Sample Record Form detailing the day's activities. Upon completion of the field activities, receipt of final analytical results, and data quality assessment and validation, the results will be summarized in a report and submitted to U.S. EPA and IDEM. In the interim, all lab reports for any well will be faxed to GM's project manager upon receipt from the lab.

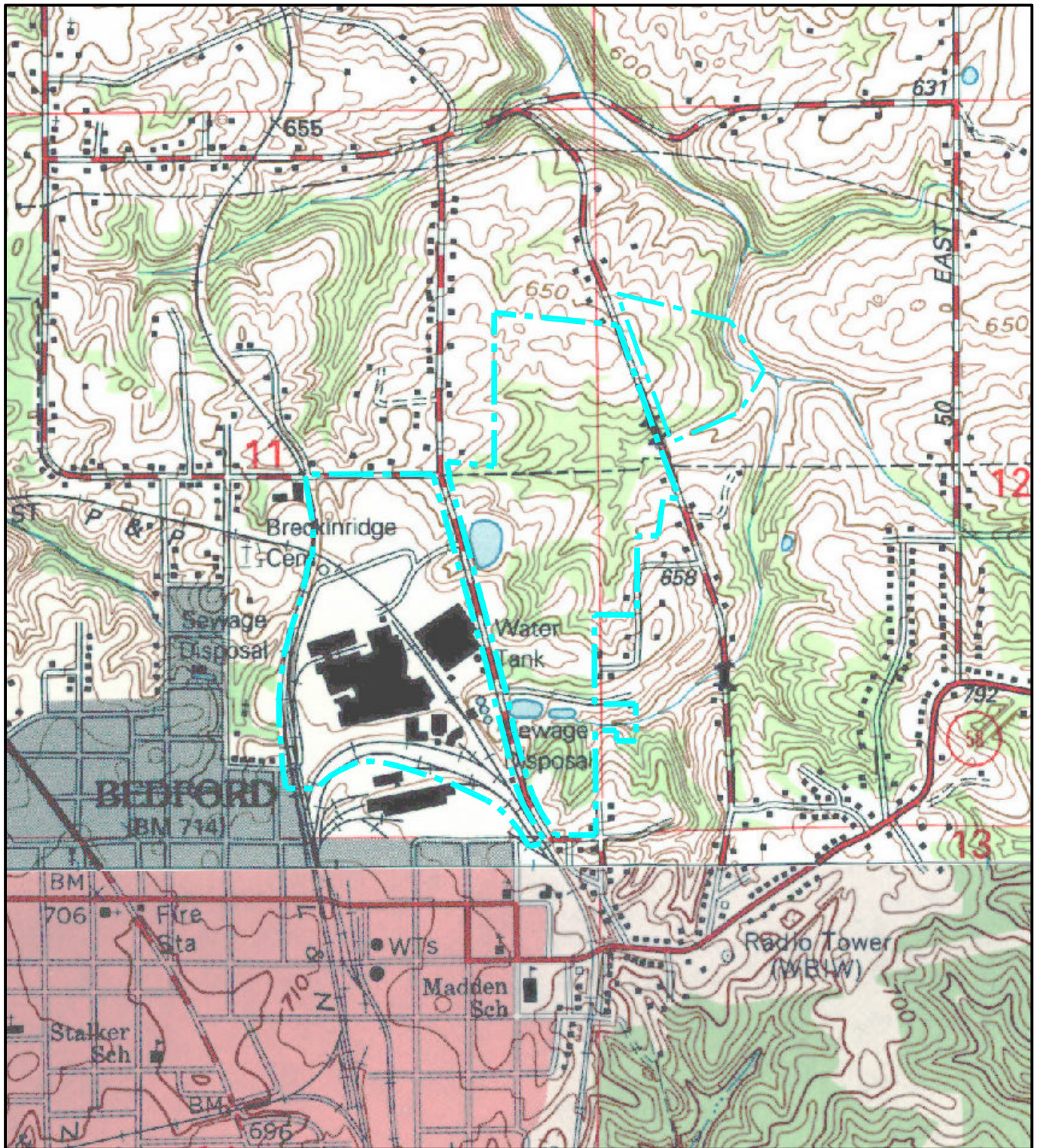
Additionally, a letter will be generated for each offsite water well that was sampled. Each letter will summarize the test results of their water sample and will be sent to the resident/water user at the address recorded on the Sample Record Form (and to the owner, if different than the current resident).

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<sup>2</sup> U.S. EPA Method has been changed to 508 from 505, consistent with the Quality Assurance Project Plan (July 18, 2001).

#### 4.0 SCHEDULE

The initial door-to-door, neighborhood survey will take approximately two weeks to complete. Additional time may be required to follow-up with unoccupied residences, residents who were not at home during the survey, owners who are not residents, and for any additional appointments in order to finalize the access agreements or to accommodate the resident's schedule. The survey is anticipated to begin in mid July. Actual sampling of private wells will begin during the survey, immediately after access is granted.



**LEGEND:**

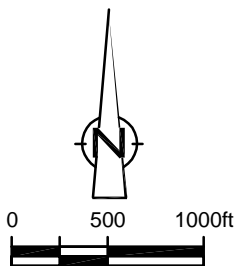
 APPROXIMATE PROPERTY BOUNDARY



BASE SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE;  
 BARTLETTSVILLE, INDIANA 1994  
 BEDFORD EAST, INDIANA 1978  
 BEDFORD WEST, INDIANA 1993  
 OOLITIC, INDIANA 1987

figure 1.1

**SITE LOCATION MAP**  
**GM POWERTRAIN BEDFORD FACILITY**  
*Bedford, Indiana*



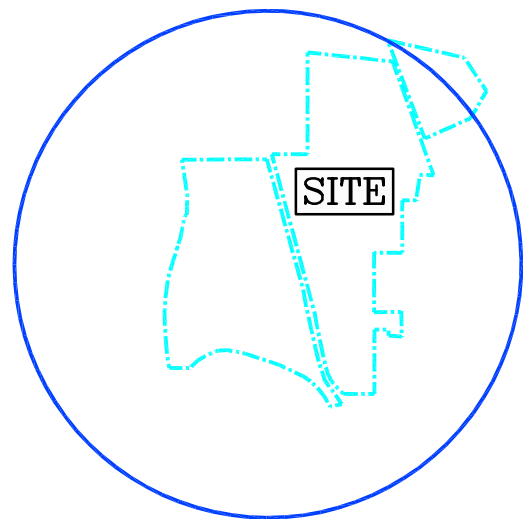
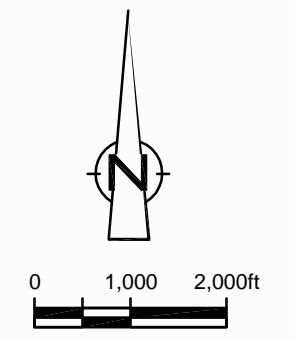
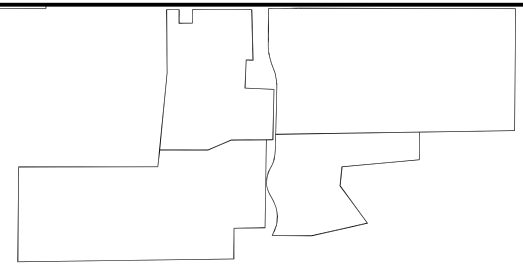


figure 1.2  
HALF-MILE RADIUS  
INTENDED OFF-SITE WELL SAMPLING AREA  
GM POWERTRAIN BEDFORD FACILITY  
*Bedford, Indiana*



**June 4, 2001**

**APPENDIX A**

**PRELIMINARY RFI QUALITY ASSURANCE PROJECT PLAN  
(NOT INCLUDED IN THIS VERSION)**

**June 4, 2001**

**APPENDIX B**

**HEALTH AND SAFETY PLAN  
(NOT INCLUDED IN THIS VERSION)**

**June 4, 2001**

**APPENDIX C**

**COMMUNITY RELATIONS PLAN  
(NOT INCLUDED IN THIS VERSION)**

**June 4, 2001**

**APPENDIX D**

**SURVEY AND SAMPLE RECORD FORMS**