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CURRENT CONDITIONS REPORT

**GM POWERTRAIN BEDFORD FACILITY
105 GM DRIVE
BEDFORD, INDIANA**

EPA ID# IND006036099

Volume II – Appendix A through E

**Prepared For:
GM/ENCORE**

PRINTED ON

MAY 25 2001

APPENDICES

MAY 25, 2001

APPENDIX A
VOLUNTARY CORRECTIVE ACTION AGREEMENT



Worldwide Facilities Group
Environmental & Regulatory Support
Remediation Team

March 20, 2001

Mr. Robert Springer, Director
Waste Pesticides and Toxics Division
Region 5 U.S. Environmental Protection Agency
77 W. Jackson Blvd (DW-8J)
Chicago, Illinois 60604-3590

RE: Return of Fully Executed Bedford Voluntary Corrective Action Agreement
Bedford, Indiana

Dear Mr. Springer:

Enclosed is one fully executed copy of the Voluntary Corrective Action Agreement (signed by U.S. EPA on March 16, 2001) for the General Motors Powertrain Bedford Plant Site (U.S. EPA ID# IND006036099), located in Bedford, Indiana. Figure 1 is being sent under separate cover. Please note that General Motors recognizes the need to protect human health and the environment and will not wait until the end of the project to address those issues. GM intends to take interim measures, where practicable, during the process to address problems as they are identified and defined.

Please call Cheryl Hiatt at 313-556-9032 or Jean Caufield at 313-556-0845 if you require any further information.

Sincerely,

A handwritten signature in cursive script that reads "William J. McFarland".

William J. McFarland
Director Remediation
Worldwide Facilities Group
General Motors Corporation

Enclosure

pc: Peter Ramanauskas, U.S. EPA
Hak Cho, U.S. EPA
Gerald Phillips, U.S. EPA
Jean Caufield, GM WFG
Cheryl Hiatt, GM WFG
Michelle Fisher, GM Legal
Laura Fitzpatrick, GM Legal
Bill Schoonmaker/Kim Dobosenski, GM Bedford

**Voluntary Corrective Action Agreement
Between
The United States Environmental Protection Agency and
General Motors Corporation
For GM Powertrain Group - Bedford Plant, Bedford**

I. Purpose

The United States Environmental Protection Agency (U.S. EPA) and General Motors Corporation (GM), collectively referred to as the Parties, establish this Agreement to enable GM to work independently and voluntarily to investigate, and as necessary stabilize and remediate releases of hazardous wastes or hazardous constituents at or from the GM Powertrain Group-Bedford Plant, more particularly delineated in attached Figure 1, (the "Site") located in Bedford, Indiana that may present an unacceptable risk to human health or the environment. The Parties believe that GM will appropriately, efficiently and effectively investigate and, as necessary, remediate the Site on an accelerated basis by following the procedures and guidelines in this Agreement.

II. Background

The Site (U.S. EPA ID# IND006036099) is located at 105 GM Drive, Bedford (Lawrence County), Indiana, 47421. The Bedford Plant produces aluminum casting products, such as transmission cases, pistons, and engine blocks. Major aluminum production processes include die casting and permanent molding.

The Site is bounded to the south by the Canadian and Pacific Railway, Imco, and residential property, to the east by undeveloped land and residential areas, to the north by residential and undeveloped areas, and to the west by former railway, residential, and industrial property.

The Site was originally developed in the early 1900s as limestone milling operations. In 1942, the operation became an Allison Aircraft aluminum engine foundry. After World War II, the Site remained an aluminum foundry, casting automotive parts as part of various General Motors divisions, including Delco-Remy, Allison, Fabricast, Central Foundry, and Powertrain. The Bedford Plant is still in operation today. In 1977, GM purchased a piece of property from the railroad, south of the original Plant, that had formerly included the railroad roundhouse. This property was leased by Mica Metals (a dross reclaimer of aluminum) until 1997. Other parcels, mostly undeveloped, have also been purchased over the years to the north and east of the original property boundaries. The Site today includes 152.5 acres (see attached site map in Figure 1), with approximately one million square feet of floor space.

U.S. EPA and GM expect that GM will investigate, and as necessary remediate, all releases of hazardous wastes or constituents at or from the Site under the guidelines established in this Voluntary Corrective Action Agreement.

III. Definitions

Unless otherwise specified herein, terms used in this Agreement which are defined in RCRA or in regulations promulgated under RCRA will have the definitions given to them in RCRA or in such regulations.

IV. Project Manager

U.S. EPA and GM will each designate a Project Manager and notify each other in writing of the Project Manager selected within 14 days of the effective date of this Agreement. Each Project Manager will be responsible for overseeing the implementation of this Agreement. The parties will provide prompt written notice whenever they change Project Managers.

V. Work to be Performed

GM agrees to perform the actions specified in this section, in the manner and by the dates specified herein. GM will perform the work undertaken pursuant to this Agreement in compliance with RCRA and other applicable Federal and State laws and their implementing regulations, and consistent with all relevant U.S. EPA guidance documents as appropriate to the Site. This guidance includes, but is not limited to, the Documentation of Environmental Indicator Determination Guidance, and relevant portions of the Model Scopes of Work for RCRA Corrective Action and of U.S. EPA's Risk Assessment Guidance for Superfund.

1. GM will complete activities necessary to identify and define the nature and extent of releases of hazardous waste and/or hazardous constituents at or from the Site. These activities include:
 - a. Provide to U.S. EPA, within 120 days after the effective date of this Agreement, a brief Current Conditions Report covering all areas of the Site. The Current Conditions Report will include any recent sampling data and a summary of the historic operations, remedial efforts, and physical setting of the Site. The Current Conditions Report, in total, will describe, at a minimum, conditions at the locations identified in the Indiana Department of Environmental Management (IDEM) Preliminary Assessment, dated April 30, 1985 and any past or present locations at the Site for which GM knows of past treatment, storage, or disposal of hazardous waste or hazardous constituents.
 - b. Perform phased investigations, at a minimum, at the locations identified in the Current Conditions Report as needing further investigation to identify the nature and extent of any releases of hazardous waste and/or hazardous constituents at

or from the Site which may pose an unacceptable risk to human health or the environment, and provide a report to U.S. EPA. The report will also describe the nature and extent of any releases of hazardous waste and/or hazardous constituents at or from the Site which do not pose an unacceptable risk to human health or the environment, and provide the basis for those conclusions, including an evaluation of the risks. The report may be prepared in phases to provide timely support for the demonstrations described in Section V.2, below, and for the determinations and proposal described in Section V.3, below. If investigation determines that acceptable risks to human health or the environment are exceeded, GM will determine the need for interim measures based on a professional evaluation of the data and will notify the U.S. EPA of the planned course of action.

- c. GM may choose to proceed with remedial actions to limit site investigation or risk assessment activities in order to complete the work as defined in Sections V.2 and V.3 below.
2. GM will demonstrate by the dates indicated, through submitting an Environmental Indicators Report and by performing any other necessary activities, consistent with this Section, that:
- a. By January 30, 2005, all current human exposures to contamination at or from the Site are under control. That is, for all media known or reasonably suspected to be contaminated with hazardous wastes or hazardous constituents above risk-based levels, for which there are complete pathways between contamination and human receptors, significant or unacceptable exposures do not exist.
 - b. By April 30, 2007, migration of contaminated groundwater at or from the Site is stabilized. That is, the migration of all groundwater known or reasonably suspected to be contaminated with hazardous wastes or hazardous constituents above acceptable levels is stabilized to remain within any existing areas of contamination as defined by monitoring locations designated at the time of the demonstration. In addition, any discharge of groundwater to surface water is either insignificant or shown to be currently acceptable according to an appropriate interim assessment. Monitoring and measurement data must be collected in the future as necessary to verify that migration of any contaminated groundwater is stabilized.
 - c. In order to prepare for and provide the demonstrations required by Sections V.2.a and V.2.b., above, GM will:
 - i. Determine appropriate risk screening criteria under current use scenarios and provide the basis and justification for the use of these criteria.
 - ii. Determine any current unacceptable risks to human health and the environment and describe why other identified risks are acceptable.

- iii. Control any unacceptable current human exposures that are identified. This may include performing any corrective actions or other response measures ("Corrective Measures") necessary to control current human exposures to contamination to within acceptable risk levels.
- iv. Stabilize the migration of contaminated groundwater. This may include implementing any Corrective Measures necessary to stabilize the migration of contaminated groundwater.
- v. Conduct groundwater monitoring to confirm that any contaminated groundwater remains within the original area of contamination.
- vi. Prepare a report, either prior to or as part of the Environmental Indicators Report, that provides a description and justification for any interim actions performed to meet the requirements of this Section, including sampling documentation, construction completion documentation, and/or confirmatory sampling results.

3. Final Corrective Measures:

- a. GM will propose to U.S. EPA by December 31, 2007, final Corrective Measures necessary to protect human health and the environment from all current and future unacceptable risks due to releases of hazardous waste or hazardous constituents at or from the Site (the "Final Corrective Measures Proposal"). The proposal will describe all Corrective Measures implemented at the Site since the effective date of this Agreement. It will also include a description of all other final Corrective Measures evaluated by GM, a detailed explanation of why the proposed final Corrective Measures were preferred by GM, and cost estimates for the final Corrective Measures evaluated. The proposal will also include a detailed schedule to construct and implement the final Corrective Measures and to submit a Final Remedy Construction Completion Report. This schedule will provide that as much of the initial construction work as practicable will be completed within one year after U.S. EPA selects the final Corrective Measures and that all final Corrective Measures will be completed within a reasonable period of time to protect human health and the environment.
- b. As part of developing its proposals, GM must propose appropriate risk screening criteria, cleanup objectives, and points of compliance under current and reasonably expected future land use scenarios and provide the basis and justification for these decisions.
- c. U.S. EPA may request supplemental information from GM if it determines that the proposals and supporting information do not provide an adequate basis to select final Corrective Measures that will protect human health and the environment from the release of hazardous waste or hazardous constituents at or

from the Site. GM will provide such supplemental information in a timely manner as directed in writing by U.S. EPA.

- d. U.S. EPA will provide the public with an opportunity to review and comment on its proposed final Corrective Measures, including a detailed description and justification for the proposals (the "Statement of Basis"). Following the public comment period, U.S. EPA will select the final Corrective Measures and provide notification of its decision and rationale in a "Final Decision and Response to Comments ("Final Decision").
- e. If GM agrees with U.S. EPA's selection of final Corrective Measures, GM will implement the final Corrective Measures selected in U.S. EPA's Final Decision according to the schedule therein.

4. Reporting and other requirements:

- a. GM will establish a publicly accessible repository for information regarding site activities and conduct public outreach and involvement activities in accordance with U.S. EPA's RCRA public participation guidance, as appropriate for the Site.
- b. GM will provide quarterly progress reports to U.S. EPA by the 15th day of the month following a quarter. The report will list work performed to date, data collected, problems encountered, project schedule, and percent project completed. The parties will communicate frequently and in good faith to assure successful completion of the requirements of this Agreement, and will meet on at least a semi-annual basis to discuss the work proposed and performed under this Agreement.
- c. GM will provide a Final Remedy Construction Completion Report documenting all work that it has performed pursuant to the schedule in U.S. EPA's Final Decision.
- d. If ongoing monitoring or operation and maintenance is required after construction of the selected final Corrective Measures, GM will include an operations and maintenance plan in the Final Remedy Construction Completion Report. GM will revise and resubmit the Report in response to U.S. EPA's written comments, if any, by the dates U.S. EPA specifies. Upon U.S. EPA's written approval, GM will implement the approved operation and maintenance plan according to the schedule and provisions contained therein.
- e. Any risk assessments conducted by GM must estimate human health and ecological risk under reasonable maximum exposure for both current and reasonably expected future land use scenarios. Risk assessments will be conducted in accordance with the Risk Assessment Guidance for Superfund (RAGS) or other appropriate U.S. EPA guidance. GM will use appropriate, conservative screening values when screening to determine whether further investigation is required. Appropriate screening values may include those

derived from Federal Maximum Contaminant Levels, U.S. EPA Region 9 Preliminary Remediation Goals, U.S. EPA Region 5 Ecological Screening Levels, U.S. EPA Region 5 Risk Based Screening Levels, U.S. EPA Region 3 Risk Based Concentration Table, or RAGS.

- f. All sampling and analysis conducted under this Agreement will be performed in accordance with the Region 5 RCRA Quality Assurance Project Plan Policy (April 1998) as appropriate for the Site, and be sufficient to identify and characterize the nature and extent of all releases. U.S. EPA may audit laboratories selected by GM or require GM to purchase and have analyzed any Performance Evaluation (PE) samples selected by U.S. EPA which are compounds of concern. GM will notify U.S. EPA in writing at least 14 days before beginning each separate phase of field work performed under this Agreement. At the request of U.S. EPA, GM will provide or allow U.S. EPA or its authorized representative to take split or duplicate samples of all samples collected by GM under this Agreement.

VI. Record Preservation

GM will retain, during the pendency of this Agreement and for at least six (6) years after termination of the entire Agreement, all data and all final documents now in its possession or control or which come into its possession or control which relate to this Agreement. GM will notify U.S. EPA in writing 90 days before destroying any such records, and provide U.S. EPA the opportunity to take possession of any such non-privileged documents. GM's notice will refer to the effective date, caption, and docket number of this Agreement and will be addressed to:

Director
Waste, Pesticides and Toxics Division
U.S. EPA, Region 5 (D-8J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

GM will also promptly provide U.S. EPA's Project Manager a copy of any such notice.

GM further agrees that within 30 days of retaining or employing any agent, consultant, or contractor ("Agents") to carry out the terms of this Agreement, GM will enter into an agreement with the Agents to provide GM a copy of all data and final non-privileged documents produced under this Agreement.

GM agrees that it will not assert any privilege claim concerning any data developed to prepare any reports or conduct any investigations or other actions taken under the Agreement.

VII. Modification, Termination and Satisfaction

This Agreement may be modified by written, mutual agreement of the Parties. The Project Managers may agree in writing to extend any deadline in this Agreement. Either Party may unilaterally terminate this Agreement upon written notice to the other Party. U.S. EPA's participation in this Agreement is subject to the Anti-Deficiency Act, 31 USC § 1341.

GM may request that U.S. EPA issue a determination that GM has met the corrective action cleanup objectives for the Site or a portion of the Site. GM will submit documentation that it has achieved the objectives and U.S. EPA will respond in writing indicating whether GM has completed RCRA corrective action. If U.S. EPA agrees that RCRA corrective action is complete it will issue a "No Further Action" determination for all or a portion of the Site.

The provisions of the Agreement will be satisfied upon GM's and U.S. EPA's execution of an "Acknowledgment of Termination and Agreement on Record Preservation and Reservation of Rights", consistent with U.S. EPA's Model Scope of Work. GM's execution of the Acknowledgment will affirm its continuing obligation to preserve all records as required by Section VI, to maintain any necessary institutional controls or other long term measures, and to recognize the Parties' reservation of rights as required in Section VIII.

VIII. Reservation of Rights

The Parties reserve any and all rights, remedies, authorities or defenses that they respectively have under law. Nothing in this Agreement limits or affects the authority or ability of either Party to take any action authorized by law. Nothing in this Agreement creates any legal rights, claims or defenses in either Party or by or for any third Party. Nothing in this Agreement relieves GM from complying with applicable federal, state and local laws.

This Agreement does not limit or affect the rights of the Parties against any Third Party, nor does it limit the rights of Third Parties. The Parties agree that this Agreement does not constitute any decision on pre-authorization of funds under §111(a)(2) of CERCLA.

IX. Effective Date

This Agreement is effective on the date the last Party signs.

DATE: 3 20 01

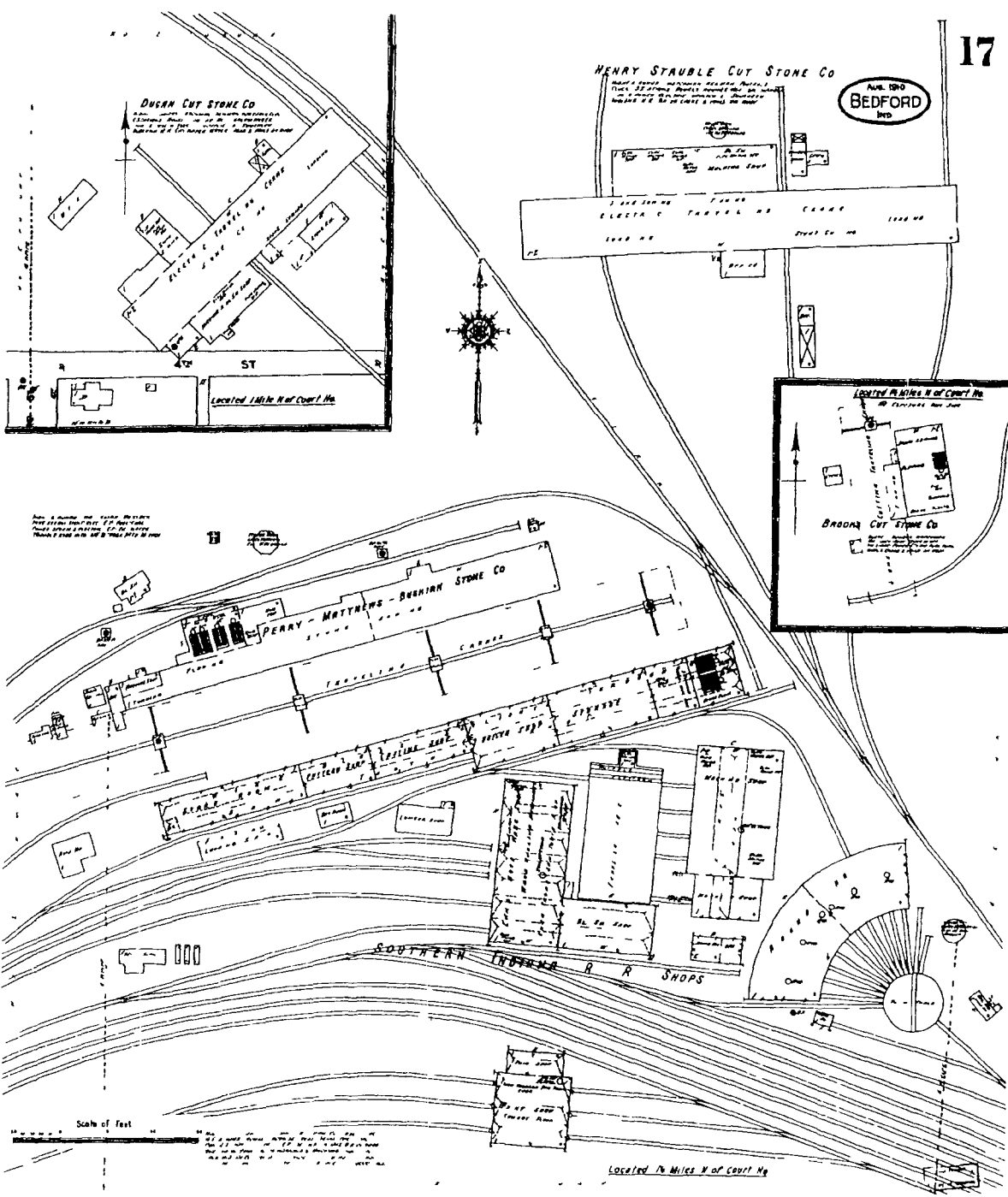
BY: William J. McFarland
William J. McFarland, Director
Remediation
Worldwide Facilities Group
General Motors Corporation

DATE: March 16, 2001

BY: Robert Springer
Robert Springer, Director
Waste, Pesticides and Toxics Division
U.S. Environmental Protection Agency
Region 5

MAY 25, 2001

APPENDIX B.1
SANBORN MAPS

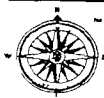
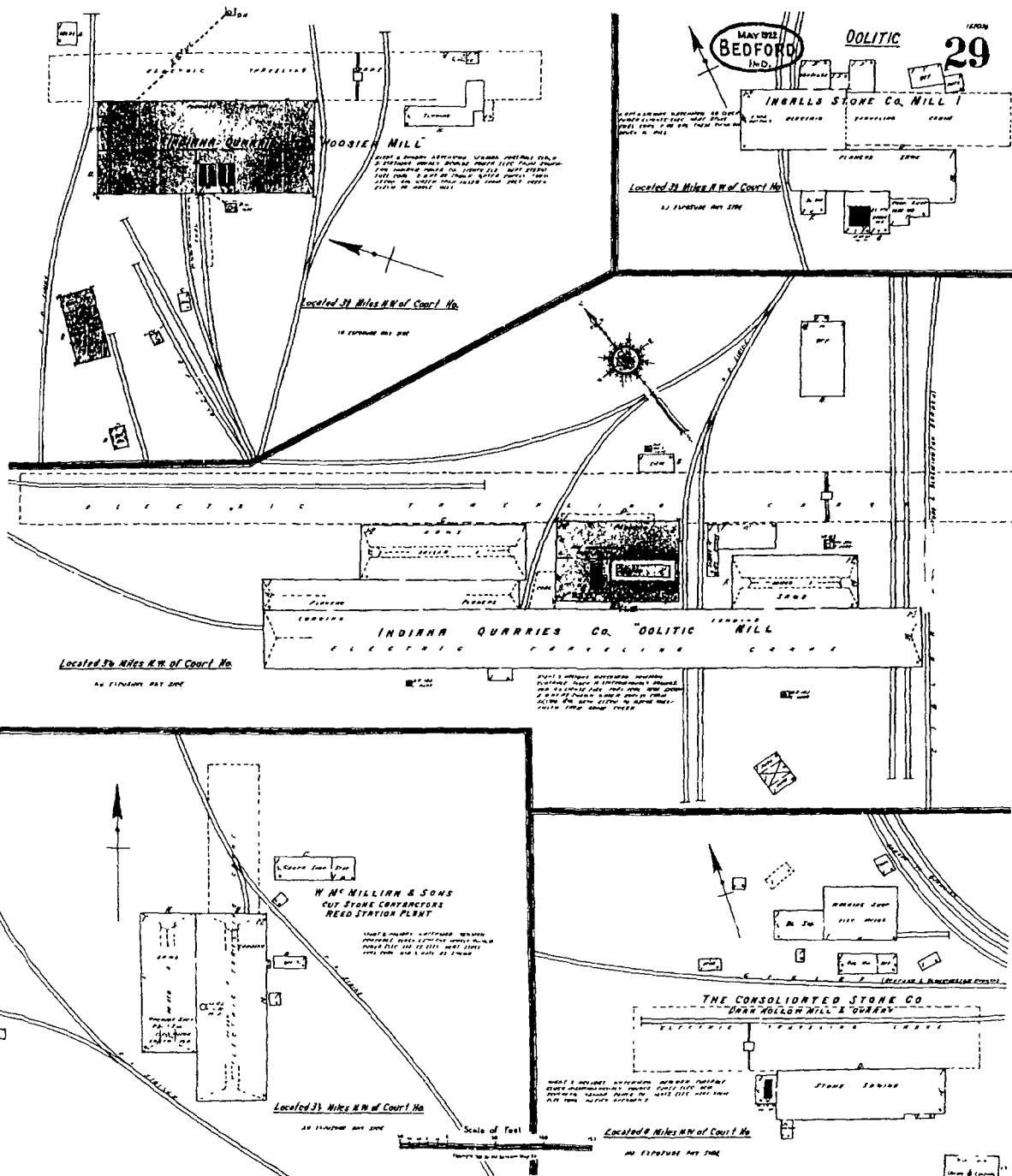


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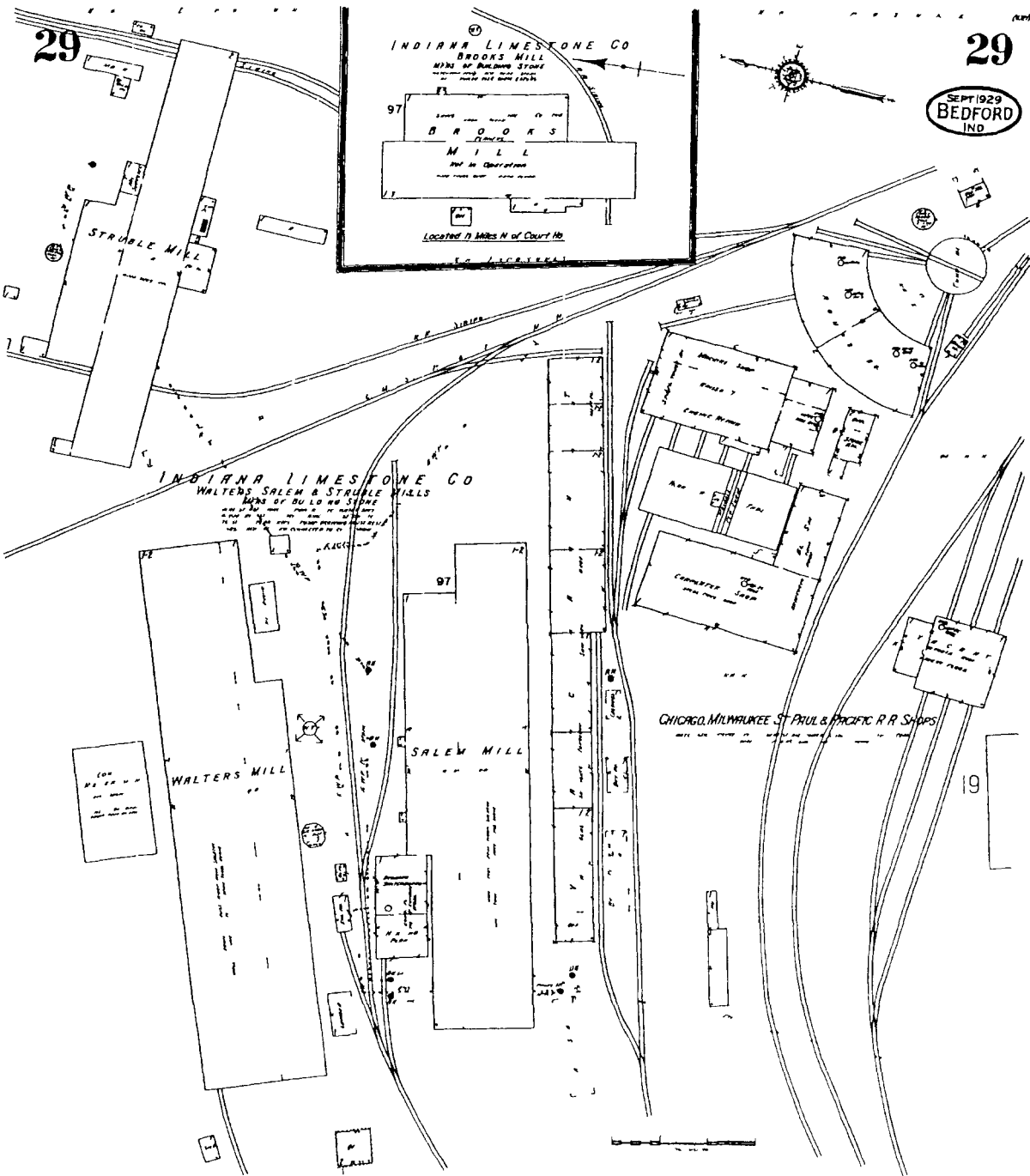


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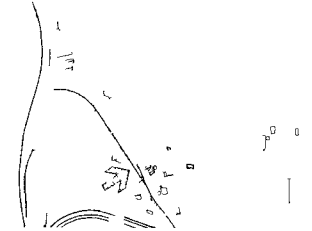
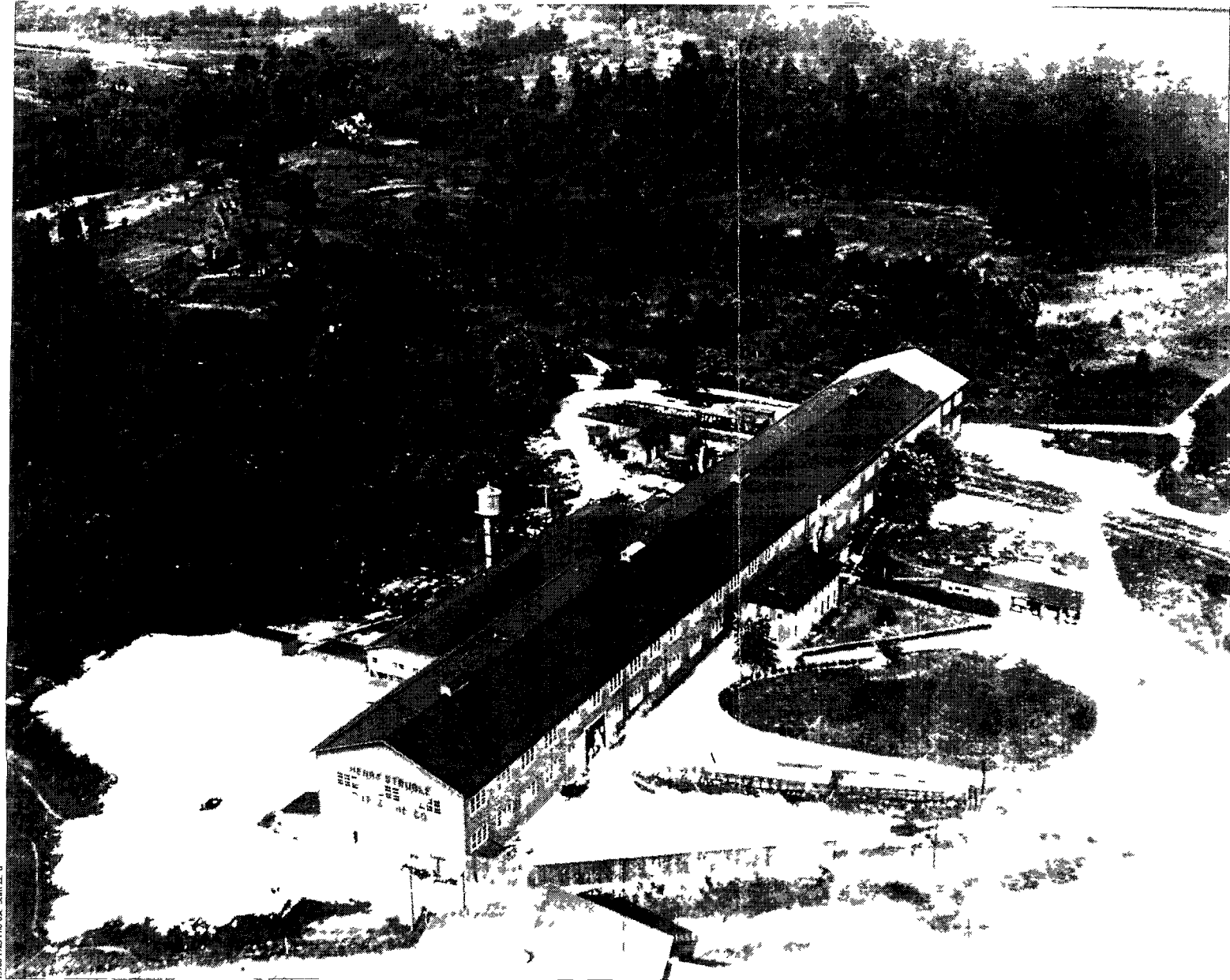
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MAY 25, 2001

APPENDIX B.2
HISTORICAL PHOTOGRAPHS

LIST OF HISTORICAL PHOTOGRAPHS

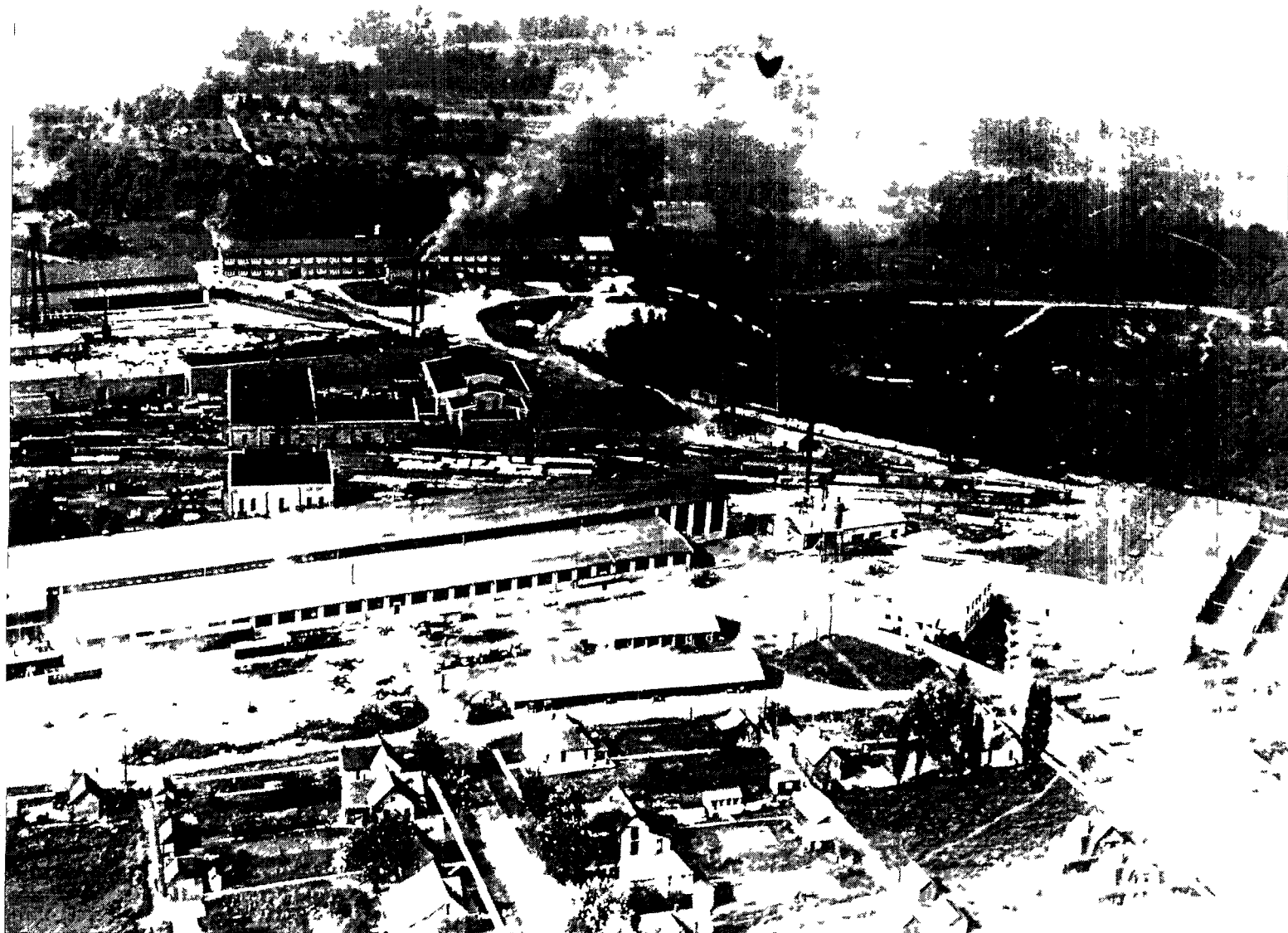
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HISTORICAL PHOTOGRAPH 2	STONEMILL AND RAILROAD BUILDINGS 1923
HISTORICAL PHOTOGRAPH 3	STONEMILLS 1923
HISTORICAL PHOTOGRAPH 4	DELCO REMY OPERATION 1945
HISTORICAL PHOTOGRAPH 5	BEDFORD FACILITY 1952
HISTORICAL PHOTOGRAPH 6	BEDFORD FACILITY 1970
HISTORICAL PHOTOGRAPH 7	BEDFORD FACILITY 1970
HISTORICAL PHOTOGRAPH 8	BEDFORD FACILITY 1970
HISTORICAL PHOTOGRAPH 9	BEDFORD FACILITY 1975
HISTORICAL PHOTOGRAPH 10	BEDFORD FACILITY 1979
HISTORICAL PHOTOGRAPH 11	BEDFORD FACILITY 1999
HISTORICAL PHOTOGRAPH 12	FORMER NORTH LAGOON UNDATED
HISTORICAL PHOTOGRAPH 13	FORMER NORTH LAGOON UNDATED
HISTORICAL PHOTOGRAPH 14	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 15	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 16	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 17	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 18	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 19	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 20	BEDFORD FACILITY UNDATED
HISTORICAL PHOTOGRAPH 21	BEDFORD FACILITY UNDATED



Historical
Photograph 1

1923

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

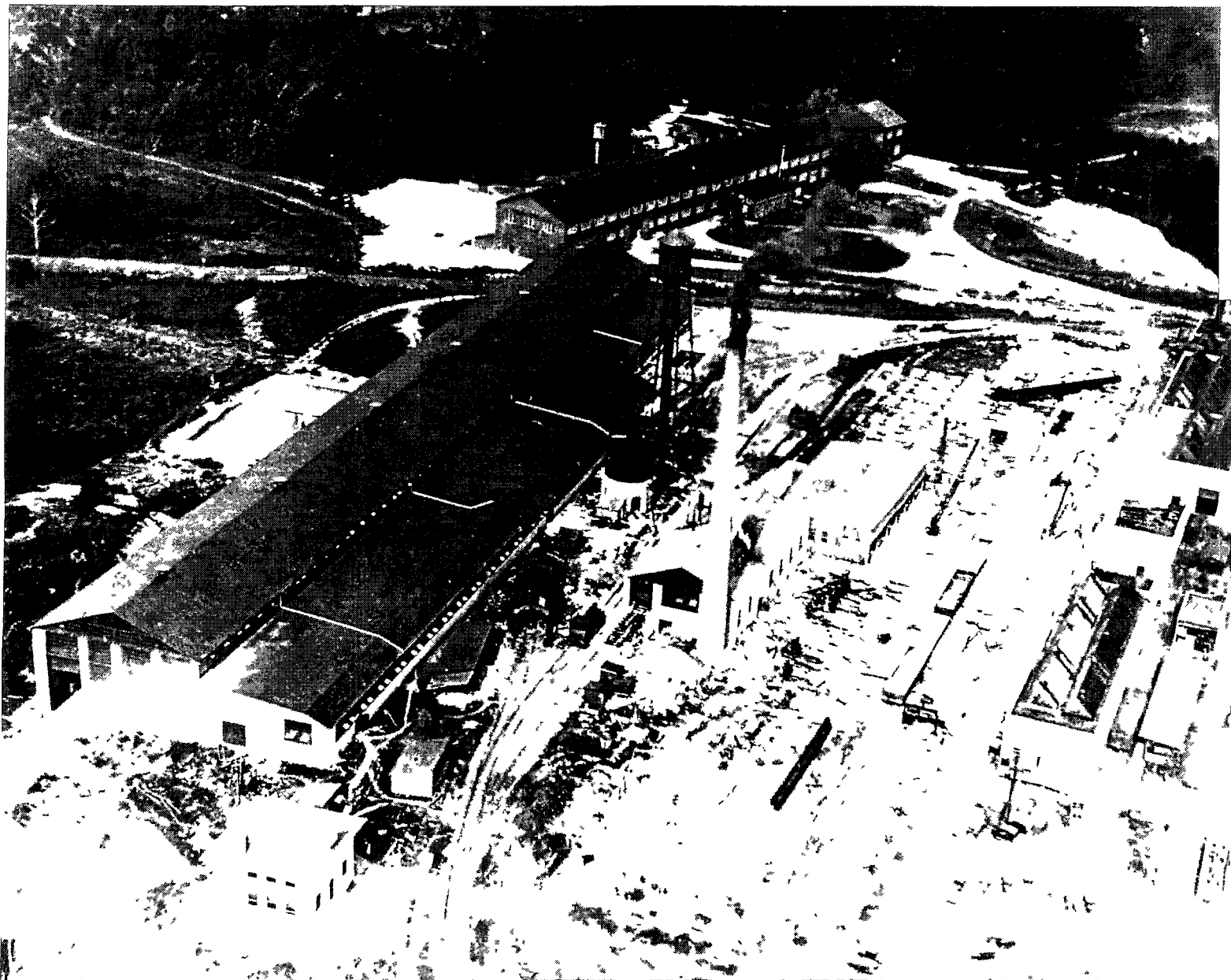


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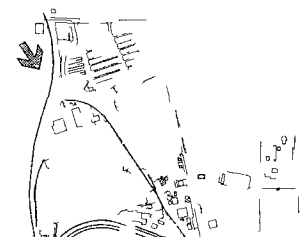
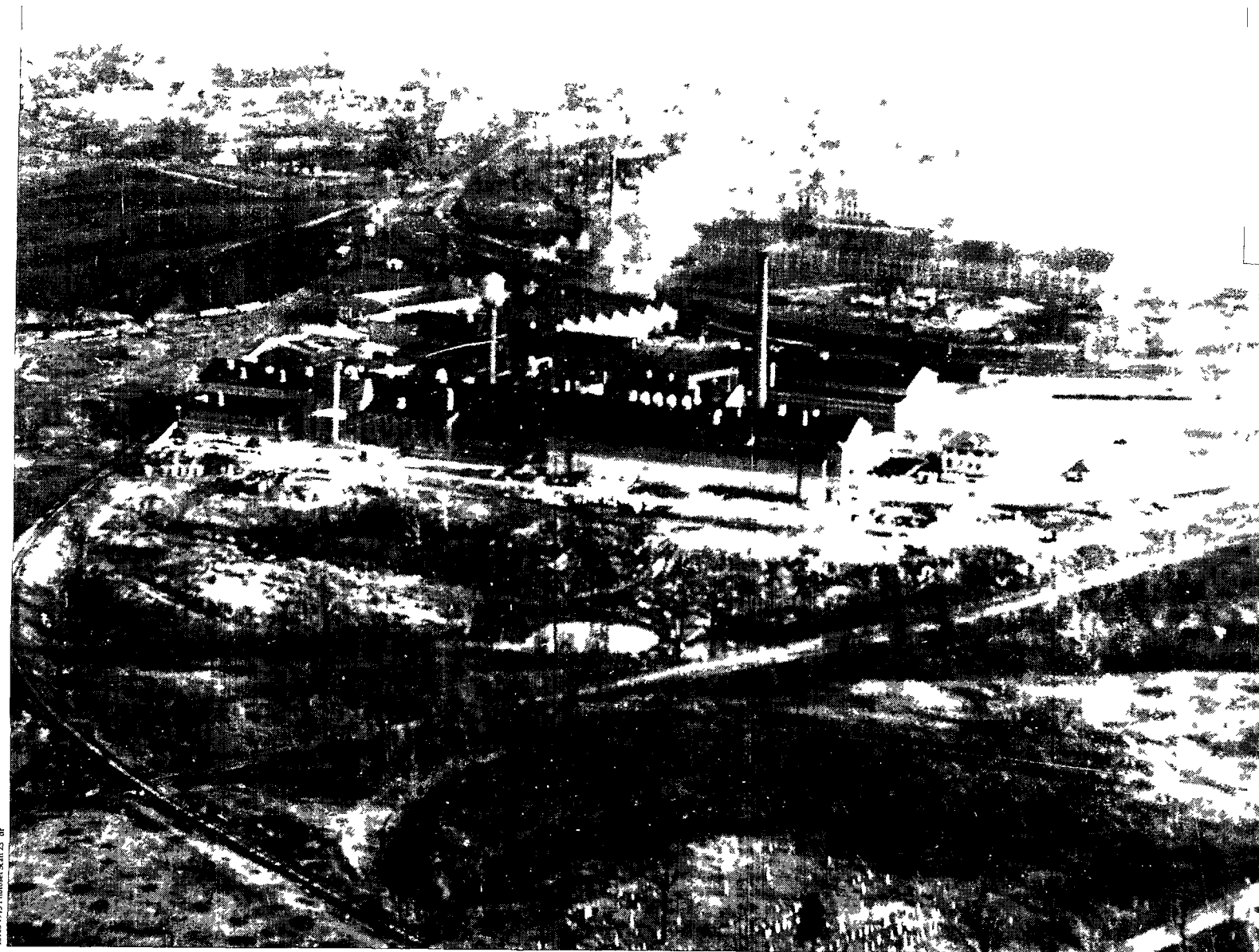
Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 3

1923

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



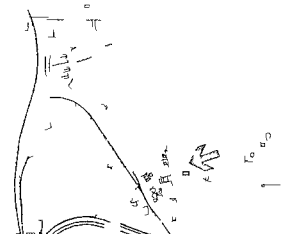
Historical
Photograph 4

1945

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



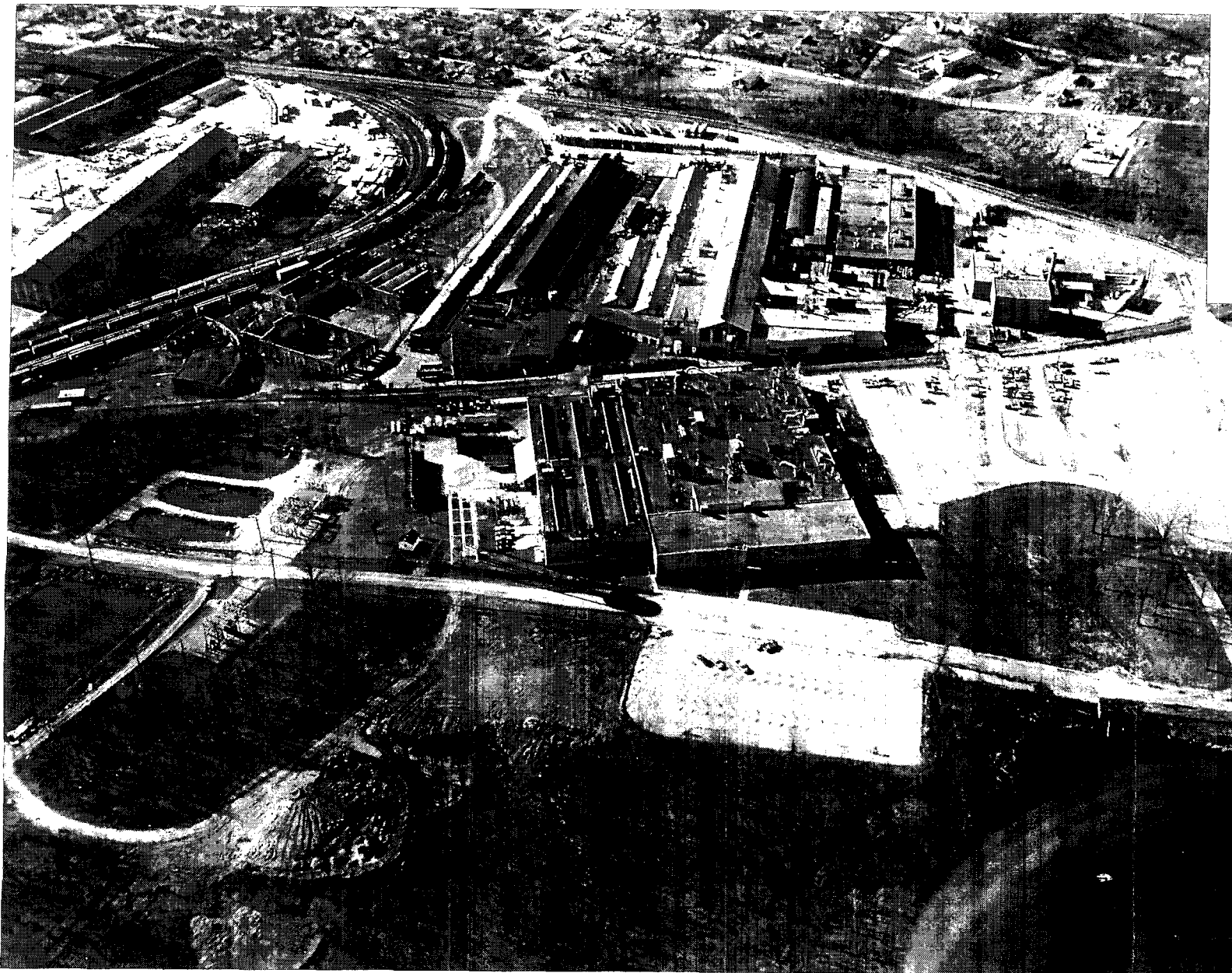
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Historical
Photograph 5

1952

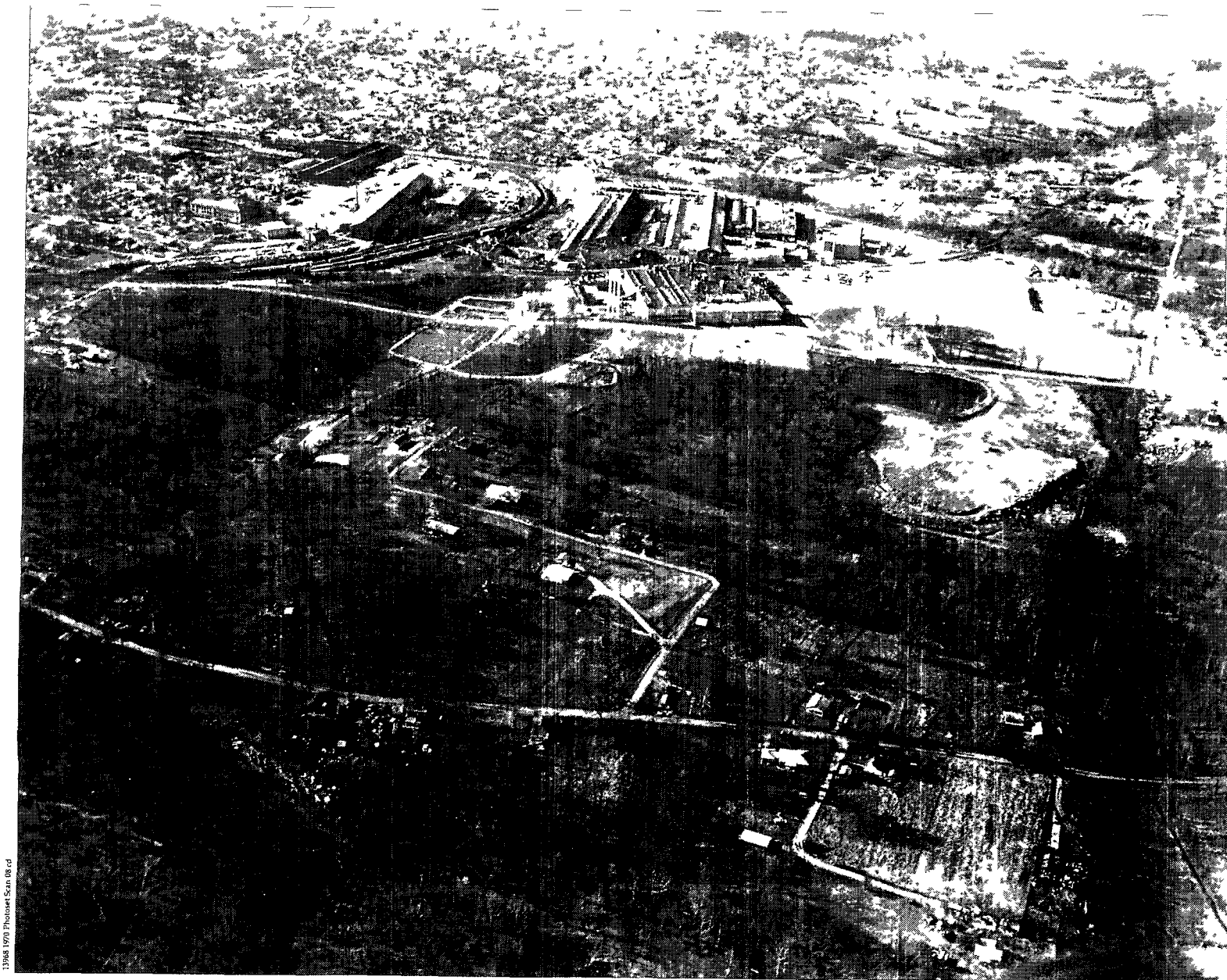
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GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 6

1970

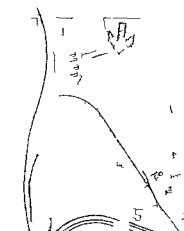
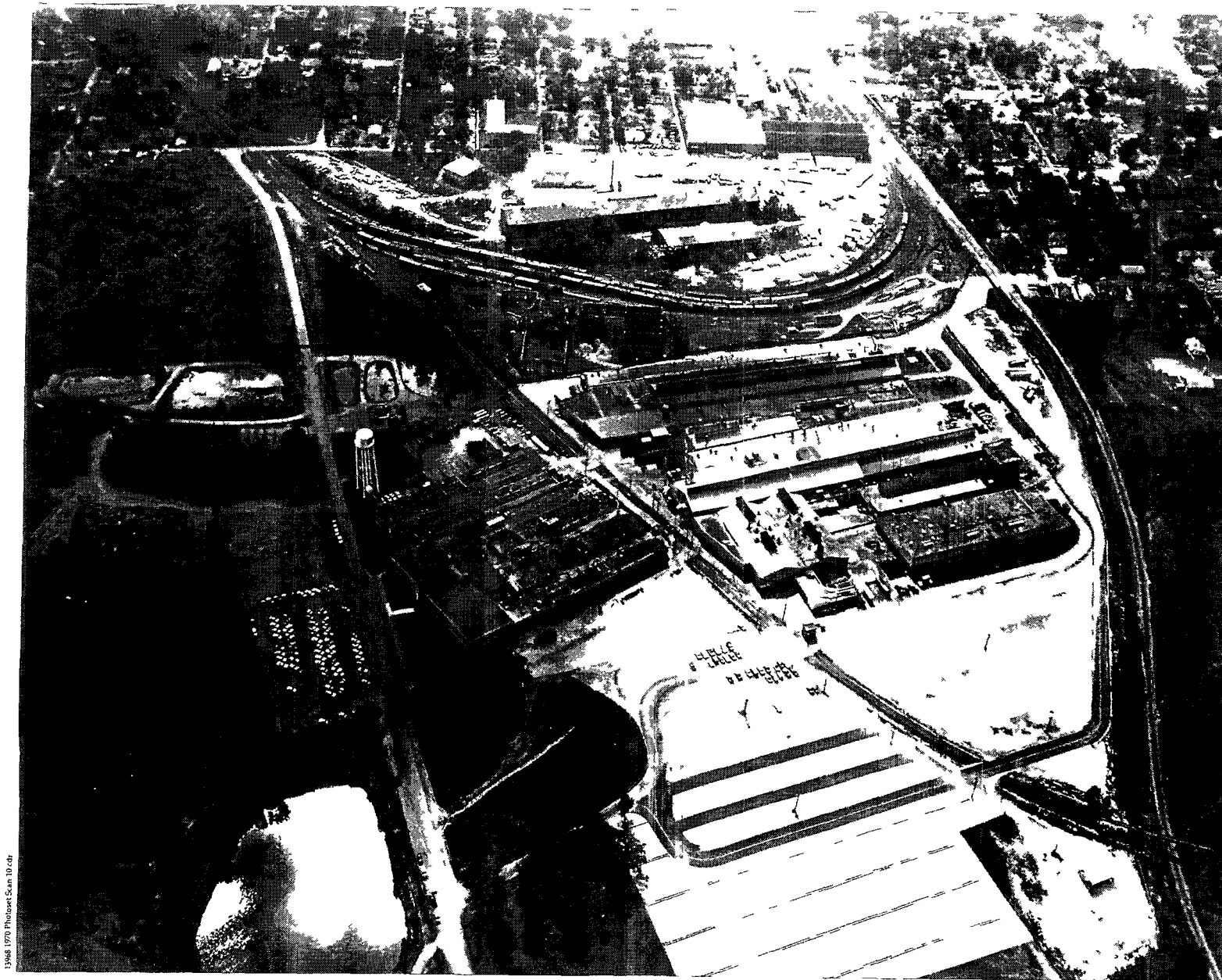
Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 7

1970

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 8

1970

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 9

1975

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

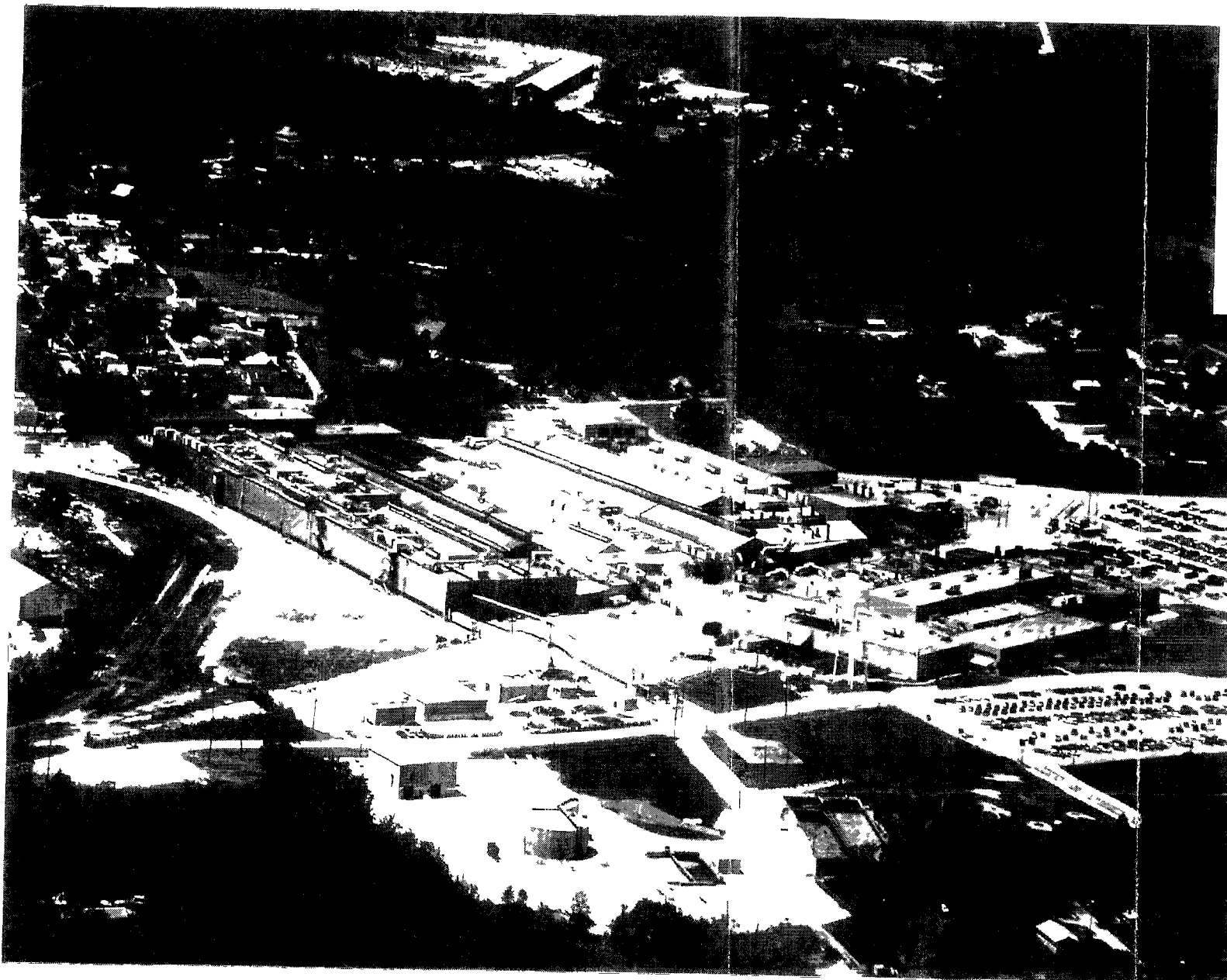


1968 1979 (4-16-79) Ab. am. GHT-1 d

Historical
Photograph 10

1979

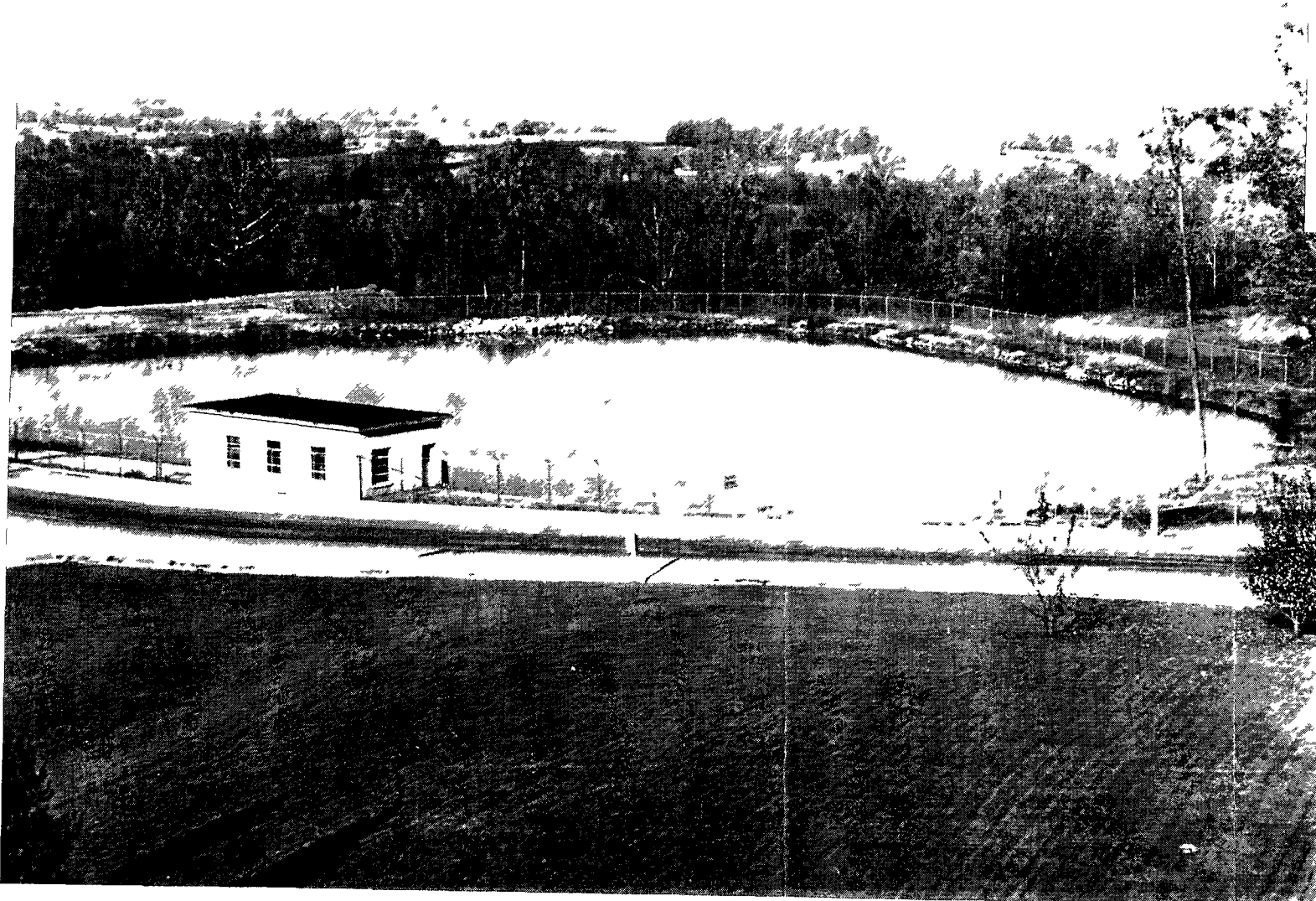
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GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 11

1999

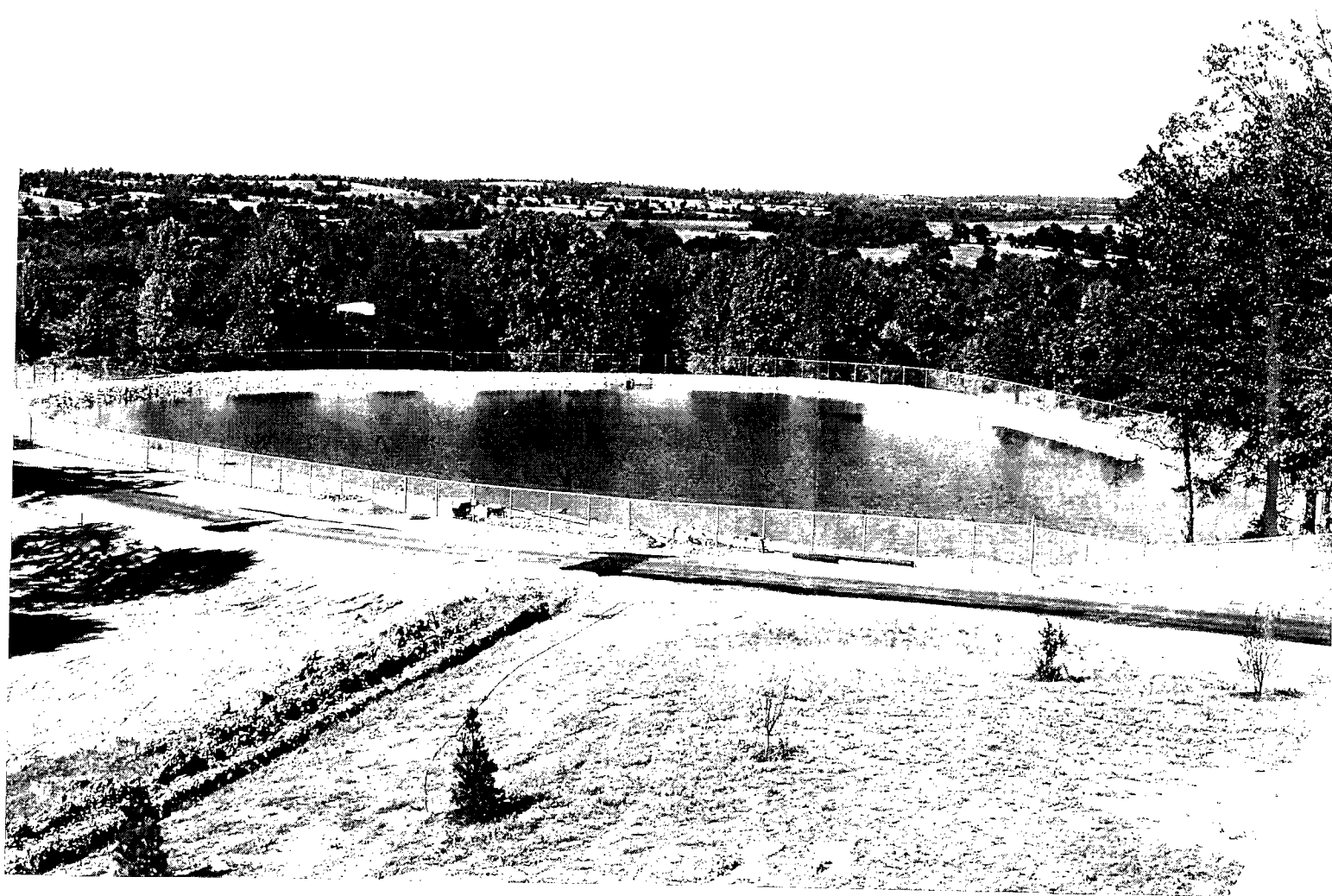
Historical Photograph
GM Powertrain Bedford Facility
Bedford Indiana



Historical
Photograph 12

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford Indiana

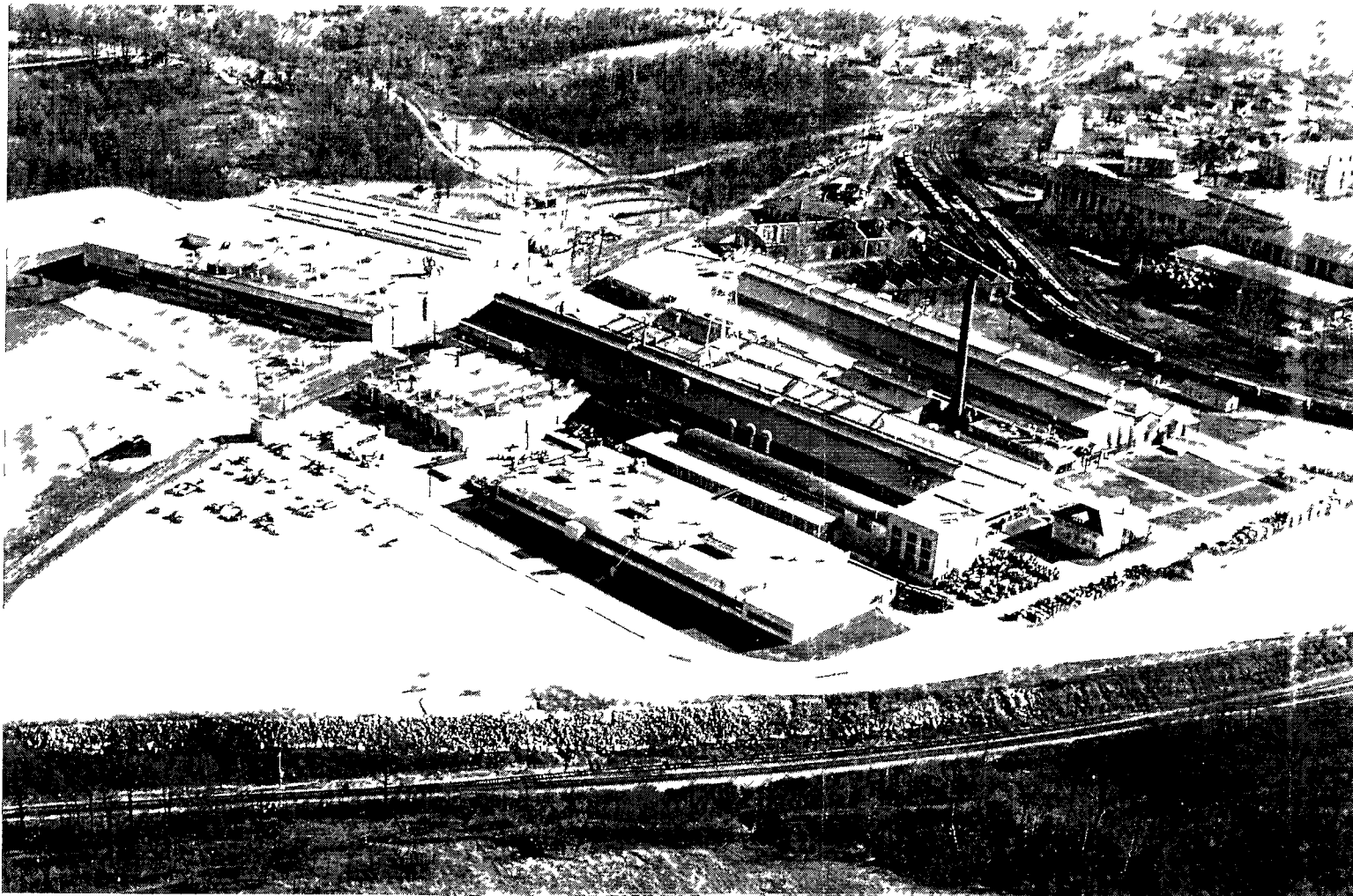


2008 Photobest Scan 19.4 ft

Historical
Photograph 13

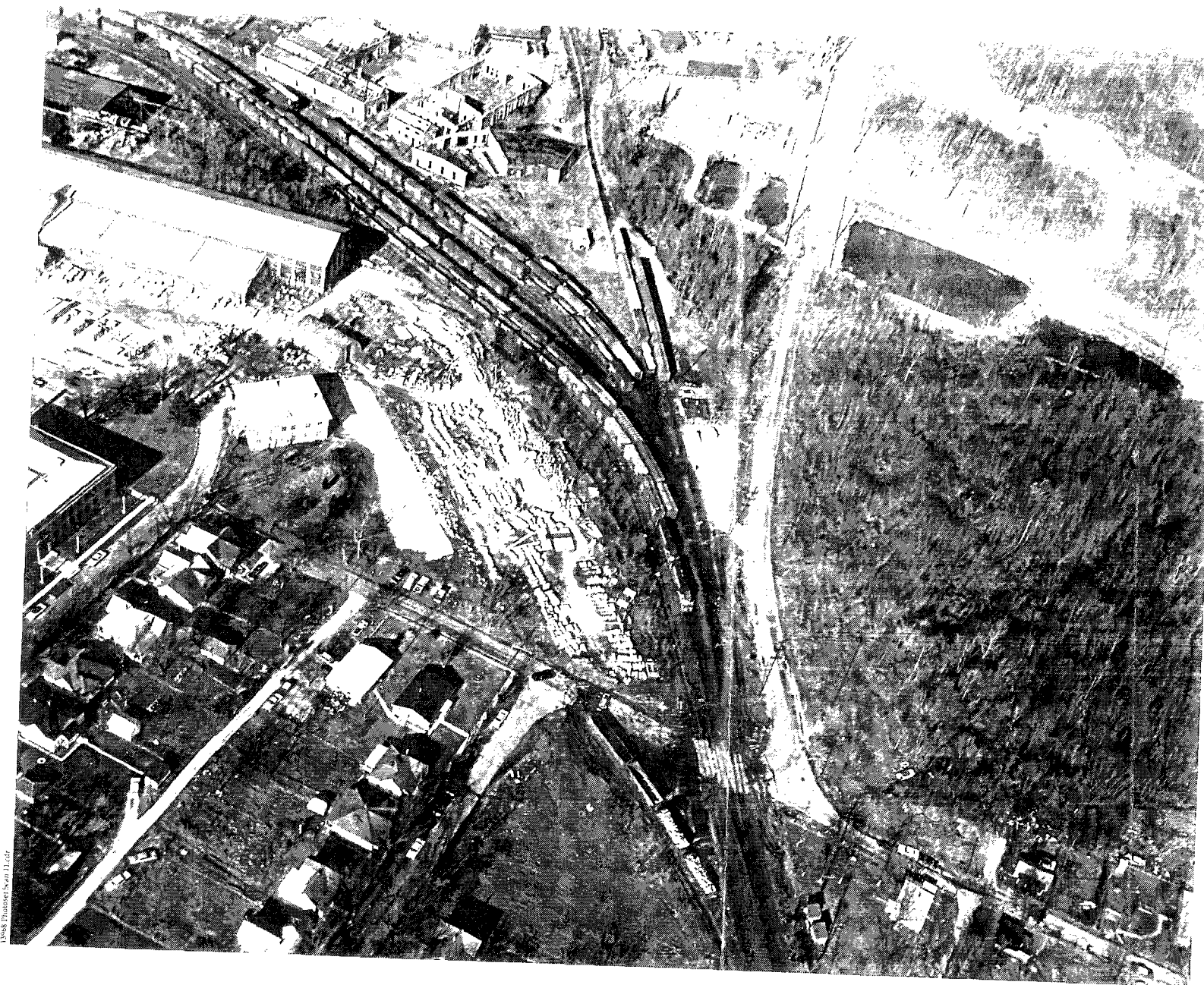
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Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



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Historical
Photograph 14
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GM Powertrain Bedford Facility
Bedford Indiana

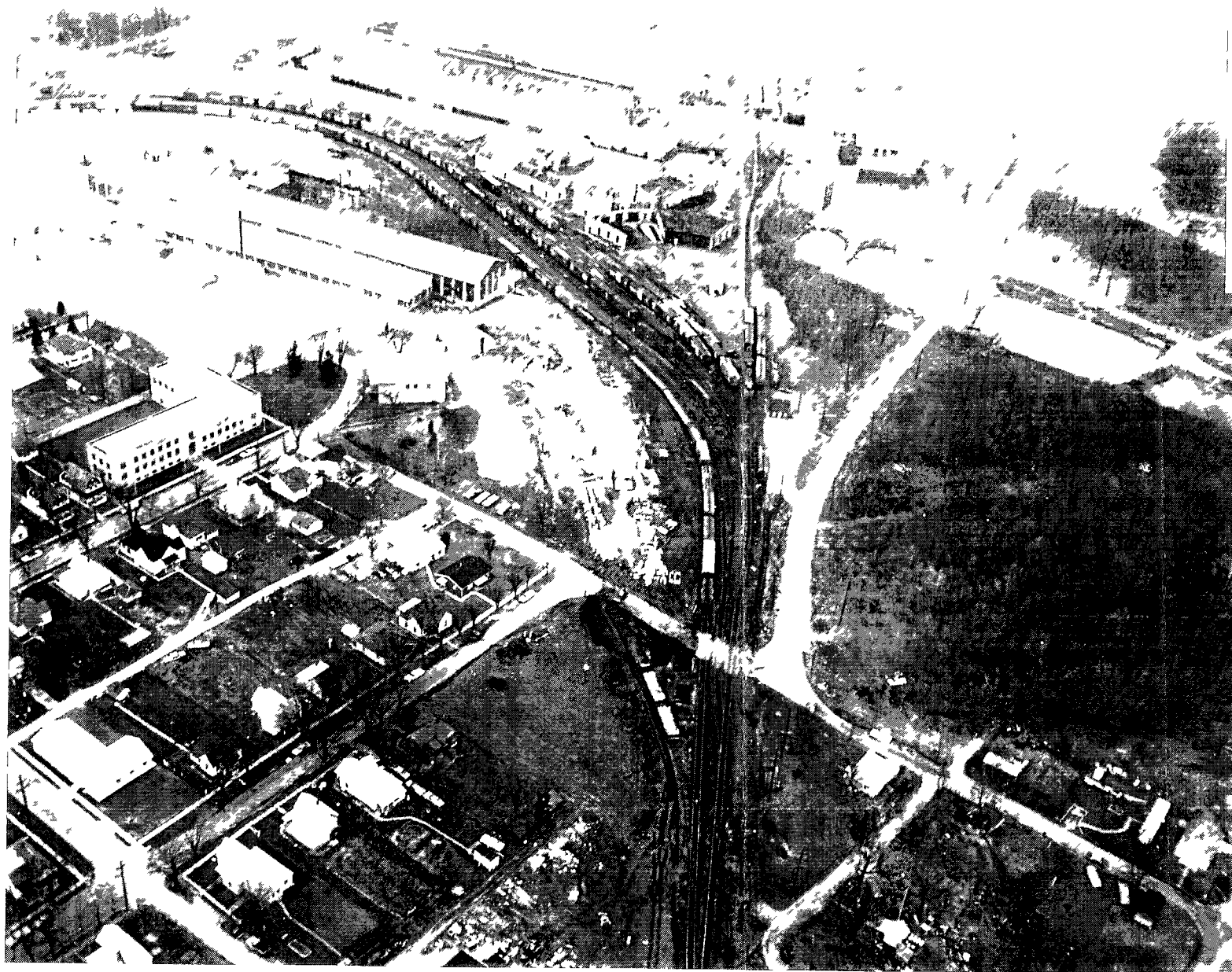


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Historical
Photograph 15

UNDATED

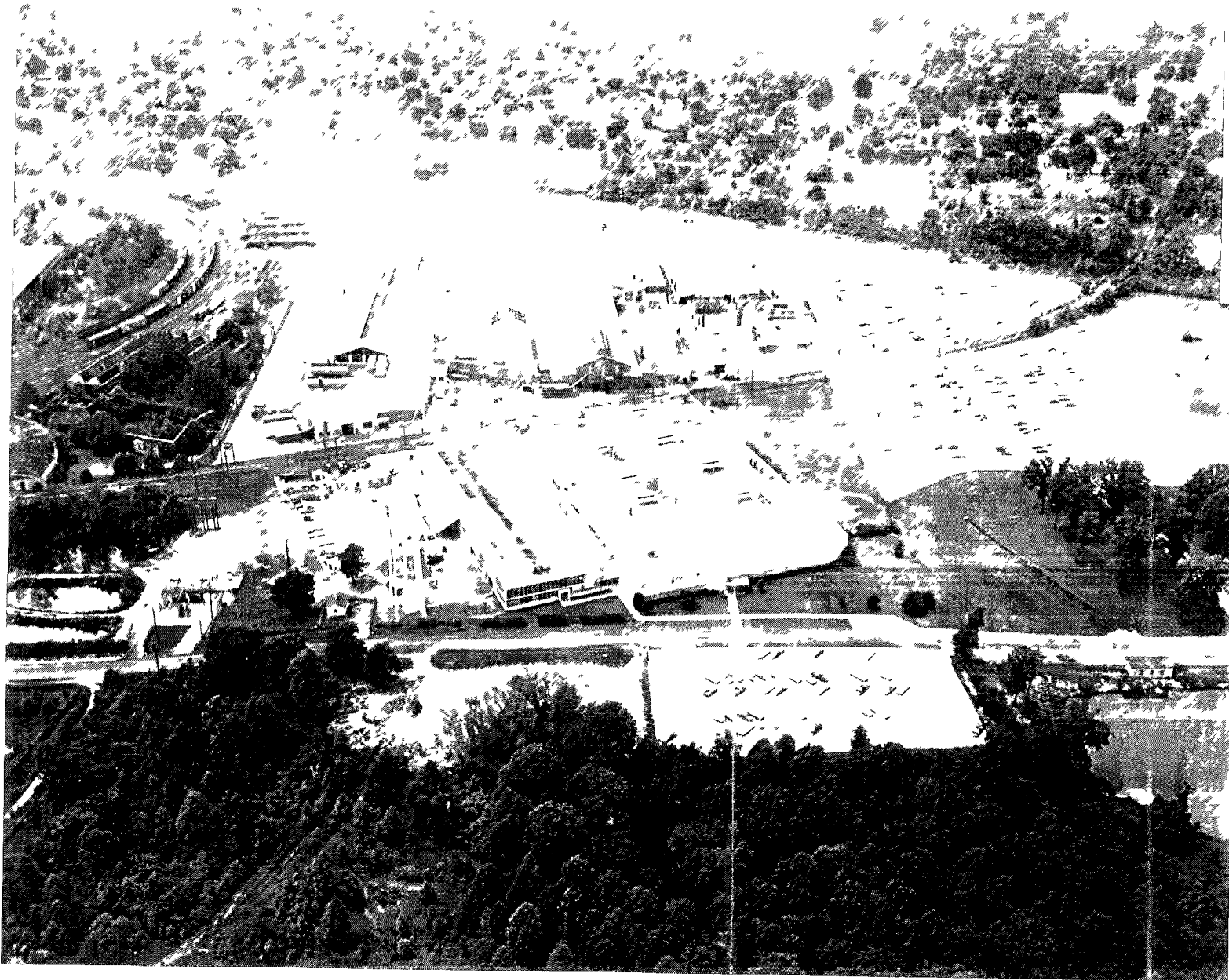
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GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 16

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

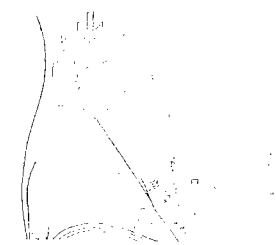


1968 Photo - Jan 7 d

Historical
Photograph 17

UNDATED

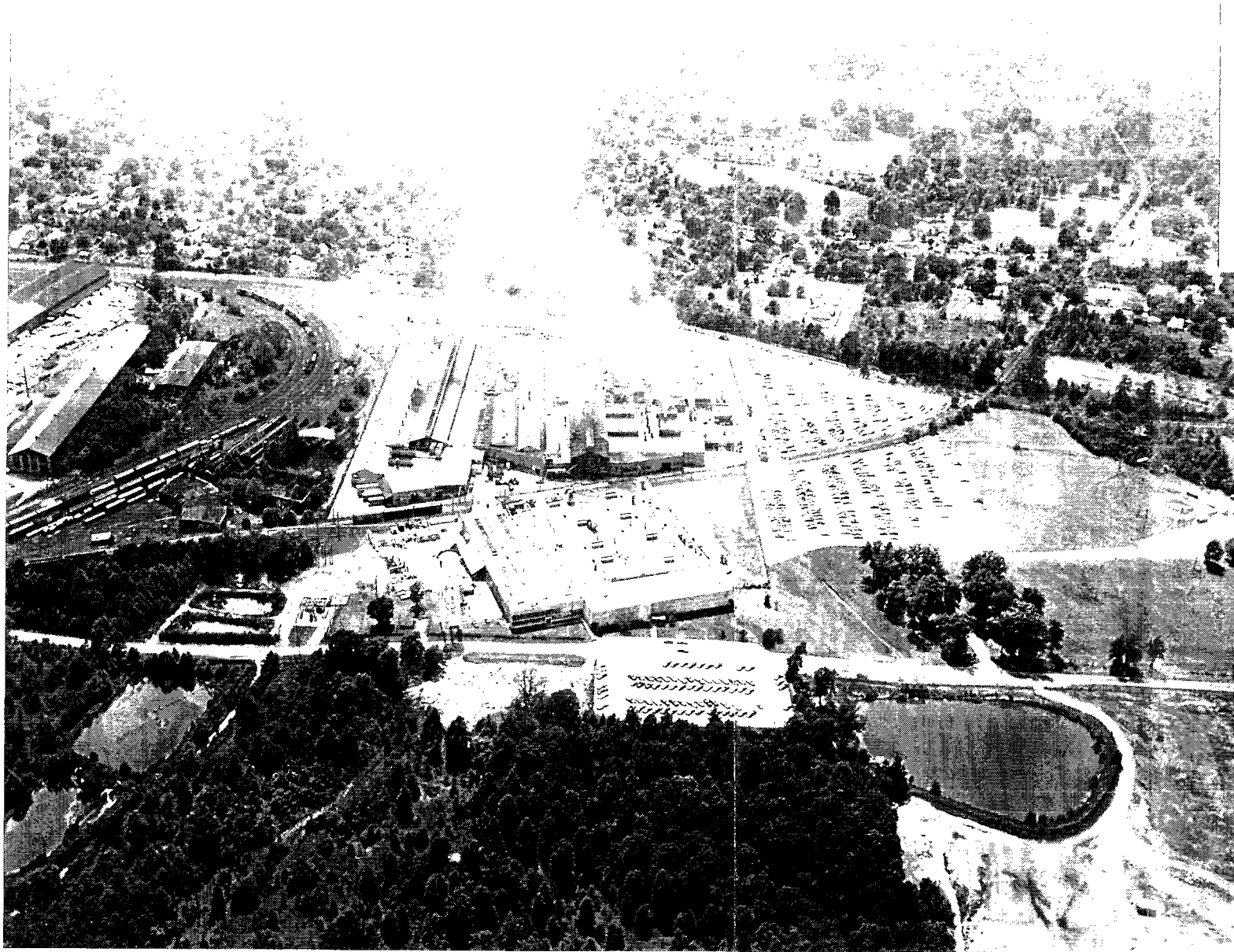
Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana



Historical
Photograph 18

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

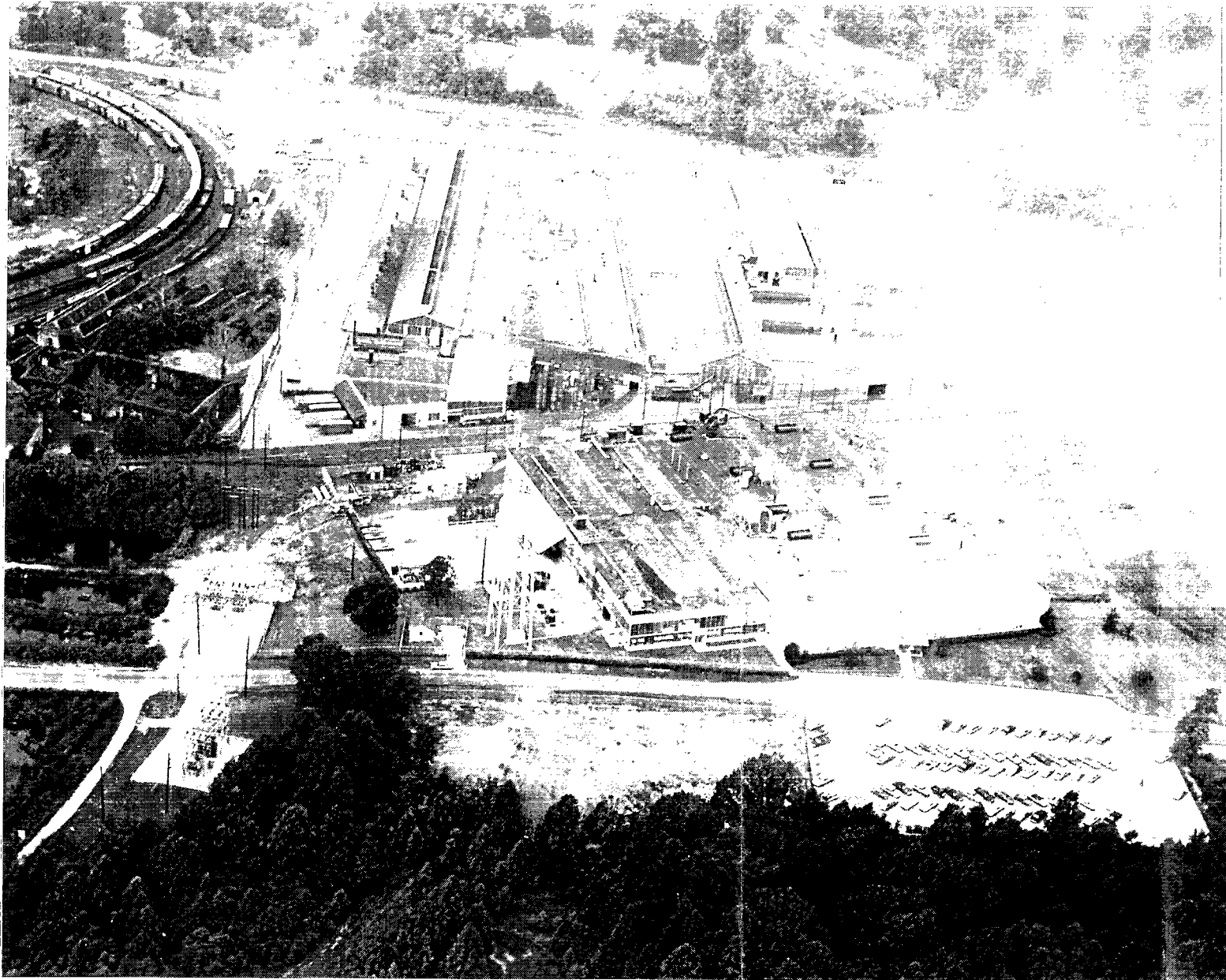


1968 Photo Set Scan 15 of 17

Historical
Photograph 19

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

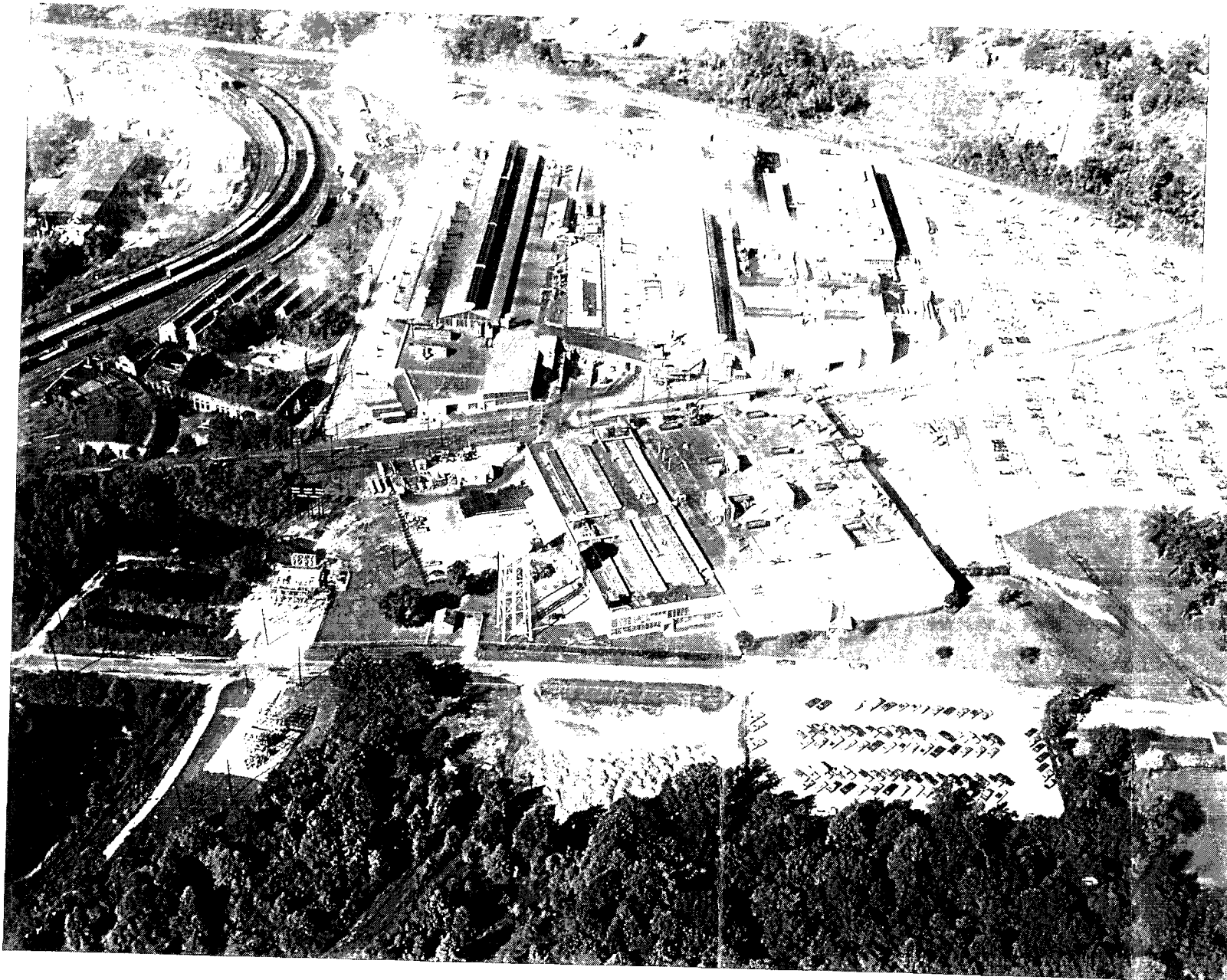


Historical
Photograph 20

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

1968 Photograph Scan 14 of 47



1968 Photoset Scan 12.cdr

Historical
Photograph 21

UNDATED

Historical Photograph
GM Powertrain Bedford Facility
Bedford, Indiana

MAY 25, 2001

APPENDIX B.3

SPCC

**GENERAL MOTORS CORPORATION
POWERTRAIN GROUP, BEDFORD PLANT**

**105 GM Drive
Bedford, Indiana 47421
24 Hour #: (812) 279-7360**

**Latitude 38° 52'43"N
Longitude 86° 9'04"W**

Release Plan

**(Spill Prevention Control and Countermeasure; Contingency;
and HAZWOPER Plan)**

November 1998

**Prepared By: S.L. Albert
Approved By: B.A. Alexander**

Project No. 3162-08/09



**CHESTER
ENGINEERS**

**3830 Packard Road, Suite 120 · Ann Arbor, MI 48108
734-973-0700 · Fax 734-973-2904**

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
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**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
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**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
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ATTACHMENTS

Attachment A	Reportable Quantity Table
Attachment B	Sample Written Notification
Attachment C	Spill Report Form
Attachment D	GM Procedures for Disposal of Wastes
Attachment E	Bedford Public Relations Guidelines
Attachment F	Inspection Forms
Attachment G	GM Truck Loading/Unloading Procedures
Attachment H	Evacuation Plan
Attachment I	SPCC Checklist
Attachment J	Spill History (Included in Environmental Department's copy of plan only.)
Attachment K	Communications with Local Response / Emergency Facilities (Included in Environmental Department's copy of plan only.)
Attachment L	Arrangements with Clean-Up Contractors
Attachment M	Certificate of Liability Insurance from External Spill Responders

APPENDIX

Appendix 1	Certification of the Applicability of the Substantial Harm Criteria
Appendix 2	PCB Addendum
Appendix 3	Emergency Spill Response Plan (HAZWOPER)

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 1.0 PLAN INTRODUCTION AND ELEMENTS**

1.1 PURPOSE AND SCOPE OF PLAN COVERAGE

This Release Plan has been prepared to consolidate the Spill Prevention Control and Countermeasure Plan, Contingency Plan and the Emergency Spill Response Plan (HAZWOPER) for the General Motors Bedford facility. The purpose of the Release Plan is to provide for preventing unintentional releases of oil and hazardous materials/wastes into the environment and to outline emergency preparedness and response in the event of such a release.

1. Code of Federal Regulations 40 CFR 112 require facilities handling oil to develop a Spill Prevention Control and Countermeasure Plan (SPCC).
2. Code of Federal Regulations 40 CFR 265 requires facilities that generate hazardous waste to develop a Contingency Plan for preparedness and prevention of unintentional releases into the environment.
3. Code of Federal Regulations 29 CFR 1910.120 requires facilities that engage in emergency response to develop an emergency response plan.

In addition, the plan meets the requirements of CERCLA, SARA, and TSCA. This plan shall be updated in accordance with Section 8.0 - Plan Amendment and Submission Requirements.

1.2 GENERAL FACILITY INFORMATION

Facility Name: GMC, Powertrain Group, Bedford Plant

Owner/Operator: GMC, Powertrain Group

Physical Address: 105 GM Drive (formerly North Jackson Street)
Bedford, IN 47421
Lawrence County
Facility is located in the northeast portion of the City of Bedford.

Mailing Address: 105 GM Drive
Bedford, IN 47421

INTERNAL NOTIFICATION FLOWCHART

SPILL EVENT
(Observer Notification)

Immediately ↓

SECURITY

Phone: 7333

Immediately ↓

1. MAINTENANCE CONTACTS

FIRST SHIFT

- TOM SHIRLEY
PHONE: 7374 PAGER: 278-2065
- KENNY KNUST
PHONE: 7370 PAGER: 278-2048
- JIM WELLS
PHONE: 7004 PAGER: 278-2256

SECOND SHIFT

- DUANE CUNNINGHAM
PHONE: 7370 PAGER: 40-122
- JAMES SIMMERMAN
PHONE: 7370 PAGER: 278-2403

THIRD SHIFT

- MIKE CORBIN
PHONE: 7027 PAGER: 278-2166

2. EMERGENCY COORDINATOR

- KIM DOBOSENSKI
PHONE: 7404
PAGER: 278-2893
HOME: 812-332-5088

NOTE: Maintenance and Health & Safety Contacts can act as Alternate Coordinators

3. HEALTH & SAFETY CONTACT

- ERIC PRENEVAU
PHONE: 7216
PAGER: 278-2130
HOME: 812-330-9149

ALTERNATE CONTACT

- EVA SMITH
PHONE: 7261
PAGER: 278-2013
HOME: 279-3260

Is it a HAZWOPER Spill?

Yes

No

SECURITY
PHONE: 7333

Immediately ↓

FIRE DEPARTMENT
PHONE: 911

Contact
Maintenance
Department to
Contain and
Clean Spill

NOTIFY PLANT MANAGEMENT STAFF:

- PAUL FORD
PHONE: 7246
PAGER: 1-877-308-5127
- JOHN THOMAS
PHONE: 7222
- MIKE SCALZI
PHONE: 7334
PAGER: 278-2360

UAW & IBEW

- GARY HAMILTON
PHONE: 7254
PAGER: 278-2048
- BRENT DALTON
PHONE: 7282
PAGER: 278-2258

PROVIDE FOR OUTSIDE SPILL/RELEASE CONTAINMENT AND CLEAN-UP SERVICES

CONTRACTOR(S) :

- McINTYRE BROTHERS (Heavy Equip. Providers - No Spill Response) 812-275-5956
- SPILL RECOVERY OF INDIANA (Spill Responder) 317-291-3972
- KOESTER (Spill Responder) 800-448-4931

"Immediately" means as soon as possible but no later than 5 minutes of knowledge of spill.

2. Immediately page the individual after a voice message, that is marked urgent, has been left at the phone number.

3. When paging, enter "911" BEFORE the phone number the person is to call.



Other Information: SIC Code 3361
SIC Code 3363
EPA ID IND 006036099
Latitude 38° 52'43' N
Latitude 86° 29'04' W

24 Hour Phone: (812) 279-7360

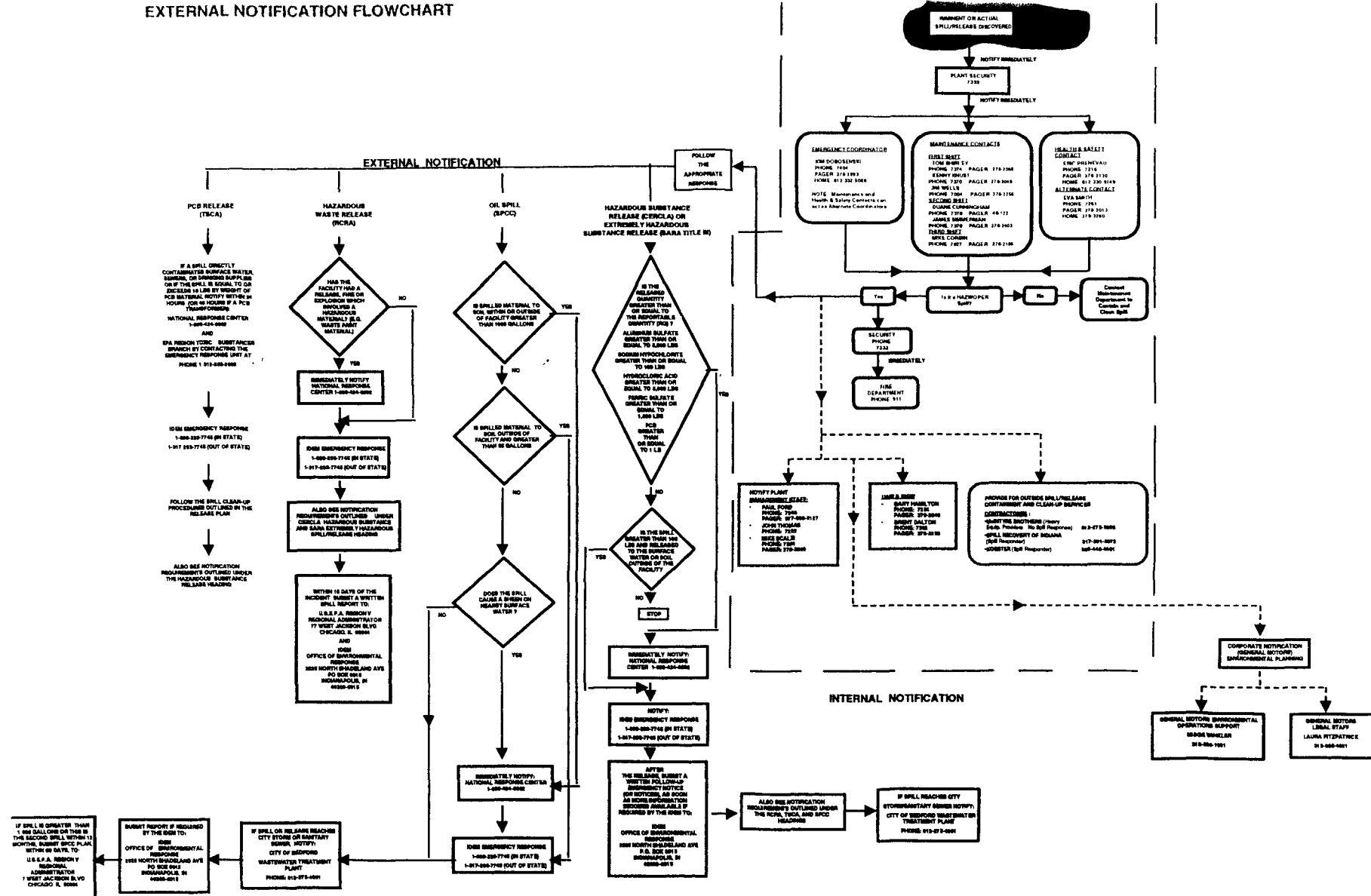
Key Contacts: Kimberly Dobosenski
Environmental Engineer
Phone: (812) 279-7404
Fax: (812) 279-7258

Eric Prenevau
Health and Safety Director
Phone: (812) 279-7216

1.3 PLAN IMPLEMENTATION

This Release Plan is to be followed by plant personnel whenever there is an unplanned sudden or non-sudden release of bulk storage products or of hazardous wastes to air, soil, or surface water of the facility which may cause personal injury or has the potential to leave the plant property.

EXTERNAL NOTIFICATION FLOWCHART



**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 2.0 CROSS REFERENCE TABLES**

<u>40 CFR SECTION</u>	<u>REQUIREMENT</u>	<u>LOCATION IN PLAN</u>
112.1	General Applicability	Section 1.1
112.2	Definitions	Section 4.1
112.3	Requirements for preparation and implementation of SPCC plans	Section 1.1
112.4	Facility and owner information. Plan amendment requirements by Regional Administrator. (Two reportable spills trigger plan submittal with additional information required.)	Section 1.2
112.5	Three year review requirement and PE certification. (Plan amendment requirements by owner. Change in facility design and/or capability to discharge.)	Section 3.1, 3.2 and Section 8.0
112.6	Civil penalties	NA
112.7	Management approval and implementation schedule of times to be installed	Section 3.2
112.7(a)	Written description of historical spills, corrective action taken and prevention.	Section 11.1
112.7(b)	Prediction of flow direction, rate and quantity of oil spilled resulting from equipment failure.	Section 10.0
112.7(c)	Containment (dikes, culverting, weirs, diversion ponds, detention ponds, sorbents, collection systems)	Section 7.1 and Table 1 in Section 9.0
112.7(d)	If lacking containment, then demonstrate impracticability and develop contingency plan	Section 4.0
112.7 (e)(1)(i-iv)	Facility drainage (undiked areas, diversion system)	Section 5.3
112.7 (e)(1)(i)and(e)(2)	Dike drainage (valve types used; inspect accumulated storm water)	Section 7.1
112.7 (e)(2)(i)	Bulk Tanks compatibility (Storage Tank Construction with material stored)	Section 7.1 and Table 1 in Section 9.0
112.7 (e)(2)(ii)	Containment for bulk storage tanks with sufficient freeboard for precipitation. Sufficiently impervious.	Section 7.1 and Table 1
112.7(e)(2)(iii)	Dike Drainage (valves normally closed, inspect storm water, drainage records)	Section 7.1 and Section 7.6
112.7(e)(2)(iv)	Underground Tanks (Cathodic Protection and Pressure Testing)	Section 7.2
112.7(e)(2)(v)	Partially buried tanks	Section 7.2
112.7(e)(2)(vi)	Aboveground tank testing and inspections	Section 7.6
112.7(e)(2)(vii)	Control leakage through heating coils	Section 7.1
112.7(e)(2)(viii)	Fail-safe Engineering (alarms and sensing devices on tank installations)	Section 7.1

SECTION 2.0 CROSS REFERENCE TABLES (CONT.)

<u>40 CFR SECTION</u>	<u>REQUIREMENT</u>	<u>LOCATION IN PLAN</u>
112.7(e)(2)(ix)	Plant effluent discharge inspections	Section 7.6
112.7(e)(2)(x)	Repair visible oil leaks	Section 7.1
112.7(e)(2)(xi)	Portable storage tanks location and use of secondary containment	Section 7.1 and Table 1 in Section 9.0
112.7(e)(3)(i)	Facility transfer operations (Buried pipes)	Section 7.4
112.7(e)(3)(ii)	Pipelines out of service	Section 7.4
112.7(e)(3)(iii)	Pipe supports	Section 7.3
112.7(e)(3)(iv)	Valve and pipe inspections	Section 7.6
112.7(e)(3)(v)	Vehicular traffic	Section 7.7 and Attachment G
112.7(e)(4)(i)	Loading/Unload Procedures meet minimum DOT requirements	Section 7.7 and Attachment G
112.7(e)(4)(ii)	Load/Unload drainage	Section 7.7 and Attachment G
112.7(e)(4)(iii)	Warning signs and physical barrier systems - premature departure	Section 7.7 and Attachment G
112.7(e)(4)(iv)	Vehicle valve(s) inspected for leakage prior to filling and departure	Section 7.7 and Attachment G
112.7(e)(5)	Oil production facilities	Section 7.5
112.7(e)(6)	Oil production facility drainage	Section 7.5
112.7(e)(7)	Oil production and workover facilities	Section 7.5
112.7(e)(8)	Inspection and Records	Section 7.6 and Attachment F
112.7(e)(9)(i)	Security (Fenced site and access gates guarded)	Section 7.9
112.7(e)(9)(ii)	Flow and drain valve position	Section 7.1
112.7(e)(9)(iii)	Starter control for pumps locked or located at site whereby access is limited to authorized personnel	Section 7.1
112.7(e)(9)(iv)	Loading/Unloading connections and pipelines to be capped when not in service	Section 7.7 and Attachment G
112.7(e)(9)(v)	Facility lighting	Section 7.9
112.7(e)(10)(i)	Training to prevent discharge	Section 7.8
112.7(e)(10)(ii)	Person responsible for spill prevention	Section 3.2 and Section 7.8
112.7(e)(10)(iii)	Spill prevention training	Section 7.8
112.20 Appendix C	Certification of the Applicability of the Substantial Harm Criteria	Appendix 1
SPCC Annual Checklist	Checklist requiring annual review of the plan's accuracy	Attachment 1
	Oil Storage Capacity Worksheet	Appendix 1
	PCB Addendum	Appendix 2
	Plot Plan	Section 6.0

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 3.0 CERTIFICATIONS**

3.1 SPCC CERTIFICATION

I have reviewed the Release Plan for GM Bedford. The facility has been examined and being familiar with the provisions of Title 40 - Protection of the Environment, Chapter I - Environmental Protection Agency, Subchapter D, - Water Programs, Part 112 - Oil Pollution Prevention, as first published in 38 FR 34165, December 11, 1973 and amended in 57 FR 52704, November 4, 1992, I certify that to the best of my knowledge that the SPCC portion of this plan has been prepared in accordance with good engineering practices.

Name: William Schoonmaker
Title: Regional Environmental Manager

Signature: Wm Schoonmaker

Date: 1-17-01

Registration Number: 18452

State: IN



**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 3.0 CERTIFICATIONS**

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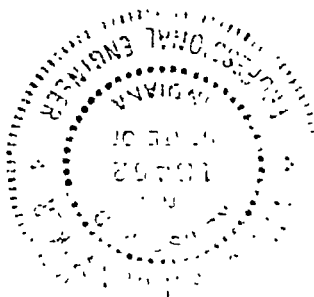
Name: William Schoonmaker
Title: Regional Environmental Manager

Signature: Wm Schoonmaker

Date: 1-19-00

Registration Number: 18452

State: IN



**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 3.0 CERTIFICATIONS**

3.1 SPCC CERTIFICATION

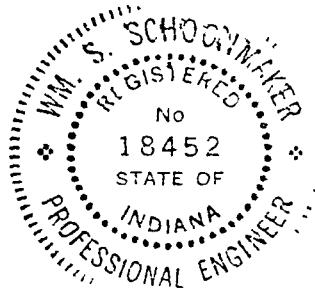
I have reviewed the Release Plan for GM Bedford. The facility has been examined and being familiar with the provisions of Title 40 - Protection of the Environment, Chapter I - Environmental Protection Agency, Subchapter D, - Water Programs, Part 112 - Oil Pollution Prevention, as first published in 38 FR 34165, December 11, 1973 and amended in 57 FR 52704, November 4, 1992, I certify that to the best of my knowledge that the SPCC portion of this plan has been prepared in accordance with good engineering practices.

Name: William Schoonmaker
Title: Regional Environmental Manager

Signature: *Wm. Schoonmaker*
Date: *3-7-99*

Registration Number: 18452

State: IN



**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 3.0 CERTIFICATIONS**

3.1 SPCC CERTIFICATION

I have reviewed the Release Plan for GM Bedford. The facility has been examined and being familiar with the provisions of Title 40 - Protection of the Environment, Chapter I - Environmental Protection Agency, Subchapter D, - Water Programs, Part 112 - Oil Pollution Prevention, as first published in 38 FR 34165, December 11, 1973 and amended in 57 FR 52704, November 4, 1992, I certify that to the best of my knowledge that the SPCC portion of this plan has been prepared in accordance with good engineering practices.

Name: Bryan Alexander
Title: Senior Project Manager

Signature:

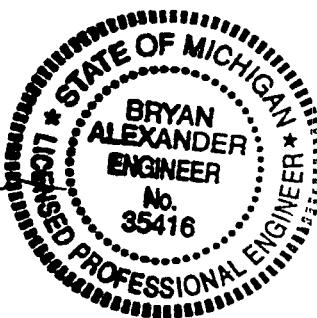
Bryan Alexander

Date:

NOV 21, 1998

Registration Number: 35416

State: MI



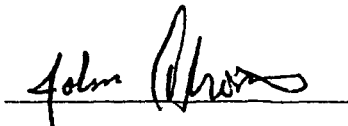
3.2 MANAGEMENT CERTIFICATION

I have reviewed the Release Plan for GM Bedford. The plan is approved and supported by the management team of this facility. The plan will be implemented and followed as herein described. The facility personnel identified as emergency coordinator(s) have the authority to commit resources as may be required to protect public health and safety and/or the environment.

Name: John Thomas

Title: Plant Manager

Signature:

A handwritten signature in black ink, appearing to read "John Thomas", written over a horizontal line.

Date:

1-17-2001

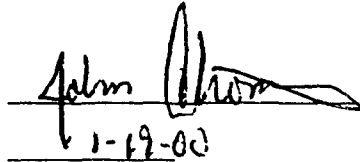
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Name: John Thomas

Title: Plant Manager

Signature:

A handwritten signature in black ink, appearing to read "John Thomas", written over a horizontal line.

Date:

1-19-00

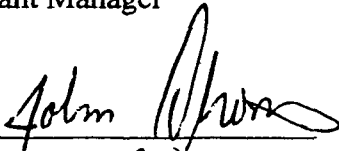
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Name: John Thomas

Title: Plant Manager

Signature:



Date:

3-8-99

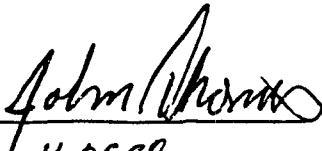
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Name: John Thomas

Title: Plant Manager

Signature:


A handwritten signature in black ink, appearing to read "John Thomas", is written over a horizontal line.

Date:

11-25-98

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 4.0 SPILL RESPONSE PROCEDURES**

4.1 INITIAL DISCOVERY ACTIONS

GM Bedford has developed procedures to be followed in order to minimize the potential for an unintentional release of oil, hazardous substance or objectionable substance. In the event of a spill, procedures have been written for the notification of and response to spills.

Definition of Spill

Spill event, as defined by 40 CFR Part 110, means a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in harmful quantities.

Spill, as defined by Indiana Regulation IAC2-6.1, means any unexpected, unintended, abnormal, or unapproved dumping, leakage, drainage, seepage, discharge or other loss of petroleum, hazardous substances, extremely hazardous substances, or objectionable substances. The term does not include releases to impermeable surfaces when the substance does not migrate off the surface or penetrate the surface and enter the soil.

Spill Containment and Cleanup

The first action to be taken in the event of any kind of pollutant spill that could threaten human health or the environment is to initiate the in-plant emergency notification system by contacting plant security (see Internal/External Notification Tab at the beginning of this plan). Personnel on the in-plant spill response team can assess the spill and determine if outside assistance will be necessary. The main goal of the internal and external spill responders is to contain the spill until cleanup can occur. Incidental spills are to be addressed by departmental supervision.

In the event the spill cannot be contained within the confines of the plant boundaries, immediate action must be taken to procure all necessary materials and equipment to confine and cleanup the spill.

Notification of adjacent property owners must be carried out if the spill shows evidence of entering their property. The Emergency Coordinator or designated alternate will make the notification (refer to page 4-3).

4.2 INITIAL RESPONSE ACTIONS

4.2.1 In Plant Releases

Incidental in-plant spills are the responsibility of the operating department where found. In-plant spills can be contained using sand, dirt, or oil-dry as dam material or absorbent depending on the material spilled. In extreme emergencies, oil can be contained with productive powdered materials, such as clays, cement, etc., although the use of these is not recommended for this purpose. However, if a spill is beyond the means of the operating department, notification to plant security will be made immediately.

Spills, which occur on paved surfaces within plant perimeters can be treated as incidental spills, if the material is known, and does not pose a threat to human health or the environment. However, if the spill occurs on dirt, near a sewer or waterway, plant security must be notified of the spill, regardless of the material. See Internal Notifications on the pink paper in the beginning of the plan.

4.2.2 Releases External to Facility

Immediately notify plant security. Plant Security will initiate the Internal Notifications according to the flow chart at the beginning of this plan by calling Maintenance, the Emergency Coordinator, and Health and Safety. For further notifications refer to the flowchart in the beginning of the plan.

4.2.3 Discovery of Releases by Non-GM personnel

An outside call regarding a spill can come from any outside source and may be received by anyone on the inside of the plant. The notification may not relate to the plant. It is important that the proper information be obtained from the caller, so the proper action can be initiated. When such a notification is received, the following information should be requested:

- Where is the spill?
- Can you identify the materials?
- What does it look like?
- When did you observe it?
- Will you identify yourself, (name and address) so that we can report on the results of your investigation?
- Can we contact you for further assistance if we cannot locate the spill?

The person taking spill information from outside the plant will follow the Internal Notification procedure on the pink paper in the beginning of the plan.

4.3 INTERNAL NOTIFICATIONS

Immediately upon discovery of a pollutant spill, personnel shall contact Plant Security at ext. 7333. Information to be supplied should include:

- Building or location
- Floor or column
- Type of emergency
- Extent and nature of injury
- Time and duration of spill
- Source of spill
- Identification and quantity of substance
- Extent of actual and potential environmental pollution
- Extent of property damage
- Remedial action taken

If reported by non-GM personnel, include information from the previous Section 4.2.3.

The information collected by Plant Security will be forwarded to a Maintenance Supervisor, the Emergency Coordinator, and Health and Safety, in that order. The appropriate Maintenance Supervisors are listed on the pink, Internal Notification Flowchart at the beginning of this plan. The Emergency Coordinator and Health and Safety contacts are as follows:

EMERGENCY COORDINATOR

	Plant	Pager*	Home
Kim Dobosenski Environmental Engineer	7404	9-278-2893*	(812) 332-5088**

HEALTH & SAFETY CONTACT - ALTERNATE EMERGENCY COORDINATORS

Eric Prenevau Health & Safety Director	7216	9-278-2130*	(812) 330-9149**
Eva Smith Training Coordinator	7261	9-278-2013*	9-279-3260

Maintenance supervisors indicated on the Internal Notification Flowchart can also act as alternate coordinators. Please reference the pink flowchart at the beginning of the plan.

*** The numerical message sent to a pager should be preceded by the "911" code to indicate an emergency situation.**

**** Before each home number, outside the local calling area, dial 8-1-812 then the number.**

4.4 MANPOWER ASSIGNMENTS

In the event of a spill or release, Plant Security will contact Maintenance, the Emergency Coordinator, and Health & Safety, in accordance with the pink, Internal Notification Flowchart at the beginning of this plan. One or more of these individuals will assess the spill from a distance and determine the extent of the spill. If the spill is an incidental release of an oil or a hazardous substances and if the substance can be absorbed, neutralized or otherwise controlled at the time of release, employees in the immediate area or maintenance personnel will clean up the spill. If the spill can not be handled by maintenance, outside contractors will be called in to respond to the spill. If reportable quantities of a substance, or if oil reaches a waterway, the Emergency Coordinator, or designate, will contact the appropriate agencies. Refer to the External Notification Flowchart and Section 4.7 for appropriate responses.

In the case of a fire, a fire brigade consisting of maintenance, security and supervisory personnel is present at the facility. A completely equipped medical department staffed 24 hours a day (except weekends) is available on-site.

4.5 RESPONSIBILITIES

1. Management Employees

Perform emergency first aid as required and by the Medical Department. Maintain liaison with outside medical facilities.

Maintain liaison with all staffs throughout the disaster. Assist in clearing non-essential personnel from the disaster area. Disseminate information to Corporate Staff as required by Corporate Procedures.

Control and direct the movement of personnel and stock, maintain order, assist fire department personnel. In addition, arrange to transport the injured to emergency medical facilities.

2. Security Department Employees

Deploy security personnel as directed by the Security Chief and/or Plant Management as requirements dictate throughout the emergency.

Security Employees will assist in helping employees evacuate as directed by Plant Management.

3. Fire Brigade

Fire Brigade personnel will assist in helping with Emergency Procedures under direction of Plant Management.

4. Safety Personnel Responsibilities

Assist as directed by Plant Management.

4.6 COMMAND CENTER

The Safety Conference Room will serve as the Emergency Command Center. In the event that this location is blocked due to the disaster or when evacuation becomes necessary, the Medical Conference Room will serve as the alternate command post.

4.7 EXTERNAL NOTIFICATIONS (ENVIRONMENTAL DEPARTMENT USE ONLY)

The new rule definition of "spill" excludes releases to impermeable surfaces. Therefore, the reporting of spills on interior floors in production areas or on paved driveways and parking lots without drains may not be required, as long as the spill does not migrate off the surface or penetrate the surface and enter the soil.

Only spills of certain quantities, locations, and chemical types need to be reported. Different reporting thresholds apply if the spill is to water or soil and within the facility property boundary versus beyond its boundaries. Regardless of these criteria, the spill must be reported if it will damage waters of the state as to cause death, acute injury, or illness to humans or animals, as stated in the Indiana regulations.

An external notification reporting flow chart, included in the beginning of the plan, summarizes the external reporting that is applicable to the Bedford facility.

4.7.1 State Notifications

(Environmental Department Use Only)

The following evaluations of a spill must be performed to determine if the spill is reportable in accordance with Indiana State regulation 327 IAC 2-6.1. A reportable quantity (RQ) table is included as Attachment A.

1. If spill is to surface water, the Environmental Department must report:
 - Spills of hazardous substances or extremely hazardous substances greater than 100 pounds or the RQ, whichever is less.
 - Spills of petroleum which cause a sheen.
 - Spills of objectionable substances.
2. If spill is to soil beyond the facility boundary, the Environmental Department must report:

- Spills of hazardous substances or extremely hazardous substances greater than 100 pounds or the RQ, whichever is less.
 - Spills of petroleum greater than 55 gallons.
 - Spills of objectionable substances.
3. If spill is to soil and within the facility boundary the Environmental Department must report:
- Spills of hazardous substances or extremely hazardous substances greater than RQ.
 - Spills of petroleum greater than 1000 gallons.
 - Spills of objectionable substances that damage waters of the state or harm public health.
4. Any spill for which a spill response has not been done.

The following actions must be taken by the Environmental Department for reportable spills:

Call IDEM Emergency Response as soon as possible, but at least within 2 hours of the spill at 1-888-233-7745 (in state) or 317-233-7745 (out of state). Notifications will be performed by the Environmental Department or the designated alternates. This initial notification can be made by telephone, radio or in person.

The notification should contain the eight items of information identified below. Notification **SHOULD NOT** be needlessly delayed if all of the following information is not available and an RQ is potentially exceeded:

- The chemical name or identity of any substance involved in the release.
- Whether the substance is listed as a Section 302 extremely hazardous substance.
- Estimated quantity of the released substance.
- Time and duration of the release.
- Whether the release occurred into the air, water, and/or land.
- Known or anticipated chronic or acute health risks associated with the emergency and advise regarding medical attention for exposed individuals.
- Precautions, such as evacuation, taken to respond to the release.
- Name and telephone number of the Environmental Engineer, Kim Dobosenski (812) 279-7404.

Submit a written report if required by IDEM (refer to section 4.11). Use the form letter in Attachment B as an example. Submit letter to:

Department of Environmental Management
Office of Environmental Response
2525 North Shadeland Ave.
PO Box 6015
Indianapolis, IN 46206-6015

Exercise due diligence and document attempts to notify the nearest downstream water user within 10 miles for surface spills that cause damage or effect property owners, operators or occupants for soil spills beyond the property.

At this time, there are no current downstream water users within 10 miles of the Bedford facility.

4.7.2 Federal Notifications ***(Environmental Department Use Only)***

The following notifications will be performed to meet federal requirements.

Hazardous Substances

A spill must be reported if it is a regulated substance which has been spilled/released in excess of certain Reportable Quantities (RQ). The notification requirements are as follows:

- Any person in charge of the facility shall, as soon as he has knowledge of any release of a hazardous substance in a quantity greater than or equal to the RQ over a 24 hour period must notify the:
National Response Center 1-800-424-8802
- If the chemical is a mixture, the amounts of the various components must be compared to the RQ to determine if the spill is reportable.

Petroleum Products

If a spill of petroleum causes a sheen on the navigable waters of the United States, the National Response Center must be contacted.

The following information should be provided:

- The name and title of the person making the report.
- The name and estimated amount of the substance released into the environment.
- Where the release took place.
- To what media of the environment the release escaped.

- Remedial actions taken to control or mitigate the release's effects.

If required, submit a written report to the National Response Center. Refer to Attachment B for an example of a form letter to the Response Center.

4.7.3 Miscellaneous Notifications (Environmental Department Use Only)

A spill that enters sanitary sewer lines may effect city sewage treatment facilities. Such a spill must be reported to the city at the Sewage Disposal Plant at (812) 275-4901.

Additional external spill notification will include the following:

Ms. Midge Winkler
Operations Support Environmental Services
MC 482-302-205
485 W. Milwaukee
Detroit, MI 48202
Office Phone: (313) 556-1931
GM Network Phone: 8-346-1931

Ms. Laura L. Fitzpatrick
Environmental and Energy Practice Area
Legal Staff
MC 482-C24-D24
300 Renaissance Center
P.O. Box 300
Detroit, MI 48265-3000
Office Phone (313) 665-4881
GM Network Phone: 8-225-4881

Exclusions

The reporting requirements of the rule do not apply to the following:

- Discharges or exceedances that are under the jurisdiction of an applicable permit when the substance discharged is covered by the permit and death or acute injury or illness to animals or humans does not occur.
- Lawful application of materials including, but not limited to, fertilizers and pesticides on or to land or water, dust suppression materials or the application of petroleum necessary for road construction.
- Spills of less than 1 pound or 1 pint.
- Spills of integral operating fluids in the use of motor vehicles or other equipment, the total volume of which is less than 55 gallons and which do not damage the waters of the state.

- A release of a substance integral to a spill response activity that has been approved and authorized by a state or federal on-scene coordinator.

In the event of a death or significant accident, personnel will follow the Safe Job Operating Procedures.

4.8 CLEAN-UP CONTRACTORS

Arrangements have been made with the following contractors to assist with emergency response.

McIntyre Brothers Construction
1020 Seventh Street
Bedford, IN 47421
(812) 275-5956

Spill Recovery of Indiana
10635 US Highway 136
Indianapolis, IN 46234
(317) 291-3972

Koester Environmental Services Inc.
14649 Highway 41 North
Evansville, IN 47711
(812) 867-0100

Written documentation of the arrangements that the Bedford plant has with clean-up contractors are on file with the Environmental Department.

4.9 SPILL RESPONSE EQUIPMENT

The following spill control and cleanup equipment is available at the plant:

A 300 gallon fluid collection system (Scrubber Vac) and tractor with a backhoe are available through the Maintenance Department. Oil absorption material is available from the old A-Crib area which is located on the southeast section of the Die Cast Building. Spill kits are available at the Fire Brigade Area, the Bulk Storage Area, Wastewater Treatment and the Paint Booth. Additional booms and absorbent pillows are also available at the wastewater treatment plant.

The following is a list of items in the spill kits:

(Paint Booth, Wastewater Treatment Plant, and Bulk Storage Spill Kits)

- 12-3" X 46" HAZ-MAT Socks
- 6-3" X 10' HAZ-MAT Socks
- 2 – 10' Dikes
- 7-16" X 17" Pillows
- 75-Mat Pads
- 10 Temporary Disposal Bags & Ties

(Fire Brigade Area Large Response Cart)

- 14-3" X 46" HAZ-MAT Socks
- 3-3" X 10' HAZ-MAT Socks
- 2 – 10' Dikes
- 7-16" X 17" Pillows
- 2-5 lb. Bags of Pulp
- 100-Mat double-weight Pads
- 15 Temporary Disposal Bags & Ties

Note: Shovels are also available in the area near the Spill Kit.

The following is a list of items on the fire wagon and equipment cart:

- Shovel
- 1 Axes
- City adapter
- Gloves 1 dozen
- 100 ft. rope
- 2 helmets

- Megaphone
- 2 crow bars

The following is a list of the supplies for Blood Borne Pathogens exposure and the locations of the cabinets:

Locations of cabinets

- #1 Die Cast North in the aisle
- #2 Pistons by heat treat oven by supervisors desk.
- #3 Tool Room hallway by supervisor desk.
- #4 Die Cast South behind scale.
- #5 Maintenance office wall outside.
- #6 Melting going west wall of melting office.

Supplies

- 5 Personal Protective Kits that contain Head covers, masks, gowns, shoe covers, red biohazard bags, paper towels, antiseptic wipes and rubber gloves.
- 5 Small spill kits that contain Red biohazard bags, rubber gloves, antiseptic wipes.
- 5 large spill kits 2 Red biohazard bags, paper towels, antiseptic wipes, many rubber gloves.
- CPR biohazard bags, antiseptic wipes, one-way breathing mask, sterile 4X4's and rubber gloves.

4.10 SPILL DOCUMENTATION

Following the release or spill at the facility, the Environmental Department will ensure the incident and the response actions taken to address it are documented. Attachment C contains the Internal and External Spill / Release Report forms that may be used in the event of a spill / release.

4.11 WRITTEN NOTIFICATION REQUIREMENTS

State Written Notification Requirements

For spills of hazardous materials or petroleum products that are reported under Section 4.7 - External Notifications, the IDEM may require a written report. If a report is required, the format in Attachment B, shall be followed. The report will be submitted to:

Department of Environmental Management
Office of Environmental Response
2525 North Shadeland Ave.
PO Box 6015
Indianapolis, IN 46206-6015

The report will be prepared, signed and submitted by the Environmental Department. Prior to submittal, GM Worldwide Facilities Environmental Staff and Legal Department shall review the report.

Federal Written Notification Requirements

For spills of petroleum products that are greater than 1,000 gallons or if the second reportable spill within 12 months, a report must be submitted to US EPA Region V within 60 days of the release (see Attachment B for an example). Also, for spills of RCRA hazardous waste, a report will be required to be submitted within 15 days of the release.

US EPA Region V
Regional Administrator
77 West Jackson Blvd.
Chicago, IL 60604

The report will be prepared, signed and submitted by the Environmental Department. Prior to submittal, GM Worldwide Facilities Environmental Staff and Legal Department shall review the report within 10 days of the release.

Any spill that violates the plant NPDES Permit Limitations require that a detailed written report be submitted to the EPA Regional Administrator and the State of Indiana within five (5) days after becoming aware of such condition. See plant NPDES permit for reporting requirements. GM Legal Department must approve all written reports before submittal.

4.12 SPILL CLEANUP AND TERMINATION OF ACTIVITIES

The Emergency Coordinator or Alternate Coordinator will coordinate the necessary resources to ensure the cleanup of the affected area.

The Environmental Department or designee will ensure that the released material, cleanup material and personal protective equipment will be disposed of in a GM approved disposal facility. Storage and disposal of materials generated from a spill response shall be performed in accordance with GM procedures 5533-18 (Storage and Disposal of Waste Fluids and Oils) and 5533-28 (Disposal of Solid Waste). The most current revision of these procedures may be obtained from the Quality Department or the shared "S" drive (S:\QS9000sn\), which is available on most computers in the facility. Attachment D also contains copies of these procedures, but before using them the user must verify that they are current by referencing the Master List of Plant Procedures.

4.13 PUBLIC RELATIONS

In the event that public relations are affected by a release, facility personnel will follow the guidelines included in the Bedford Disaster Plan. The guidelines are included as Attachment E of this manual.

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 5.0 SITE DESCRIPTION**

5.1 DESCRIPTION OF OPERATIONS

The GM Bedford plant is a manufacturer of automotive aluminum castings including transmission cases and pistons. The processes to produce these products include die casting and permanent molding.

The plant is located outside of any flood area. This is based on information obtained from the U.S. Geological Survey Maps for the Bedford area and from the U.S. Department of Agriculture, Soil Conservation Office. The U.S. G.S. maps show that the plant is located at an elevation of 720 feet above sea level, which is well above the 100 year flood level for the White River and Pleasant Run Creek area flood levels of 510 feet.

5.2 LOCATION MAP

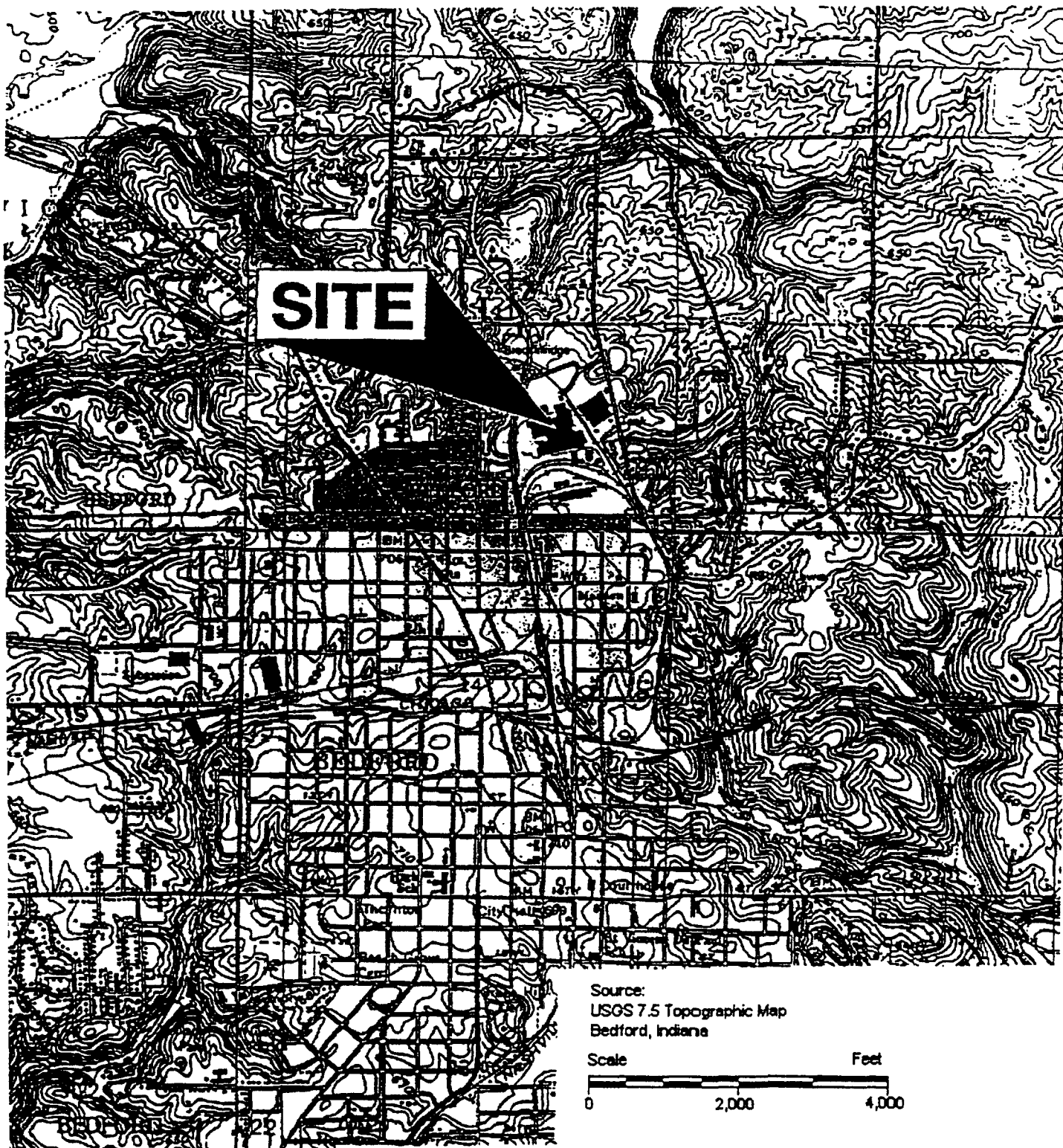
A location map is included on the next page.

5.3 MAJOR STREAMS/SEWERS

The facility storm water is collected and contained within the on-site storm water retention lagoon. The water is used for fire protection and as makeup process water.

Emergency overflow from the facility storm water retention lagoon is discharged via NPDES-003 to an unnamed ditch which flows into the Bailey Branch of Pleasant Run Creek located east of the facility.

Facility sanitary wastewater is discharged to the City of Bedford sanitary sewer system. Facility process wastewater and stormwater is collected and treated in the on-site wastewater treatment plant. Approximately 85% of the treated effluent is reused as process water. The remaining 15% is discharged through NPDES-002 Outfall to an unnamed ditch which flows into the Bailey Branch of Pleasant Run Creek.



**CHESTER
ENGINEERS**

PROJECT NO.:

3162-08

FIGURE NO.:

Figure 1

**General Motors Corporation
Bedford Plant
Bedford, Indiana
Facility Location Map**

IN BY:	CHKD BY:	SCALE As Shown
PR BY:	DATE 07/21/98	FILE NAME

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 6.0 FACILITY MAP**

A copy of a Facility Map showing runoff direction, storm and sanitary sewers follows this page. Also, an insert of the Bulk Product/Waste Storage Area is included. The numbering system on the drawings refers to the Material Storage Table in Section 9.0. A condensed copy of the table is included in this section.

Legend 1 - Material Storage

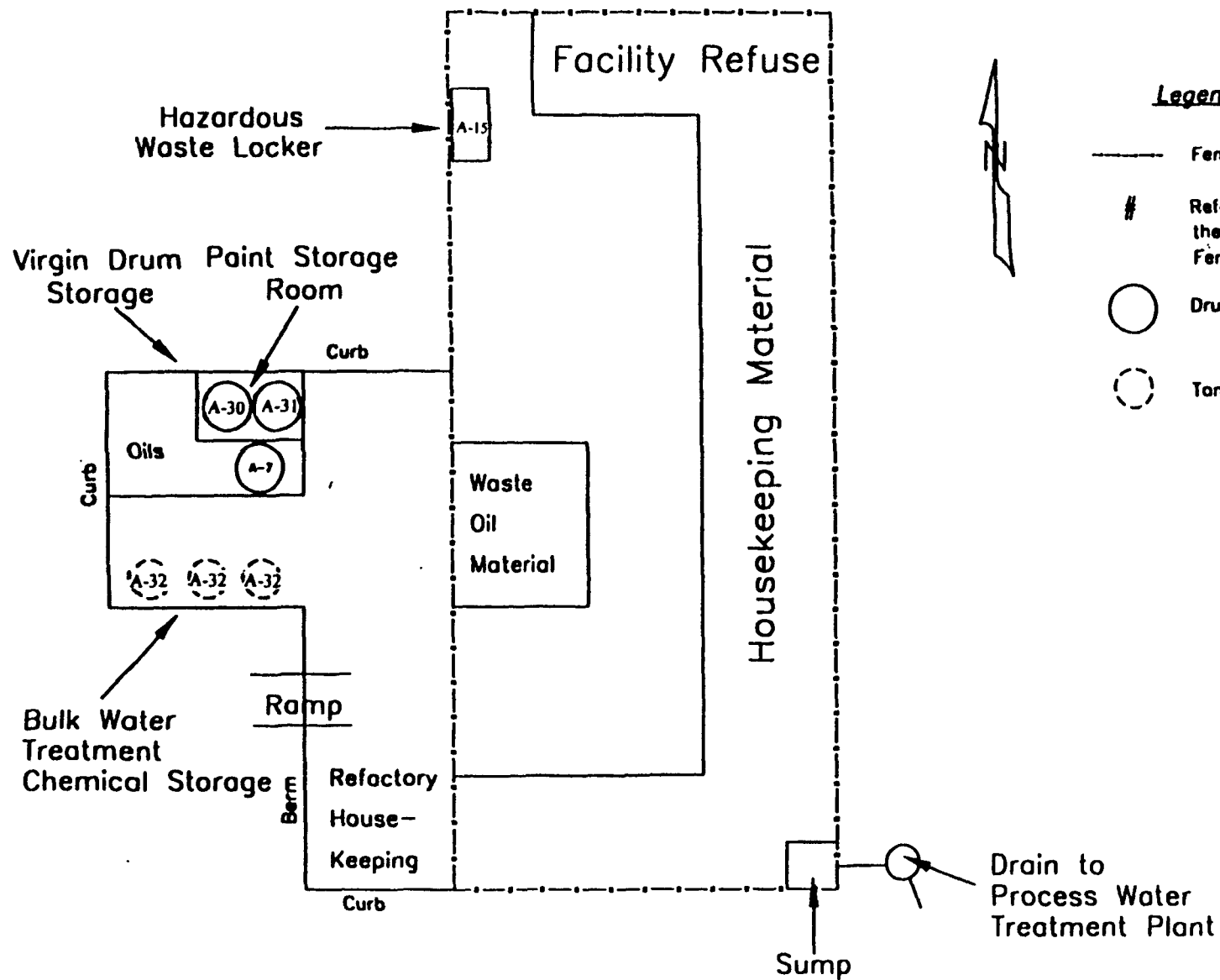
Oils & Fuels		
Tank Number	Material Description	General Location
A-1	Waste Hydraulic Fluid	Outside of Secondary Building
A-2	Gasoline	Piston Loading Area
A-3	Diesel Fuel	Piston Loading Area
A-4	Water Glycol	Old A-Crib Area
A-5	PCB	Drum Storage Area
A-6	Gulf Cut Oil	Receiving
A-7	Various Oils	Oil House
A-8	Lube Oil	Tool Room
A-9	Waste/Used Oil	Tool Room
A-10	Way Lubricant	Receiving
A-11	Oil	Die Cast South
A-12	Oil	Die Cast South
A-13	Oil Tank	Storm Lagoon
PU-14	Skim Oil Tank	Outside of Secondary Building

Hazardous Waste		
Tank Number	Material Description	General Location
A-15	Waste Paint Solvent	Drum Storage Area

Chemicals		
Tank Number	Material Description	General Location
A-16	Urea	Secondary Building
A-17	Polymer Mix Tank	Secondary Building
A-18	Polymer Neat Tank	Secondary Building
A-19	HCl	Outside Filter Building
A-20	Sodium Hypochlorite	Filter Building
A-21	Sodium Chlorite	Filter Building
A-22	Corrosion Inhibitor	Filter Building
A-23	Ferric Sulfate	Sludge Building
A-24	Primary/Secondary Sludge	Sludge Building
A-25	Holding Sludge Tank	Sludge Building
A-26	Contact Tank	Sludge Building
A-27	Filterate Storage Tank	Sludge Building
A-28	Lime Slurry Tank	Sludge Building
A-29	Alum	Aeration Building
A-30	Paint Thinner	Drum Storage Area
A-31	Lacquer	Drum Storage Area
A-32	Corrosion Inhibitor	Drum Storage Area
A-33	Sodium Hypochlorite	Powerhouse
A-34	Water Treatment Chemicals	Powerhouse
A-35	Anti Foam	South Die Cast
A-36	Sodium Hypochlorite	South Die Cast

A- Aboveground

PU - Partially Underground



FILE NAME	SCALE	DATE
316208W.dwg	None	11/19/98
DWG NO: Figure 2		

General Motors Corporation
Bedford Plant
Bedford, Indiana
Bulk Product/Waste Storage Area

 CHESTER ENGINEERS		
OWN BY	CHKD BY	APPR BY

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 7.0 POLLUTION PREVENTION**

**7.1 OILS, HAZARDOUS MATERIAL AND HAZARDOUS WASTE
STORAGE**

Prevention and countermeasures are required for the handling and storage of:

1. Oils, fuels, and other hydrocarbons, and
2. The accumulation, storage, and shipping of hazardous wastes.

The following countermeasures are discussed to fulfill the requirements of 40 CFR 112.7 (e).

- Each aboveground petroleum tank is of steel construction and is compatible with the oils they contain and conditions of storage.
- All the aboveground tanks along with containment capacities are discussed below by tank location. Also the information is summarized in Table 1 Section 9.0.
- None of the dikes at GM Bedford use valves for drainage. The dikes are pumped out or flow to the WWTP as described below.
- None of the petroleum tanks have internal heating coils.
- No high level alarms are employed.
- The tanks are not equipped with level gauges unless otherwise stated below.
- There are no starter control locks on the petroleum tanks.

Following is a detailed description of the materials handled and the countermeasures used at GM Bedford. The materials are organized by location and are also located on the facility map.

Secondary Building

Fifty pound dry bags of urea are stored in the Secondary Building. The urea is mixed in a 300 gallon tank and the building acts as containment. There are also two polymer tanks. One tank is a 300 gallon mix tank and the other is 1,200 gallon neat tank. Both tanks are

diked with 150% containment. Outside, to the north of the building is a 1,500 gallon waste hydraulic fluid tank. The tank is set within a masonry diked area which holds greater than 150% of the tank. No sump exists in the dike.

Filter Building

The filter building holds three 1,500 gallon PVC tanks. Two of the tanks, Drew 6110 Sodium Hypochlorite and Drew CHLOR 4107 Sodium Chlorite, are within the same dike with 150% of the largest tank contained. The third tank holds corrosion inhibitor and is 150% contained. If necessary, the dike can be drained to the process sewer. All the fill pipes are within the containment and level indicators are on the tanks. An eye wash station is located across from the tanks. Outside on the south end of the building is a 1,500 gallon HCl tank. The area has a PVC dike which holds 150% of the tank. The containment area is covered. Just outside of the dike is a sewer that drains to the wastewater treatment plant.

Sludge Building and Surrounding Area

Two 1 million gallon tanks holding primary sludge and secondary sludge are located outside of the sludge building. An earthen dike is used to contain the tanks and there are no level indicators on the tanks. A 5,800 gallon PVC Ferric Sulfate tank is located inside the sludge building. This tank is approximately 115% contained. The fill pipes for the tank are located outside. The dike has a blind sump and is pumped out manually. A sludge tank with capacity of 10,000 gallons, a contact tank with capacity of approximately 5,000 gallons and a filtrate storage tank with capacity of approximately 2,500 gallons are also located within the sludge building. The building itself drains to the surge basin and then to the aeration basin.

Aeration Building

Two alum tanks are located inside of the aeration building. Each tank is 2,000 gallons in size and constructed of PVC. The tanks are diked with greater than 150% containment.

Piston Loading Area

Located outside on the pavement are two enclosed (tank within a tank) fuel tanks. One is a 1,000 gallon gasoline tank. The other is a 1,000 gallon diesel fuel tank. A level stick is used to determine the volume of fuel. Leaks from the gasoline or diesel hose are repaired and cleaned up immediately. If a spill occurs during unloading, the fuel will flow to a catch basin and be contained in the storm water retention lagoon.

Old A-Crib Area

Two 5,000 gallon steel water glycol tanks are stored in the old A-Crib area. The tanks are suspended in the air without containment. If there is a leak the water glycol will flow out the door and will drain through the storm sewer to the lift station where it can be contained.

Drum Storage

There is an oil house located within the drum storage area capable of handling forty drums. Drums of various types of oil are stored in the oil house under cover. Part of the oil house is divided into a storage area for paint products. Fifty-five gallon drums of paint thinner and lacquer are also stored within this area.

Three 15,000 gallon tanks are located on the south side of the oil house. These tanks are located outside and contain Drewperse 737, Dresperse 2625A, and Drewgard 120 all corrosion inhibitors. The tanks are foam insulated.

The entire drum storage area is contained along with the waste management area. A sump located in the waste management area drains to the WWTP.

Waste Management Area

The 90 day accumulation area is located within the waste management area. The only hazardous wastes on-site (waste paint solvents) are stored in the accumulation area. The solvents are stored in a metal, enclosed, fire resistant cabinet.

The whole waste management area is contained along with the drum storage. There is a sump, on the north east corner of the containment area that drains to the WWTP.

A fence surrounds the waste management area and the Resource Manager has an office stationed within the area. A phone is available along with a ABC fire extinguisher, spill kit and non-spark shovel.

Tool Room Oil Area

Approximately twelve totes containing oil lube and twenty drums containing waste/used oil are located in the tool room. The building acts as containment. An ABC fire extinguisher is located on a column near the waste/used oil.

Maintenance Oil Areas

There are two central locations where Maintenance personnel store oil in the facility. The locations are in the Die Cast and Piston Buildings. Each location has a 350 gallon tote and approximately 12 fifty-five gallon drums.

Receiving Area

Approximately, four Gulf Cut lubricants totes (~350 gallons/tote) and two way lubricants totes (~360 gallons/tote) are located in the receiving area. The Gulf Cut totes are moved to the process area when needed. Other miscellaneous chemicals may also be stored in receiving. The totes are stored along the wall out of the way of traffic. If a spill occurs and travels out of the building the oil will end up in the storm lagoon. In case of a fire, an ABC fire extinguisher is available in the receiving area.

Powerhouse Chemical Storage

Bleach and other boiler feed chemicals are stored within the powerhouse.

South Die Cast

Dispersant and sodium hypochlorite are stored within the South Die Cast area. Oil may also be stored at this site.

Storm Lagoon

One oil tank, with a capacity of approximately 290 gallons, is located in the storm water pump building next to the storm lagoon. The tank is diked with approximately 120% containment.

7.2 UNDERGROUND AND PARTIALLY BURIED TANKS

The Bedford Facility has no underground storage tanks. At the wastewater treatment plant, a skimmed oil in process transfer tank is partially below grade.

7.3 OVERHEAD PIPING

No petroleum products are pumped overhead, therefore valve and pipe inspections are not required.

7.4 OUT OF SERVICE INSTALLATIONS

The facility has an extensive network of buried piping at the wastewater treatment plant. There are no provisions for corrosion protection of this piping.

There are no out of service installations at the facility that have not already been removed.

7.5 OIL PRODUCTION FACILITY REQUIREMENTS

This facility is not an oil production facility, therefore, this requirement is not addressed.

7.6 INSPECTIONS

A GM Bedford inspection of the waste management area is conducted weekly along with the waste paint accumulation area and the 90 day accumulation area. If any problems are found they must be explained in the records and followed with a plan for corrective action. The inspection forms are filed with the Resource Manager and kept for a minimum of five years.

The petroleum tanks are checked weekly for tank damage or leakage. The inspection forms are filed by Security, for the tank at the storm lagoon, and by the Resource Manager, for the other two petroleum tanks located between the Piston & Die Cast Buildings.

The influent to the wastewater treatment plant is observed daily by wastewater treatment personnel. In addition to the visual observations of the influent, personnel perform analytical tests on the influent and effluent to identify potential problems with the manufacturing and/or WWTP operations. Other analytical tests may be sent to an outside lab.

Wastewater treatment personnel also inspect the influent points to the storm water retention lagoon, its effluent point and the outfall once a week. Any unusual observations or potential problems can be noted on the inspection sheets. Inspection forms are kept in the office of the wastewater treatment plant operator. Copies of inspections are kept on file for a minimum of five years.

Refer to Attachment F for a sample of GM Bedford's inspection forms.

7.7 BULK LOADING/UNLOADING PROCEDURES

GM Bedford incorporates the GM Truck Loading/Unloading Procedures along with following the minimum requirements for DOT. Facility procedures for truck loading and unloading have been included as Attachment G.

7.8 TRAINING

The personnel training program for this plant is incorporated in the overall plant program for the training of all employees to perform their assignments in a safe manner and in accordance with all plant policies, regulations and procedures.

The plant departments are responsible for preparing the job procedures and insuring that their employees are trained properly to perform their job assignments. The Environmental Department gives guidance and directions on Hazardous Wastes Management. The Environmental Department staff has received training on the handling of hazardous materials.

The General Motors Corporate Legal Staff issues information bulletins, concerning all environmental areas including Hazardous Waste Management, to plants in the Corporation. This information is reviewed by the Environmental Department and if applicable reviewed with personnel that handle hazardous waste. New requirements are incorporated into job procedures, if necessary.

The specific areas that are covered in the training program include:

SPCC Training

Facility personnel that work in the area of oil storage have been instructed by management in the operation and maintenance of oil pollution prevention equipment and pollution control laws and regulations.

Hazardous Materials Training

All employees involved in handling hazardous waste have received training in the proper handling, storage, labeling, disposal, and emergency spill response of hazardous materials/wastes. The emergency and alternate coordinators have obtained HAZWOPER Operations Level Training. The emergency and alternate coordinators receive refresher training once a year.

Fire Brigade

Fire Brigade training consists of classroom and hands-on training in fighting class A, B, C and D fires. Employees that may participate in this training include: maintenance, security, and supervisory personnel. Classroom training consists of slides, films, and discussion. In the field training, members are exposed to various types of fires to extinguish.

7.9 SECURITY

Security guards are present at the facility 24 hours a day. The guards control all entry and exiting of persons to the plant. The entire GM Powertrain Bedford facility is fenced with guarded access gates. The facility is well lit on the exterior as well as the interior of the plant. A phone is available in the hazardous waste accumulation area as a means of direct communication.

In addition to the above, the waste management area has additional fencing and gates which are monitored by direct line of sight from the guard house.

Signs are also posted on the fence in the drum storage area which state, "Danger - Unauthorized Personnel Keep Out" and "No Smoking - Flammable Liquids". Another sign is posted in the hazardous waste designated storage area which states that hazardous wastes are stored in that area.

The Security gatehouse is located approximately 300 feet from the hazardous waste storage area. The plant guards are on duty at all times in this gatehouse and have radio and telephone communication both in and out of the plant.

If an emergency situation occurs, the evacuation plan will be followed. Refer to Attachment H for a copy of the evacuation plan.

7.10 PLANT WARNING SYSTEM

Warnings will be provided utilizing a plant wide annunciation system. If not working, runners will be sent throughout the facilities. Below is a brief explanation of the warning system. Refer to the Disaster Preparedness Plan for more details.

Take Shelter Alarm

A slow wail will sound through the plant to signal a take shelter alarm.

Evacuation Signal

The evacuation signal is a 1 to 6 horn blast. The number of horn blasts defines the area of the plant that needs to be evacuated. Three (3) horn blasts signals a total plant evacuation, while the other sequences of horn blasts signal the evacuation of a specific department or area (e.g. two (2) horn blasts signals the evacuation of Die Cast South and Die Cast West).

All Clear

The all clear notification will be given by first ceasing the original signal followed by a steady horn. The all clear will be used when conditions have returned to normal or the hazardous event no longer threatens plant personnel or facilities.

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 8.0 PLAN AMENDMENT AND SUBMISSION
REQUIREMENTS**

This section includes information on the procedures the facility has available for modifying this plan. Detail has been provided for updates under the requirements of both the SPCC and RCRA regulations. In addition to the amendment requirements, a history of amendments has been provided.

8.1 SPCC AMENDMENTS

In accordance with 40 CFR, Part 112.5, this Plan shall be updated/amended under the following circumstances:

- Whenever there is a change in facility design, construction, operation, or maintenance which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines;
- If the plan fails in an emergency, the list of emergency equipment changes or the regulations are revised; and
- At least once every three years from the date the facility becomes subject to SPCC requirements if more effective field-proven spill prevention and control technology which will significantly reduce the likelihood of a spill event from the facility is available.

It is the responsibility of the Environmental Department to complete the yearly checklist, located in Attachment I to determine if it is necessary to update the Release Plan. Updates, of other than names, phone numbers and etc, which apply to the SPCC requirements discussed above must be certified by a Professional Engineer.

Minor changes or additions will not require the book to be resubmitted and approved, but they will require that portion of the book to be updated and replaced.

8.2 RCRA AMENDMENTS

In accordance with 40 CFR, Part 265.54, this Plan shall be updated/amended under the following circumstances:

- Whenever there is a change in facility design, construction, operation, or maintenance which materially increases the potential for fires, explosions, or releases of hazardous waste constituents, or changes the response necessary in an emergency; or
- Whenever the plan fails in an emergency; and
- Whenever the list of Emergency Coordinators or emergency equipment changes.

It is the responsibility of GM to periodically review the facility operations to determine if it is necessary to update the Plan.

Minor changes or additions will not require the book to be resubmitted and approved, but they will require that portion of the book to be updated and replaced.

Specific situations at the facility that would cause the Plan to require updating include:

- Redesign or alteration of the tank farms at the facility, including installation, replacement, or removal of active tanks;
- Redesign or alteration of hazardous waste storage areas;
- A change in the Emergency Coordinator list:
- A significant alteration or relocation of the emergency equipment maintained at the facility; and
- A significant change in the hazardous materials used at the facility.

8.3 AMENDMENT HISTORY

Date	Revised By	Cause for Revision
3-7-99	Kim Dobosenski	Change in the Internal / External Notification Flowchart (new safety director) and additional containment was added to the oil tank at the storm lagoon.
1/18/00	Kim Dobosenski	Change to Internal/External Notification Flowchart and updated emergency equipment listing.
1/15/01	Kim Dobosenski	Change to Internal/External Notification Flowcharts and updated emergency equipment listing.

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE *Emergency Preparedness & Response <u>Plan Reviews</u>	FORM NO. 5523-10(B) DATE ISSUED: 9/24/98 REVISION # 1 REVISION DATE: 12/15/99
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Environmental Audit Report: Privileged Information

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***Complete This Section For Release Plan Reviews:**

1. Review Performed By: <u>Kimberly Dobosenski</u> Date of Review: <u>12/27/00</u> Date of Last Review: <u>12/30/99</u>																											
2. Section(s) of the Release Plan requiring revisions: <table border="0"> <tr> <td>Internal / External Notification Flowcharts</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Section 1.2</td> <td>Section 8.0</td> <td>Attachment E</td> <td>Attachment L</td> </tr> <tr> <td>Section 3.0</td> <td>Section 9.0</td> <td>Attachment F</td> <td>Attachment M</td> </tr> <tr> <td>Section 4.0</td> <td>Section 12.0</td> <td>Attachment G</td> <td>Appendix 2</td> </tr> <tr> <td>Section 6.0</td> <td>Attachment D</td> <td>Attachment H</td> <td>Appendix 3</td> </tr> <tr> <td>Section 7.0</td> <td></td> <td></td> <td></td> </tr> </table>				Internal / External Notification Flowcharts				Section 1.2	Section 8.0	Attachment E	Attachment L	Section 3.0	Section 9.0	Attachment F	Attachment M	Section 4.0	Section 12.0	Attachment G	Appendix 2	Section 6.0	Attachment D	Attachment H	Appendix 3	Section 7.0			
Internal / External Notification Flowcharts																											
Section 1.2	Section 8.0	Attachment E	Attachment L																								
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Section 4.0	Section 12.0	Attachment G	Appendix 2																								
Section 6.0	Attachment D	Attachment H	Appendix 3																								
Section 7.0																											
3. Date revisions were completed for each section: <u>1/16/01 - revisions to all sections were completed.</u>																											

***Complete This Section For Disaster Preparedness Plan Reviews:**

1. Review Performed By: <u>ERIC TRENEVAL</u> Date of Review: <u>JUNE 26, 2000</u> Date of Last Review: <u>FEBRUARY 29, 2000</u>	
2. Section(s) of the Disaster Preparedness Plan requiring revisions: <u>THE GMPT BEDFORD - DISASTER PREPAREDNESS PLAN WAS APPROVED AND ISSUED IN JUNE OF 2000. ALL SECTIONS WERE REVISED TO REFLECT THE GM CORPORATE SECURITY FIRE TEMPLATE.</u>	
3. Date revisions were completed for each section: <u>REVISIONS TO THE DISASTER PREPAREDNESS PLAN WERE COMPLETED IN JUNE OF 2000</u>	

Print Name: Kimberly Dobosenski
(Environmental Management System Representative)

Signature: Kimberly Dobosenski Date: 1/16/01

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE *Emergency Preparedness & Response Plan Reviews	FORM NO. 5523-10(B) DATE ISSUED: 9/24/98 REVISION # 1 REVISION DATE: 12/15/99
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Environmental Audit Report: Privileged Information

PAGE 1 OF 1

***Complete This Section For Release Plan Reviews:**

1. Review Performed By: <u>Kimberly Dobosenski</u> Date of Review: <u>12/30/99</u> Date of Last Review: <u>3/7/99</u>
2. Section(s) of the Release Plan requiring revisions: <u>Internal / External Notifications</u> <u>Section 3.0 Section 8.0 Attachment F</u> <u>Section 4.0 Section 9.0 Attachment G</u> <u>Section 6.0 Section 10.0 Appendix 3</u> <u>Section 7.0 Attachment D</u> <u> Attachment E</u>
3. Date revisions were completed for each section: <u>1/7/00 - for Internal and External Notifications</u> <u>1/17/00 - for Sections 3.0 &</u> <u>1/18/00 - for Sections 4.0 - Attachment G</u> <u>1/19/00 - for Appendix 3</u>

***Complete This Section For Disaster Preparedness Plan Reviews:**

1. Review Performed By: <u>MIKE SWIET ERIC TRENEVAL LEVI DAVIS</u> Date of Review: <u>JUNE 1999</u> Date of Last Review: <u>1998</u>
2. Section(s) of the Disaster Preparedness Plan requiring revisions: <u>ALL SECTIONS OF THE PLAN REQUIRED REVISIONS TO MEET NEW</u> <u>CORPORATE STANDARDS.</u>
3. Date revisions were completed for each section: <u>JANUARY 14, 2000</u>

Print Name: Wm Schoonmaker
(Environmental Management System Representative)

Signature: Wm Schoonmaker **Date:** 1-19-00

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 9.0 LISTING OF SIGNIFICANT
MATERIAL STORAGE AREAS**

9.1 LOCATION

Location of significant material storage areas are shown on the facility map included in Section 6.

9.2 LISTING OF MATERIAL STORAGE LOCATIONS

A listing of material storage areas has been included in this section.

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
TABLE 1 MATERIAL STORAGE**

Oils & Fuels							
Container Number	Material Description	General Location	No. Containers	Construction Material	Capacity (Gals)	Contained Yes/No	Containment Capacity (%)
A-1	Waste Hydraulic Fluid	Outside of Secondary Bldg	1	Steel	1,500	Y	150%
A-2	Gasoline	Piston Loading Area	1	Steel	1,000	Y	Self Contained
A-3	Diesel Fuel	Piston Loading Area	1	Steel	1,000	Y	Self Contained
A-4	Water Glycol	Old A-Crib Area	2	Steel	5,000	Y	Bldg is Containment
A-5	PCB	Drum Storage Area	2	Steel	55 Gal Drums	Y	Self Contained
A-6	Gulf Cut Oil	Receiving	3	Steel	350 Gal Totes	Y	Bldg is Containment
A-7	Various Oils	Oil House	40	Steel	55 Gal Drums	Y	Contained and Drains to WWTP
A-8	Lube Oil	Tool Room	12	Vendor Supplied	Totes	Y	Bldg is Containment
A-9	Waste/Used Oil	Tool Room	16-20	Steel	55 Gal Drums	Y	Bldg is Containment
A-10	Way Lubricant	Receiving	1	Vendor Supplied	350	Y	Bldg is Containment

A- Aboveground PU- Partially Underground

Oils & Fuels Cont.

Container Number	Material Description	General Location	No. Containers	Construction Material	Capacity (Gals)	Contained Yes/No	Containment Capacity (%)
A-11	Oil	Die Cast South	4	Steel	Totes	Y	Bldg is Containment
A-12	Oil	Die Cast South	4	Steel	55 Gal Drums	Y	Bldg is Containment
A-13	Oil	Storm Lagoon	1	Steel	290	Y	120%
PU-14	Skim Oil Tank	Outside of Secondary Bldg	1	Steel	2,000	N	Drains to Storm Lagoon

Hazardous Waste

Container Number	Material Description	General Location	No. Containers	Construction Material	Capacity (Gals)	Contained Yes/No	Containment Capacity (%)
A-15	Waste Paint Solvent	Drum Storage Area	2	Steel	55 Gal Drums	Y	Self Contained Cabinet Located in Diked Area

Chemicals

Container Number	Material Description	General Location	No. Containers	Construction Material	Capacity (Gals)	Contained Yes/No	Containment Capacity (%)
A-16	Urea	Secondary Bldg.	1	Fiberglass	300	Y	Bldg is Containment
A-17	Polymer Mix Tank	Secondary Bldg.	1	PVC	300	Y	150%
A-18	Polymer Neat Tank	Secondary Bldg.	1	PVC	1,200	Y	150%
A-19	HCl	Outside Filter Bldg.	1	PVC	1,500	Y	>150%

A- Aboveground PU- Partially Underground

Chemicals Cont.

Container Number	Material Description	General Location	No. Containers	Construction Material	Capacity (Gals)	Contained Yes/No	Containment Capacity (%)
A-20	Sodium Hypochlorite	Filter Bldg.	1	PVC	1,500	Y	>150 %
A-21	Sodium Chlorite	Filter Bldg.	1	PVC	1,500	Y	150%
A-22	Corrosion Inhibitor	Filter Bldg.	1	PVC	1,500	Y	150%
A-23	Ferric Sulfate	Sludge Bldg.	1	PVC	5,800	Y	115% and Bldg drains to Surge Basin
A-24	Primary/Secondary Sludge	Sludge Bldg.	2	Steel	1,000,000	Y	Contained by an Earthen Dike
A-25	Holding Sludge Tank	Sludge Bldg.	1	Steel	10,000	Y	Bldg. Drains to Surge Basin
A-26	Contact Tank	Sludge Bldg.	1	Steel	~5,000	Y	Bldg. Drains to Surge Basin
A-27	Filterate Storage Tank	Sludge Bldg.	1	Steel	~2,500	Y	Bldg. Drains to Surge Basin
A-28	Lime Slurry Tank	Sludge Bldg.	1	Steel	1,000	Y	Bldg. Drains to Surge Basin
A-29	Alum	Aeration Bldg.	2	PVC	2,000	Y	>150 %
A-30	Paint Thinner	Drum Storage Area	3	Steel	55 Gal Drums	Y	Contained and Drains to WWTP
A-31	Lacquer	Drum Storage Area	3	Steel	55 Gal Drums	Y	Contained and Drains to WWTP
A-32	Corrosion Inhibitor	Drum Storage Area	3	PVC	1,500	Y	Contained and Drains to WWTP
A-33	Sodium Hypochlorite	Powerhouse	2	PVC	350	Y	Bldg is Containment
A-34	Water Treatment Chemicals	Powerhouse	2	PVC	350	Y	Bldg is Containment
A-35	Anti Foam	South Die Cast	1	PVC	350	Y	Bldg is Containment
A-36	Sodium Hypochlorite	South Die Cast	1	PVC	350	Y	Bldg is Containment

A- Aboveground PU- Partially Underground

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 10.0 WORST CASE SCENARIO**

POTENTIAL EVENT	SPILL DIRECTION	VOLUME RELEASED	SPILL RATE
Complete failure of a full tank	Containment or catch basin which drains to storm lagoon	1,000	Instantaneous
Partial failure of a full tank	Containment or catch basin which drains to storm lagoon	1 to 999 gallons	Gradual to instantaneous
Tank overfill	Catch basin which drains to storm lagoon	1 to many gallons	Up to pump capacity
Pump rupture or failure	Catch basin which drains to storm lagoon	1 to several gallons	1 gallon per minute up to pump capacity
Pipe failure	Tank Containment	Several ounces to several gallons	4 gallons per minute
Leaking pipe, hose or nozzle.	Tank Containment	Several ounces to several gallons	1 gallon per minute up to pump capacity
Tank truck leak or failure	Catch basin which drains to storm lagoon	1 to 8,000 gallons	Gradual to instantaneous
Hose leak during truck loading	Catch basin which drains to storm lagoon	1 to several gallons	1 gallon per minute up to pump capacity

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 11.0 SPILL HISTORY**

11.1 SPILL EVENTS

GM Bedford has not had any reportable spills in the last three years. Spills dating back to 1973 are kept in a separate file in the Environmental Manager's Office.

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
SECTION 12.0 PLAN DISTRIBUTION**

12.1 DISTRIBUTION PROCEDURE

Copies of this plan have been provided to the following departments and the local emergency/medical responders:

NAME	PHONE NUMBER	PLAN NUMBER
Environmental Engineering	(812) 279-7404	01
Security	(812) 279-7360	02
Process Control and Logistics (PC&L) Department	(812) 279-7166	03
Maintenance	(812) 279-7374	04
Safety	(812) 279-7216	05
Bedford Fire Department	(812) 275-4544	06
Bedford Police Department	(812) 275-3311	07
Regional Medical Center	(812) 275-1200	08
Lawrence County Local Emergency Planning Committee	(812) 279-6111	09
Dunn Memorial Hospital	(812) 279-2100	10
Environmental Board (Pistons)	N/A	11
Environmental Board (Die Cast)	N/A	12
Environmental Board (Guard House)	N/A	13
Resource Management	(812) 279-7144	14
Chemical Management	(812) 279-7018	15
Spill Recovery of Indiana	(800) 421-7764	16

Attachment A

Reportable Quantity Table

**GENERAL MOTORS CORPORATION - BEDFORD
REPORTABLE QUANTITY TABLE
RELEASE PLAN**

Spills to surface water, internal and external to the facility:

	CERCLA	EHS (SARA Title III)	RCRA	SPCC
Liquid Aluminum Sulfate (Alum)	736 gallons	N/A	N/A	N/A
Drew 6110 Coreactant (Sodium Hypochlorite)	293 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Ferric Sulfate)	39 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Sulfuric Acid)	6,500 gallons	6,500 gallons	N/A	N/A
Drew 6005 (Hydrochloric Acid)	961 gallons	N/A	N/A	N/A
PCB	1 pound	N/A	N/A	N/A
Hazardous Waste	N/A	N/A	55 gallons	N/A
Petroleum (gas, diesel, oils)	N/A	N/A	N/A	Any spill that causes a sheen.

**GENERAL MOTORS CORPORATION - BEDFORD
REPORTABLE QUANTITY TABLE (Cont.)
RELEASE PLAN**

Spills to soil beyond facility boundary:

	CERCLA	EHS (SARA Title III)	RCRA	SPCC
Liquid Aluminum Sulfate (Alum)	736 gallons	N/A	N/A	N/A
Drew 6110 Coreactant (Sodium Hypochlorite)	293 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Ferric Sulfate)	39 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Sulfuric Acid)	6,500 gallons	6,500 gallons	N/A	N/A
Drew 6005 (Hydrochloric Acid)	961 gallons	N/A	N/A	N/A
PCB	1 pound	N/A	N/A	N/A
Hazardous Waste	N/A	N/A	55 gallons	N/A
Petroleum (gas, diesel, oils)	N/A	N/A	N/A	55 gallons

**GENERAL MOTORS CORPORATION - BEDFORD
REPORTABLE QUANTITY TABLE (Cont.)
RELEASE PLAN**

Spills to soil within facility:

	CERCLA	EHS (SARA Title III)	RCRA	SPCC
Liquid Aluminum Sulfate (Alum)	736 gallons	N/A	N/A	N/A
Drew 6110 Coreactant (Sodium Hypochlorite)	293 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Ferric Sulfate)	39 gallons	N/A	N/A	N/A
Amersep 5320 Coagulant (Sulfuric Acid)	6,500 gallons	6,500 gallons	N/A	N/A
Drew 6005 (Hydrochloric Acid)	961 gallons	N/A	N/A	N/A
PCB	1 pound	N/A	N/A	N/A
Hazardous Waste	N/A	N/A	55 gallons	N/A
Petroleum (gas, diesel, oils)	N/A	N/A	N/A	1000 gallons

$$5,000 \text{ lbs. of 100\% Alum} \left(\frac{\text{gal.}}{14 \text{ lb.}} \right) = 357 \text{ gals. of 100\% Alum}$$

$$357 \text{ gals. of 100\% Alum} \left(\frac{1}{0.485} \right) = 736 \text{ gals. of 48.5\% Alum}$$

$$1,000 \text{ lbs. of 100\% Sodium Hypochlorite} \left(\frac{\text{gal.}}{12.6 \text{ lb.}} \right) = 79 \text{ gals. of 100\% Sodium Hypochlorite}$$

$$79 \text{ gals. of 100\% Sodium Hypochlorite} \left(\frac{1}{0.27} \right) = 293 \text{ gals. of 27\% Sodium Hypochlorite}$$

$$1,000 \text{ lbs. of 100\% Ferric Sulfate} \left(\frac{\text{gal.}}{25.9 \text{ lb.}} \right) = 39 \text{ gals. of 100\% Ferric Sulfate}$$

$$1,000 \text{ lbs. of 100\% Sulfuric Acid} \left(\frac{\text{gal.}}{15.3 \text{ lb.}} \right) = 65 \text{ gals. of 100\% Sulfuric Acid}$$

$$65 \text{ gals. of 100\% Sulfuric Acid} \left(\frac{1}{0.01} \right) = 6,500 \text{ gals. of 1\% Sulfuric Acid}$$

$$5,000 \text{ lbs. of Hydrochloric Acid} \left(\frac{\text{gal.}}{13.7 \text{ lb.}} \right) = 365 \text{ gals. of 100\% Hydrochloric Acid}$$

$$365 \text{ gals. of 100\% Hydrochloric Acid} \left(\frac{\text{gal.}}{15.3 \text{ lb.}} \right) = 961 \text{ gals. of 38\% Hydrochloric Acid}$$



General Alum & Chemical Corporation

Product Safety Data Sheet

Liquid Aluminum Sulfate Alum

A. General Information

Trade Name (Common Name or Synonym)

Liquid Alum

C.A.S. #10043-01-3 (anhydrous)

Chemical Name

Aluminum Sulfate, aqueous solution

Formula

48.5% $Al_2(SO_4)_3 \cdot 14 H_2O$ in water

Molecular Weight

594 (approx) for $Al_2(SO_4)_3 \cdot 14 H_2O$

Address

General Alum & Chemical Corporation

P.O. Box 819

Holland, Ohio 43528

Contact:

Technical Director

Phone Number

(419) 865-8000

Revised Date

March 1996

B. First Aid Measures

Emergency Phone Number (419) 865-8000

Eyes: Flush immediately with water, continuing for at least 15 minutes. If irritation persists, get medical attention.

Skin: Flush with plenty of water, removing contaminated clothing. If irritation develops, get medical attention.

Inhalation: Promptly remove to fresh air.

Ingestion: If conscious, immediately give a large quantity of water or milk. If not already vomiting, induce vomiting by touching finger to back of throat. Get medical evaluation.

C. Hazards Information (Health)

Inhalation: Inhalation of alum mist may irritate respiratory tract.

Ingestion: May irritate gastrointestinal tract. Concentrated solutions may cause burns to the digestive tract. LD₅₀ (mouse), 980 mg (Al)/kg — Reference (a). Recorded human fatal dose of 30 grams.

Skin: May cause skin irritation.

Eyes: May strongly irritate or burn eyes.

Permissible

Concentration Air: TLV: 2 mg(Al)/cu m. (ACGM)

Biological: N/A (See Section I)

Unusual Chronic

Toxicity: N/A

Hazards (Fire and Explosion)

Flash Point °C: ☒ Not flammable ☐ Open Cup ☐ Closed Cup

Auto Ignition Temperature °C: N/A

Flammable Limits in Air (% by Vol): N/A

Unusual Fire and Explosion Hazards: See Hazardous Decomposition

Products Section G

Hazardous Materials Identification System (HMIS)

H: 1

F: 0

R: 1



D. Precautions/Procedures

Fire Extinguishing Agents Recommended: N/A

Fire Extinguishing Agents to Avoid: N/A

Special Fire Fighting: Wear self-contained breathing apparatus approved by NIOSH. Use water spray to keep containers cool.

Ventilation: Local exhaust if misty condition prevails. May exceed TLV without visible indication.

Normal Handling: Avoid contact with skin, eyes or clothing. Avoid breathing mist.

Storage: Store in corrosion resistant container.

Spill or Leak: Dilute small spills or leaks cautiously with plenty of water. Neutralize any further residue with alkali such as soda ash, lime or limestone. Adequate ventilation is required if soda ash or limestone is used, because of the consequent release of carbon dioxide gas. (See Section I for disposal methods.) Large spills: Dike up with soda ash, and neutralize and so forth as above.

Special Fire

Precautions/

Procedures/

Label instructions:

Not for food use unless labeled food grade. Not for drug use.

(continued on back)

More Than Just Chemicals . . . Solutions

E. Personal Protective Equipment

Respiratory Protection:	Where required, use a respirator approved by NIOSH for mists.
Eyes and Face:	Wear hard hat (or other head covering) and chemical safety goggles. Do not wear contact lenses.
Hands, Arms, and Body:	Wear impervious gloves and apron and full work clothing, including long-sleeved shirt and trousers, boots. Completely impervious clothes should be substituted if there is prolonged or repeated contact.
Other Clothing and Equipment:	Eye-wash and quick-drench shower facilities.

F. Physical Data

Material is (at Normal Conditions):	<input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas
Appearance and Odor:	Colorless to slightly amber liquid with a negligible degree of odor.
Boiling Point:	214°F/101°C Freezing Point: +5°F/-15°C
Specific Gravity (H ₂ O = 1):	1.328
Vapor Density (Air = 1):	N/A
Solubility in Water (% by Weight):	Complete
pH:	1% solution; pH = 3.5 (approx.)
Vapor Pressure:	(mm Hg at 20°C) <input type="checkbox"/> (PSIG) <input type="checkbox"/> N/A
Evaporation Rate:	(Butyl Acetate = 1) <input type="checkbox"/> (Ether = 1) <input type="checkbox"/> N/A
% Volatiles by Volume: (At 20°C)	N/A

G. Reactivity Data

Stability:	<input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Stable
Conditions to Avoid:	If evaporated to dryness, residue should not be exposed to temperature above 780°C (1400°F). These yield toxic and corrosive gases.
Incompatibility (Materials to Avoid):	Alkalies and water-reactive materials such as oleum: cause exothermic reactions.
Hazardous Decomposition Products:	At temperature cited above, sulfur oxide gases. These are toxic and are oxidizers and corrosive. The trioxide is also a fire hazard. The loss of these gases leaves a caustic residue.
Hazardous Polymerization:	<input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will not Occur
Conditions to Avoid:	N/A

H. Hazardous Ingredients (Mixtures Only)

Material or Component C.A.B. #
WT.% Hazard Data (See Section J)
10043-01-3 Aluminum Sulfate (Anhydrous) 48.5%

I. Environmental

Degradability/ Aquatic Toxicity:	Aquatic Toxicity 14 PPM/36 hr./fundulus/fathead/fresh water 240 PPM/48 hr./Mosquitofish/TL ₅₀ *water type not specified
EPA Hazardous Substance:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Reportable Quantity, Aluminum Sulfate basis: 5,000#
Waste Disposal Methods (Disposer must comply with Federal, State and Local Disposal or Discharge Laws):	Neutralize with alkali, then flush to sewer with plenty of water if permitted by applicable disposal regulations. Neutralized waste may have to be disposed of by an approved contractor. When using carbonates for neutralization, adequate precautions should be taken to minimize hazards and pressure build-up from CO ₂ gas evolution.
RCRA Status of Unused Material:	EPA Hazardous Waste No. D002 40CFR (corrosive) if discarded 261-22

J. SARA/TITLE III Hazard Categories & Lists

PRODUCT HAZARD CATEGORIES.

Chronic (Delayed) Health Hazard	No
Acute (Immediate) Health Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

LISTS.

Extremely Hazardous Substance (40 CFR 355, SARA Section 302)	No
CERCLA Hazardous Substance (40 CFR 302.4)	Yes — Aluminum is alkaline Basis RC = 5,000 lbs
Toxic Chemical (40 CFR 372.65, SARA Section 313)	No

K. Additional Information

D.O.T. Classification — 8 (Corrosive)
DOT ID No. UN 3264
DOT Packing Group III
DOT Shipping Description (bulk loads) — RQ, Corrosive Liquid, Acidic, Inorganic, N.O.S., (Aluminum Sulfate Solution), 8, UN 3264, PG III.
Tentative Placard — Corrosive placard with ID No. 3264.

Information and data herein are believed to be accurate and compiled from accurate sources. Buyer assumes all risk for use, storage and handling to comply with State, Federal and Local regulations. General Alum and Chemical Corporation makes no warranty expressed or implied concerning the accuracy or completeness of the information supplied.

General Alum & Chemical Corporation
P.O. Box 819 • Holland, Ohio 43528 • (419) 865-8000

**Technical
Data Sheet**
**Liquid Aluminum Sulfate
ALUM**

Chemical Symbol	$\text{Al}_2(\text{SO}_4)_3 \cdot 14\text{H}_2\text{O}$ In Aqueous Solution		
Name of Chemical	Liquid Aluminum Sulfate / Liquid Alum		
Grade	Commercial / Iron Free / Food Chemical Codex / Custom Formulations Available		
Density	#'s/Gallon 14.00 11.1		
Concentration	% as Al_2O_3 83 \pm 0.2%		
Molecular Weight	Dry Alum ($14\text{H}_2\text{O}$ Product) 594		
Description	Liquid Aluminum Sulfate, or Liquid Alum, is colorless to amber depending upon the grade specified.		
Composition	Approximately 48.5% Dry Aluminum Sulfate.		
Properties	Specific Gravity 1.328 Freezing Point 5°F Boiling Point 214°F		pH, 1% Solution ($14\text{H}_2\text{O}$ product): 3.5 Store at temperature of 45°F minimum
	Typical Analysis	Commercial	Iron Free
	Total Soluble Al_2O_3 %	8.3	8.3
	Free Al_2O_3 %	0.05	0.05
	Total Iron (as Fe) %	0.1	0.005
	Actual Ferric Iron (as Fe_2O_3) %	0.03	—
	Water Insolubles %	0.01	0.004
Shipping Mode	Tank Trucks 4,500 gallons		
Shipping Regulations	D.O.T. Classification: ORM-B / Proper Shipping Name: Aluminum Sulfate Solution / D.O.T. ID No.: NA 1780 / D.O.T. Label and placard: None		
Shipping Locations	Toledo, Ohio, Indianapolis, Indiana and Saukville, Wisconsin.		
Product Applications	<p>Pulp & Paper Industry — Fixes rosin size on paper fibers, drainage and retention aid, pitch control agent.</p> <p>Water Treatment — Flocculation agent for solids or color removal.</p> <p>Municipal and Industrial Wastewater Treatment — Coagulation/Flocculation agent Phosphorus removal.</p> <p>Food Industry — Firming agent in pickle & vegetable processing, processing aid in the preparation of baked goods, puddings and gelatins.</p> <p>Grease/Soap Manufacture — Source of Aluminum ion.</p>		

For technical information, contact:
General Alum & Chemical Corporation
P.O. Box 819
Holland, Ohio 43528 • (419) 865-8000
Toll-Free 1-800-537-7561

All information is given in good faith, without guarantee or obligation for the accuracy or adequacy thereof, or the results obtained, and is accepted at user's risk. The user agrees to use for the purpose of evaluation only; user should investigate and establish the suitability of such usage; in every case testing herein shall be construed as a recommendation to use such storage vials, packets or as operating a device under said agents.

Performance is the General Alum & Chemical Corporation difference.

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VLR DATE 1986-02 10

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SECTION 01 CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME SODIUM HYPOCHLORITE
CHAT SYNONYMS SODIUM HYPOCHLORITE

MSDS SIGNED BY NAME CHARLES T. WILSON JR.
MSDS SIGNED BY TITLE DIRECTOR OF ENVIRONMENTAL SERVICES

SALE USE CATEGORY AND DESCRIPTION 11 -CORROSIVES - CONCENTRATED BASE -
PH > 10

MSDS CREATE DATE 1985-01-01
LAST UPDATED DATE 1986-09-03

MANUFACTURER'S ID (MID) 000521293
MANUFACTURER'S NAME ULRICH CHEMICAL CO
MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT US 317-898-0632
MANUFACTURER'S MAILING ADDRESS

3111 NORTH POST ROAD
INDIANAPOLIS IN 46226
IN

CHEMICAL FAMILY NAME OXIDIZING AGENT

MOLECULAR FORMULA NaOCl

SECTION 02 COMPOSITION & INGREDIENT INFO

CAS#	FORMULATION	W/W	CHEMICAL NAME
001210722	= 14.7000% 0.0000%	V	Caustic soda
007021025	= 70.3000% 0.0000%	V	WATER
007782505	= 12.0000% 0.0000%	V	CHLORINE

THRESHOLD LIMIT VALUE NOT APPLICABLE

PERMISSIBLE EXPOSURE LIMIT NA

OT (LA (OS EFFUND) REPORTABLE QUANTITY (LBO) NA

SECTION 03 HAZARDS IDENTIFICATION

PRIMARY ENTRY ROUTE INDICATORS

IN PRIMARY ENTRY ROUTE INDICATOR =	N
IN PRIMARY ENTRY ROUTE INDICATOR =	N
INHALATION PRIMARY ENTRY ROUTE INDICATOR =	N
INGESTION PRIMARY ENTRY ROUTE INDICATOR =	N
PRIMARY ROUTES OF ENTRY TEXT NA	

EFFECTS OF OVEREXPOSURE IRRITATING EFFECTS INCREASE WITH STRENGTH OF
SOLUTION AND TIME OF EXPOSURE.

SECTION 04 OTHER INFORMATION NA

SECTION 04 FIRST AID MEASURES

PERCENT FIRST AID PROCEDURES GENERAL EYES WASH WITH WATER FOR AT

LEAST 15 MIN. CONTACT AN EYE SPECIALIST IMMEDIATELY. INGESTION IF ACCIDENTALLY SWALLOWED DRINK WATER, MILK AND OBTAIN MEDICAL ATTENTION. DO NOT USE BAKING SODA OR ACIDIC ANTIDOTES. INHALATION: REMOVE PERSON TO FRESH AIR.

SECTION 05: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: NOT APPLICABLE

SPECIAL FIRE FIGHTING PROCEDURES: AVOID FUMES FROM SPILLED OR EXPOSED LIQUID, DILUTE COPIOUSLY, VENTILATE, AND BE PREPARED TO USE RESPIRATORY PROTECTION IF NEEDED. ACID CONTAMINATION WILL PRODUCE VERY IRRITATING FUMES SIMILAR TO CHLORINE GAS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: BLEACH DECOMPOSES WHEN HEATED; DECOMPOSITION PRODUCTS MAY CAUSE CONTAINERS TO RUPTURE OR EXPLODE. VIGOROUS REACTION POSSIBLE WITH ORGANIC MATERIALS OR OXIDIZING AGENTS; MAY RESULT IN A FIRE.

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: FLUSH WITH WATER TO DILUTE AS MUCH AS POSSIBLE. AVOID HEAT AND CONTAMINATION WITH ACID MATERIALS. DO NOT USE COMBUSTIBLE MATERIALS SUCH AS SAWDUST TO ABSORB HYPOCHLORITE.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: NORMAL HANDLING PROCEDURE AS INSTRUCTED ON CONTAINER. STORE IN COOL, DRY LOCATION AWAY FROM DIRECT SUNLIGHT.

SECTION 7 - OTHER INFORMATION: KEEP CONTAINERS VENTED DURING SHIPMENT

SECTION 08: EXPOSURE CONTROLS - PROTECTION

EYE PROTECTION: GOGGLES

RESPIRATORY PROTECTION: WHEN FUMES ARE PRESENT USE NIOSH APPROVED RESPIRATOR WITH ACID TYPE CANISTER.

PERSONAL PROTECTIVE EQUIPMENT: RUBBER APRON

SECTION 8 - OTHER INFORMATION: NONE

PROTECTIVE GLOVES (SPECIFY TYPE): RUBBER

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

ANALYTICAL VOC WITHOUT WATER: N

THEORETICAL VOC WITHOUT WATER: N

BOILING POINT TEXT: NA

SPECIFIC GRAVITY VALUES: = 1.1400

SPECIFIC GRAVITY TEXT: =1.14

VAPOR DENSITY TEXT: NA

VAPOR PRESSURE TEXT: NA

PERCENT VOLATILE BY VOLUME TEXT: NA

PERCENT SOLID BY WEIGHT TEXT: NA

EVAPORATION RATE TEXT: NA

SOLUBILITY IN WATER TEXT: COMPLETE

PH NUMBER SOLUTION TEXT: 12

PACKAGED PH NUMBER CONCENTRATION VALUES: = 12.0000

APPEARANCE: LIGHT YELLOW-GREEN - PUNGENT LIKE CHLORINE

PHYSICAL STATE: LIQ

PHYSICAL STATE TEXT: LIQUID

SECTION 10: STABILITY & REACTIVITY

STABILITY INDICATOR: Y

STABILITY - CONDITIONS TO AVOID: TEMPERATURES & TIME, ARE SODIUM CHLORIDE, SODIUM CHLORATE & OXYGE

STABILITY - TEXT: Y

INCOMPATIBLE MATERIALS: AVOID CONTAMINATION WITH HEAVY METALS.

HAZARDOUS DECOMPOSITION PRODUCTS: HYPOCHLOROUS ACID (HOCl) CHLORINE HYDROCHLORIC ACID.COMPOSITION DEPENDS UPON TEMPERATURE & DECREASE IN PH.

HAZARDOUS POLYMERIZATION INDICATOR: N

HAZARDOUS POLYMERIZATION - CONDITIONS TO AVOID: TEMPERATURES AND TIME

HAZARDOUS POLYMERIZATION TEXT: NOT APPLICABLE

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: REDUCE WITH CHEMICALS LISTED BELOW.KEEP ON ALKALINE SIDE AND DILUTE WITH COPIOUS QUANTITIES OF WATER.FINAL END PRODUCT IS SALT WATER.(NaCl) REDUCING AGENTS SUCH AS BISULFITES OR MERCAPTAN SALT SOLUTIONS.

SECTION 16: OTHER INFORMATION

SECTION 16 - OTHER INFORMATION: NONE

RCRA HAZARDOUS WASTE NUMBER TEXT: N

LOCAL EXHAUST: NONE SPECIAL

SPECIAL PROTECTION: NONE

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SPECIAL PROTECTION (MECHANICAL): NONE

FID: 00204168
/ER DATE: 1987-04-07

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SECTION 01: CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME: FERRIC SULFATE
CHAT SYNONYMS: FERRIC SULFATE

SAFE USE CATEGORY AND DESCRIPTION: 08 -METALS, METAL SALTS, SOLDERS,
POWDERED M

MSDS CREATE DATE: 1985-01-01
LAST UPDATED DATE: 1992-12-07

MANUFACTURER'S ID (MID): 000508688
MANUFACTURER'S NAME: EASTMAN KODAK CO
MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT: US 716-722-5151 EMERGENCY
HEALTH, SAFETY
MANUFACTURER'S MAILING ADDRESS:

343 STATE ST
ROCHESTER NY 14650
US

MOLECULAR FORMULA: FE.3/2 H2 O4 S

SECTION 02: COMPOSITION & INGREDIENT INFO

CAS#	FORMULATION	W/V	CHEMICAL NAME
010028225	=100.0000/ 0.0000%	N	IRON(III) SULFATE

THRESHOLD LIMIT VALUE: ACGIH: 10028225: 1 MG/M3 (AS IRON). // 1 MG/M3
AS FE TWA, ACGIH 1986-87.

SECTION 03: HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE - SKIN: LOW HAZARD FOR USUAL INDUSTRIAL
HANDLING.

EFFECTS OF OVEREXPOSURE - EYE: NO SPECIFIC HAZARD KNOWN. CONTACT MAY
CAUSE TRANSIENT IRRITATION.

EFFECTS OF OVEREXPOSURE - INHALATION: LOW HAZARD FOR USUAL INDUSTRIAL
HANDLING.

EFFECTS OF OVEREXPOSURE - INGESTION: EXPECTED TO BE A LOW INGESTION
HAZARD.

SECTION 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES - SKIN: WASH AFTER EACH CONTACT.

EMERGENCY FIRST AID PROCEDURES - EYES: FLUSH EYES WITH PLENTY OF WATER.

EMERGENCY FIRST AID PROCEDURES - INHALATION: REMOVE TO FRESH AIR
FOLLOWING OVEREXPOSURE.

EMERGENCY FIRST AID PROCEDURES - INGESTION: DRINK 1-2 GLASSES OF WATER.
SEEK MEDICAL ATTENTION.

SECTION 05: FIRE-FIGHTING MEASURES

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING.

UNUSUAL FIRE AND EXPLOSION HAZARDS: FIRE OR EXCESSIVE HEAT MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS.

FLASH POINT TEXT: NOT APPLICABLE.

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: FLUSH TO A SEWER WITH LARGE AMOUNTS OF WATER.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: NONE

SECTION 08: EXPOSURE CONTROLS - PROTECTION

EYE PROTECTION: SAFETY GLASSES RECOMMENDED IN INDUSTRIAL OPERATIONS INVOLVING CHEMICALS.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS NECESSARY, GLOVES OR OTHER PROTECTION MAY BE REQUIRED.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION MAY BE NEEDED IN SPECIAL CIRCUMSTANCES.

VENTILATION: GOOD VENTILATION SHOULD BE SUFFICIENT. SUPPLEMENTARY VENTILATION MAY BE NEEDED IN SPECIAL CIRCUMSTANCES.

PROTECTIVE GLOVES (SPECIFY TYPE): AWAITING EXACT TYPE.

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

THEORETICAL VOC WITHOUT WATER: NA.

SPECIFIC GRAVITY VALUES: = 3.1000

VAPOR PRESSURE TEXT: NEGLIGIBLE.

EVAPORATION RATE TEXT: (N-BUTYL ACETATE = 1): NEGLIGIBLE.

SOLUBILITY IN WATER TEXT: APPRECIABLE.

APPEARANCE: GRAY CRYSTALLINE SOLID.

SECTION 9 - OTHER INFORMATION: MELTING WITH DECOMPOSITION: 480 C (896 F) // VOLATILE FRACTION BY WEIGHT: NEGLIGIBLE.

SECTION 10: STABILITY & REACTIVITY

STABILITY INDICATOR: Y
STABILITY - TEXT: STABLE.

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WITH WHICH THE MATERIAL MAY REASONABLY COME INTO CONTACT.

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY PRODUCE
OXIDES OF SULFUR.

HAZARDOUS POLYMERIZATION INDICATOR: N
HAZARDOUS POLYMERIZATION TEXT: WILL NOT OCCUR.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: DISCHARGE, TREATMENT, OR DISPOSAL MAY BE SUBJECT
TO FEDERAL, STATE OR LOCAL LAWS.

SECTION 14: TRANSPORT INFORMATION

TDG CLASSIFICATION: REGULATED
TDG SHIPPING NAME: NR

SECTION 15: REGULATORY INFORMATION

SECTION 15 - OTHER INFORMATION: WHMIS CLASS: N

SECTION 01: CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME: SULFURIC ACID, N/50
CHAT SYNDONYS: SULFURIC ACID, N/50

SAFE USE CATEGORY AND DESCRIPTION: 13 -COMPRESSED GAS - INERT

MSDS CREATE DATE: 1985-01-01
LAST UPDATED DATE: 1992-09-30

MANUFACTURER'S ID (MID): 000525910
MANUFACTURER'S NAME: DREW DIVISIONS/ASHLAND CHEMICAL INC
MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT: US 606-324-1133
MANUFACTURER'S MAILING ADDRESS:

ONE DREW PLAZA
SUBSIDIARY OF ASHLAND OIL
BOONTON NJ 07005
US

CHEMICAL FAMILY NAME: NA

SECTION 02: COMPOSITION & INGREDIENT INFO

CAS#	FORMULATION	W/V	CHEMICAL NAME
007664939	< 0.0000/ 1.0000%	N	Sulfuric acid
007732185	>100.0000/ 0.0000%	N	WATER

THRESHOLD LIMIT VALUE: 1 MG/M3

PERMISSIBLE EXPOSURE LIMIT: 1 MG/M3

SECTION 03: HAZARDS IDENTIFICATION

PRIMARY ENTRY ROUTE INDICATORS:

SKIN PRIMARY ENTRY ROUTE INDICATOR =

N

EYE PRIMARY ENTRY ROUTE INDICATOR =

Y

INHALATION PRIMARY ENTRY ROUTE INDICATOR =

N

INGESTION PRIMARY ENTRY ROUTE INDICATOR =

Y

PRIMARY ROUTES OF ENTRY TEXT: EYES INGESTION

EFFECTS OF OVEREXPOSURE: MAY BE IRRITATING TO EYES

ADDITIONAL HEALTH HAZARD DATA: AVOID CONTACT WITH EYES. WASH THOROUGHLY
AFTER HANDLING.

SECTION 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES - GENERAL: EYE AND SKIN CONTACT:
IMMEDIATELY FLUSH EYES WITH WATER FOR 15 MINUTES. CALL PHYSICIAN. FLUSH
SKIN WITH PLENTY OF WATER. INGESTION: DO NOT INDUCE VOMITING. GIVE 1 -
2 GLASSES OF WATER. CALL A PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING
BY MOUTH TO AN UNCONSCIOUS PERSON. INHALATION: REMOVE O FRESH AIR.

SECTION 05: FIRE-FIGHTING MEASURES

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EXTINGUISHING MEDIA: NA

UNUSUAL FIRE AND EXPLOSION HAZARDS: NA

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: COVER CONTAMINATED SURFACES WITH SODA ASH OR SODIUM BICARBONATE. MIX AND ADD WATER IF NECESSARY. USE LITMUS PAPER AND MAKE SURE PH OF SLURRY IS NEUTRAL OR ADD NEUTRALIZER UNTIL MIXTURE STOPS BUBBLING. SCOOP UP THE SLURRY AND WASH WITH NEUTRAL WASTE DOWN THE DRAIN WITH EXCESS WATER. WASH THE SIT WITH SODA ASH SOLUTION.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE TIGHTLY CLOSED IN A COOL, DRY PLACE.

SECTION 08: EXPOSURE CONTROLS -- PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: ADEQUATE VENTILATION, SAFETY GLASSES, DISPOSABLE GLOVES.

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT TEMPS: 100.00C/ 212.00F
BOILING POINT TEXT: 100 DEG C

SPECIFIC GRAVITY VALUES: = 0.9850
SPECIFIC GRAVITY TEXT: =0.985

VAPOR DENSITY TEXT: ND

VAPOR PRESSURE TEXT: NOT DETERMINED

EVAPORATION RATE TEXT: ND

SOLUBILITY IN WATER TEXT: MISCIBLE

PH NUMBER SOLUTION TEXT: 2.0

PACKAGED PH NUMBER CONCENTRATION VALUES: = 2.0000

APPEARANCE: CLEAR AND COLORLESS AND ODORLESS

PHYSICAL STATE: LIQ
PHYSICAL STATE TEXT: LIQUID

SECTION 10: STABILITY & REACTIVITY

STABILITY INDICATOR: Y
STABILITY - CONDITIONS TO AVOID: EXTREME TEMPERATURES
STABILITY - TEXT: STABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NA

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HAZARDOUS POLYMERIZATION INDICATOR: N
HAZARDOUS POLYMERIZATION - CONDITIONS TO AVOID: EXTREME TEMPERATURES

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL,
STATE, AND LOCAL REGULATIONS.

SECTION 01: CHEMICAL PRODUCT & COMPANY ID

PRODUCT PRIMARY NAME: HYDROCHLORIC ACID, CONCENTRATED (36-37%)

CHAT SYNONYMS: A142

A144

A466

A4662

A481

A508

CHLOROHYDRIC ACID

HYDROCHLORIC ACID, CONCENTRATED (36-37)

HYDROCHLORIC ACID, CONCENTRATED (36-37%)

HYDROCHLORIDE

HYDROCHLORIC ACID, CONCENTRATED

HYDROGEN CHLORIDE, 23 EB

MURIATIC ACID

SPIRITS OF SALT

UN 1789

187317 (OLD FID)

192519 (OLD FID)

220506 (OLD FID)

237442 (OLD FID)

35392 (OLD FID)

SAFE USE CATEGORY AND DESCRIPTION: 09 -CORROSIVES -- CONCENTRATED ACID -
PH < 4

MSDS CREATE DATE: 1985-01-01

LAST UPDATED DATE: 1994-12-02

MANUFACTURER'S ID (MID): 000529957

MANUFACTURER'S NAME: FISHER SCIENTIFIC CO.

MANUFACTURER'S EMERGENCY PHONE NUMBER/TEXT: US 201-796-7100

MANUFACTURER'S MAILING ADDRESS:

1 REAGENT LANE

P.O. BOX 375

FAIRLAWN NJ 07410

US

CHEMICAL FAMILY NAME: INORGANIC ACID

MOLECULAR FORMULA: H-CL

SECTION 02: COMPOSITION & INGREDIENT INFO

CAS#	FORMULATION	W/V	CHEMICAL NAME
007647010	R 35.0000/ 38.0000%	N	HYDROCHLORIC ACID
007732185	R 62.0000/ 65.0000%	N	WATER

SECTION 2 - OTHER INFORMATION: HYDROGEN CHLORIDE: 5PPM, (7.6MG/M3),
NIOSH RECOMMENDED CEILING. // 5PPM (7.6MG/M3) DFG MAK TWA. // 10 PPM
(15.2 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT. //
OTHER CONTAMINANTS.

THRESHOLD LIMIT VALUE: HYDROGEN CHLORIDE: 5PPM (7.6MG/M3), CEILING

PERMISSIBLE EXPOSURE LIMIT: HYDROGEN CHLORIDE: 5PPM (7.6MG/M3) CEILING.

CERCLA (SUPERFUND) REPORTABLE QUANTITY (LBS): 5000 POUNDS CERCLA SECTION 103. // REPORTABLE QUANTITY (LIQUID) REPORTABLE QUANTITY (RQ) 5000 POUNDS. THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 10'0', THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

SECTION 03: HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE - SKIN: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE.

EFFECTS OF OVEREXPOSURE - SKIN ACUTE: CONTACT MAY CAUSE SEVERE IRRITATION, INFLAMMATION, ULCERATION, NECROSIS AND CHEMICAL BURNS. SHOCK SYMPTOMS MAY DEVELOP INCLUDING RAPID PULSE, SWEATING AND COLLAPSE. PHOTSENSITIZATION REACTIONS MAY OCCUR IN PERSONS PREVIOUSLY EXPOSED. CONTACT WITH A COMPRESSED GAS MAY CAUSE FROSTBITE.

EFFECTS OF OVEREXPOSURE - SKIN CHRONIC: REPEATED OR PROLONGED CONTACT WITH VAPORS OR DILUTE SOLUTIONS MAY CAUSE DERMATITIS. PHOTSENSITIZATION MAY OCCUR.

EFFECTS OF OVEREXPOSURE - EYE: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE.

EFFECTS OF OVEREXPOSURE - EYE ACUTE: CONTACT MAY CAUSE SEVERE IRRITATION, CONJUNCTIVITIS, CORNEAL NECROSIS AND BURNS WITH IMPAIRMENT OR PERMANENT LOSS OF VISION. A DROP OF HYDROCHLORIC ACID SPLASHED IN THE EYE AND IMMEDIATELY WASHED OUT HAS PRODUCED A WHITE COAGULATION OF THE CORNEAL AND CONJUNCTIVAL EPITHELIUM. ANIMALS EXPOSED TO VAPOR CONCENTRATIONS OF 1350 PPM FOR ONE AND A HALF HOURS SHOWED CLOUDING OF THE CORNEA AND 300 PPM FOR 6 HOURS SHOWED SLIGHT EROSION OF THE CORNEAL EPITHELIUM. CONTACT WITH A COMPRESSED GAS MAY CAUSE FROSTBITE.

EFFECTS OF OVEREXPOSURE - EYE CHRONIC: ANIMALS EXPOSED TO VAPOR AT 100 PPM FOR 6 HOURS DAILY FOR 50 DAYS SHOWED ONLY SLIGHT UNREST AND IRRITATION OF THE EYES, BUT NO OCULAR INJURY. EFFECTS ARE DEPENDENT UPON CONCENTRATION AND DURATION OF EXPOSURE. CONJUNCTIVITIS OR EFFECTS SIMILAR TO THESE FOR ACUTE EXPOSURE MAY OCCUR.

EFFECTS OF OVEREXPOSURE - INHALATION: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE. 100 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH.

EFFECTS OF OVEREXPOSURE - INHALATION ACUTE: ACUTE EXPOSURE: INHALATION OF GAS OR FUMES AT LEVELS OF 5-35 PPM MAY CAUSE IRRITATION AND BURNING OF THE THROAT, COUGHING AND CHOKING; 50-100 PPM MAY BE BARELY TOLERABLE FOR 1 HOUR. HIGH LEVELS MAY CAUSE INFLAMMATION AND OCCASIONALLY ULCERATION OF THE NOSE, THROAT OR LARYNX, BRONCHITIS, PNEUMONIA, PALPITATIONS AND HEADACHE. HIGHER CONCENTRATIONS MAY CAUSE NECROSIS OF THE TRACHEAL AND BRONCHIAL EPITHELIUM, NASOSEPTAL PERFORATION, ATELECTASIS, EMPHYSEMA, DAMAGE TO PULMONARY BLOOD VESSELS AND LESIONS OF THE LIVER AND OTHER ORGANS. DEATH MAY BE DUE TO LARYNGEAL SPASM, BRONCHOPNEUMONIA OR PULMONARY EDEMA, 1300-2000 PPM MAY BE DANGEROUS, EVEN ON BRIEF EXPOSURES. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.

EFFECTS OF OVEREXPOSURE - INHALATION CHRONIC: REPEATED OR PROLONGED EXPOSURE MAY CAUSE EROSION AND DISCOLORATION OF EXPOSED TEETH, CHRONIC BRONCHITIS AND GASTRITIS.

EFFECTS OF OVEREXPOSURE - INGESTION: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE.

EFFECTS OF OVEREXPOSURE - INGESTION ACUTE: INGESTION OF THE ACID MAY

CAUSE BURNS OF THE MOUTH, THROAT, ESOPHAGUS AND STOMACH WITH CONSEQUENT PAIN, UNEASINESS, NAUSEA, SALIVATION, VOMITING, DIARRHEA, CHILLS, SHOCK AND INTENSE THIRST, NEPHRITIS, FEVER AND PERFORATION OF THE INTESTINAL TRACT, AND CIRCULATORY COLLAPSES MAY OCCUR. DEATH MAY BE DUE TO ESOPHAGEAL OR GASTRIC NECROSIS.

EFFECTS OF OVEREXPOSURE - INGESTION CHRONIC: NO DATA AVAILABLE.

SECTION 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES - SKIN: REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.

EMERGENCY FIRST AID PROCEDURES - EYES: WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES), COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.

EMERGENCY FIRST AID PROCEDURES - INHALATION: REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY, IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY, ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.

EMERGENCY FIRST AID PROCEDURES - INGESTION: DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION.

SECTION 4 - OTHER INFORMATION: ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

SECTION 05: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

SPECIAL FIRE FIGHTING PROCEDURES: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 60). EXTINGUISH USING AGENTS SUITABLE FOR TYPE OF FIRE. USE FLOODING AMOUNTS OF WATER AS FOG. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS, KEEP UPWIND.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

NFPA CODES:

NFPA FLAMMABILITY CODE =

NFPA HEALTH CODE =
NFPA REACTIVITY CODE =

3
1

SECTION 5 - OTHER INFORMATION: CERCLA RATINGS: HEALTH=3, FIRE=0,
REACTIVITY=1.

SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: SOIL SPILL: DIG HOLDING AREA SUCH AS LAGOON, POND OR PIT FOR CONTAINMENT. DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE. USE CEMENT POWDER OR FLY ASH TO ABSORB LIQUID MASS. NEUTRALIZE SPILL WITH SLAKED LIME, SODIUM BICARBONATE OR CRUSHED LIMESTONE. // AIR SPILL: KNOCK DOWN VAPORS WITH WATER SPRAY. KEEP UPWIND. WATER USED TO KNOCK DOWN VAPORS MAY BECOME CORROSIVE OR TOXIC AND SHOULD BE CONTAINED PROPERLY FOR LATER DISPOSAL. // WATER SPILL: NEUTRALIZE WITH AGRICULTURAL LIME, SLAKED LIME, CRUSHED LIMESTONE, OR SODIUM BICARBONATE. // OCCUPATIONAL SPILL: DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR SMALL DRY SPILLS, WITH CLEAN SHOVEL PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINERS FROM SPILL AREA. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. PROTECT AGAINST PHYSICAL DAMAGE. STORE IN COOL, WELL-VENTILATED PLACE, SEPARATED FROM ALL OXIDIZING MATERIALS (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975). STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

SECTION 08: EXPOSURE CONTROLS - PROTECTION

EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

SKIN PROTECTION: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.

RESPIRATORY PROTECTION: THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSMA). THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE

RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA). HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 30 PPM: ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS. ANY CHEMICAL CARTRIDGE RESPIRATOR WITH CARTRIDGES PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. 100 PPM: ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT-, OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND CARTRIDGES PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ANY POWERED, AIR-PURIFYING RESPIRATOR WITH CARTRIDGES PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ESCAPE: ANY AIR-PURIFYING, FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED ACID GAS CANISTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS. FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MADE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

VENTILATION: PROVIDE LOCAL EXHAUST VENTILATION SYSTEM TO MEET PUBLISHED EXPOSURE LIMITS.

PERSONAL PROTECTIVE EQUIPMENT: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

SECTION 8 - OTHER INFORMATION: HYDROGEN CHLORIDE: 10 PPM (15.4 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT // MEASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBONATE/SODIUM CARBONATE; ION CHROMATOGRAPHY; (NIOSH VOL. III # 7903, INORGANIC ACIDS).

PROTECTIVE GLOVES (SPECIFY TYPE): RUBBER EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE. RUBBER NITRILE, NEOPRENE, VITON OR HYPHALON GLOVES RECOMMENDED.

SECTION 09: PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT TEMPS: = 196.00C/ 384.00F

SPECIFIC GRAVITY VALUES: = 1.2000

VAPOR DENSITY VALUES: = 1.3000
VAPOR PRESSURE TEXT: NOT AVAILABLE

SOLUBILITY IN WATER TEXT: SOLUBLE

PH NUMBER SOLUTION VALUES: = 1.1000
PH NUMBER SOLUTION TEXT: (0.1 N)

APPEARANCE: COLORLESS OR SLIGHTLY YELLOW FUMING LIQUID

ODOR: PUNGENT ODOR.

MOLECULAR WEIGHT VALUES: = 36.4600

SECTION 10: STABILITY & REACTIVITY

STABILITY - TEXT: REACTS EXOTHERMICALLY WITH WATER OR STEAM TO PRODUCE TOXIC AND CORROSIVE FUMES.

INCOMPATIBLE MATERIALS: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): ACETIC ANHYDRIDE: VIOLENT REACTION. // ALCOHOLIC HYDROGEN CYANIDE: EXPLOSIVE REACTION. // ALUMINUM: EXPLOSION. // ALUMINUM-TITANIUM ALLOYS: IGNITES OR INCANDESCES WHEN HEATED. // 2-AMINOETHANOL: VIOLENT REACTION. // AMMONIUM HYDROXIDE: VIOLENT REACTION. // BASES: VIOLENT REACTION. // BRASS: CORRODES. // BRONZE: CORRODES. // CALCIUM CARBIDE: REACTS WITH INCANDESCENCE. // CALCIUM HYPOCHLORITE: IGNITION. // CESIUM ACETYLENE: IGNITES ON CONTACT. // CHLORINE + DINITROANILINES: VIGOROUS REACTION WITH RELEASE OF FLAMMABLE HYDROGEN GAS FUMES. // CHLOROSULFONIC ACID: VIOLENT REACTION. // 1,1-DIFLUOROETHYLENE: EXTREMELY EXOTHERMIC DECOMPOSITION REACTION. // DOWICIL 100: DECOMPOSES. // ETHYLENE DIAMINE: VIOLENT REACTION. // ETHYLENE IMINE: VIOLENT REACTION. // FLUORINE: IGNITES ON CONTACT. // HEXALITHIUM DISILICIDE: INCANDESCES. // IRON: CORRODES WITH EVOLUTION OF FLAMMABLE HYDROGEN GAS. // MAGNESIUM BORIDE: PRODUCES A SPONTANEOUSLY FLAMMABLE GAS. // MERCURIC SULFATE: VIOLENT REACTION AT 125 C. // METAL ACETYLIDES: VIOLENT REACTION. // METALS: SEVERE CORROSION WITH EVOLUTION OF FLAMMABLE HYDROGEN GAS. // OLEUM: VIOLENT REACTION. // OXIDIZERS (STRONG): VIOLENT REACTION. // OXYGEN + PLATINUM: IGNITES ON CONTACT. // PERCHLORIC ACID: VIOLENT REACTION. // PLASTICS, RUBBER, COATINGS: ATTACKS. // POTASSIUM PERMANGANATE: EXPLOSION HAZARD. // BETA-PROPIOLACTONE: VIOLENT REACTION. // PROPYLENE OXIDE: VIOLENT REACTION. // RUBIDIUM ACETYLENE: IGNITES ON CONTACT. // SILICA (GEL): INCOMPATIBLE. // SODIUM: VIGOROUS OR EXPLOSIVE REACTION. // SULFURIC ACID: EXPLOSIVE REACTION WITH RELEASE OF TOXIC HYDROGEN CHLORIDE GAS. // TETRASELENIUM TETRA NITRIDE: EXPLODES ON CONTACT. // VINYL ACETATE: VIOLENT REACTION.

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY RELEASE CORROSIVE HYDROGEN CHLORIDE.

HAZARDOUS POLYMERIZATION TEXT: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA UNLIMITED TEXT: LOCAL EFFECTS: CORROSIVE-INHALATION, SKIN, EYE AND INGESTION. ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, INGESTION. TARGET EFFECTS: NO DATA AVAILABLE.

EYE EFFECTS: HYDROGEN CHLORIDE (HYDROCHLORIC ACID); IRRITATION DATA: ANHYDROUS: 100 MG RINSED EYE--RABBIT MILD. HYDROCHLORIC ACID: 5 -MG/30 SECONDS RINSED EYE-RABBIT MILD.

ACUTE ORAL EFFECTS: ORAL-RABBIT LD50; 1449 MG/KG INTRAPERITONEAL-MOUSE LD50; 81 MG/KG UNREPORTED--MAN LDLO

ACUTE INHALATION EFFECTS: HYDROGEN CHLORIDE (ANHYDROUS GAS): 1701

PPM/30 MINUTES INHALATION-RAT LC50, : 2644 PPM/30 MINUTES
INHALATION-MOUSE LC50, MONOHYDRATE: NO DATA AVAILABLE. DEHYDRATE: NO
DATA AVAILABLE. TRIHYDRATE: NO DATA AVAILABLE. HEXAHYDRATE: NO DATA
AVAILABLE. HYDROGEN CHLORIDE (AEROSOL): 666 PPM/30 MINUTES
INHALATION-RAT LC50; 2142 PPM/30 MINUTES INHALATION-MOUSE LC50.
HYDROCHLORIC ACID: 1300 PPM/30 MINUTES INHALATION-HUMAN LCLO; 3000
PPM/5 MINUTES INHALATION-HUMAN LCLO; 3124 PPM/1 HOUR INHALATION-RAT
LC50; 1108 PPM/1 HOUR INHALATION-MOUSE LC50; 4413 PPM 130 MINUTES
INHALATION-RABBIT LCLO; 4413 PPM/30 MINUTES INHALATION-GUINEA PIG
I-CLA; 900 MG/KG.

CARCINOGENICITY: HUMAN INADEQUATE EVIDENCE, ANIMAL INADEQUATE EVIDENCE
(IARC GROUP).

MUTAGENICITY: MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA
(RTECS).

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS
APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262, EPA HAZARDOUS
WASTE NUMBER D002. 100 POUND.

SECTION 13 - OTHER INFORMATION: CONDITIONS TO AVOID: MAY BURN BUT DOES
NOT IGNITE READILY. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN TANKS
AND HOPPER CARS. MAY IGNITE COMBUSTIBLES (WOOD, PAPER, OIL, ETC.).

SECTION 14: TRANSPORT INFORMATION

DOT INFORMATION: U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-10
NUMBER, 49 CFR 172.101: HYDROCHLORIC ACID, SOLUTION-UN 1789. // U.S.
DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101:
8 - CORROSIVE MATERIAL. // U.S. DEPARTMENT OF TRANSPORTATION PACKING
GROUP, 49 CFR 172.101: PG II. // U.S. DEPARTMENT OF TRANSPORTATION
LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E; CORROSIVE. // U.S.
DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49
CFR 173.154. // NON-BULK PACKAGING: 49 CFR 173.202. // BULK PACKAGING:
49 CFR 173.242. // U.S. DEPARTMENT OF TRANSPORTATION QUANTITY
LIMITATIONS 49 CFR 172,101: PASSENGER AIRCRAFT OR RAILCAR: 1 1. //
CARGO AIRCRAFT ONLY: 30 1

TDG CLASSIFICATION: REGULATED

SECTION 15: REGULATORY INFORMATION

SECTION 15 - OTHER INFORMATION: HYDROGEN CHLORIDE: 500 POUNDS SARA
SECTION 3040 THRESHOLD PLANNING QUANTITY (GAS). // HYDROGEN CHLORIDE:
5000 POUND SARA SECTION 304 REPORTABLE QUANTITY (GAS). // 5000 POUNDS
OSHA PROCESS SAFETY MANAGEMENT THRESHOLD QUANTITY (GAS). // SUBJECT TO
SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING

Attachment B

Sample Written Notification

On plant letterhead

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Date:

SAMPLE

Duty Officer
National Response Center
Commandant G-TGC-2
2100 Second St. SW
Washington D.C., 20593

RE: Report No. _____

Dear Duty Officer name

This letter confirms the telephone notification made by name on date at time. Additional notifications were also made to state and local agencies immediately following the call to you.

On October 1, 1893, at 10:00 am two barrels of oil were spilled during unloading at the General Motors Horseless Carriage Assembly Plant. The oil flowed to the nearest storm basin which drains into the Call Drain. Responding personnel immediately used shovels, sandbags and a boom to prevent oil from reaching the Flint River.

The amount of oil remaining in the ruptured barrels was approximately 50 gallons. The amount of oil contained and recovered from the spill site was approximately 10 gallons. It is estimated that approximately 40 gallons reached Call Drain. The recovered oil will be shipped to a reclamation center across town.

Neighboring cattle ranchers were notified of the incident and advised not to allow their animals near the Call Drain until General Motors and its contractors can completely remediate the site. General Motors will continue to monitor Call Drain and Flint River on a daily basis. Cleanup personnel will be available during the next rain event.



The following information summarizes the report as given to Duty Officer name.

Name of person reporting incident:

Thomas Q. Edison

Name, address and identification number of facility:

General Motors - Horseless Carriage Assembly
2238 W. Bristol Rd.
Flint, MI. 48553

Phone number where person reporting the spill can be reached:

810-555-4450

Date, time and location of incident:

October 1, 1893
10:00 am
North of assembly plant next to powerhouse.

Quantity and type of material released:

Approximately 50 gallons of oil

Extent of injuries, if any: None

Brief description of incident, nature of hazardous material involvement, and possible threats to human health and the environment outside the facility:

See narrative on page 1 of this report.

The following corrective actions will be implemented immediately. A review of the standard operating procedures will be reviewed with all loading/unloading personnel. General Motors will place containment equipment near material transfer areas.

If you have any questions or concerns relative to this matter, please contact plant environmental engineer at phone number.

Thank you for your attention to this matter.


Sincerely,

Plant Manager



Attachment C

Spill Report Form

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE <i>*Internal Spill/Release Report</i> 	FORM NO. 5523-10(A) DATE ISSUED 9/24/98 REVISION # 1 REVISION DATE: 1/19/99
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Environmental Audit Report: Privileged Information

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****TO BE COMPLETED BY SECURITY AND/OR ENVIRONMENTAL PERSONNEL***

1. Name, Phone Number of Caller: _____ GM Employee? ____ Yes ____ No If No, Identify _____
2. Date and Time of Call: _____
3. Date and Time of Incident (Estimate): _____
4. Exact Location of Incident: _____
5. Type of Incident Being Reported: Spill ____ Fire ____ Explosion ____ Other _____
6. Discharge to : Interior Bldg. ____ Exterior Containment ____ Sewer System ____ Surface Water ____ Atmospheric Release ____ Ground ____ Other _____
7. Did the material leave GM Property?: Yes ____ No ____ Unknown ____
8. Types (or name) of materials involved (if known, be specific): _____
9. Quantities of materials involved (Estimate): _____
10. What is the source of the spill?: _____
11. Is material continuing to be released?: _____
12. What actions, if any, have been taken to contain or clean up materials?: _____
13. Any Injuries?: _____
<p align="center"><i>*ENVIRONMENTAL USE ONLY</i></p> 14. Did the <i>Release Plan</i> and any applicable emergency response procedures appropriately address the Incident?: Yes ____ No ____ If No, explain deficiency (<i>use back of form if necessary</i>): Explain necessary revisions to the Plan to address future Incidents (<i>use back of form if necessary</i>): _____

Print Name: _____ Time: _____

Signature: _____ Date: _____

****Note: If this form was initiated by Security Personnel, please submit to the Environmental Department for completion and record retention.***

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER	EMERGENCY RESPONSE <u>External Spill/Release Report</u> <div style="background-color: #cccccc; height: 15px; width: 100%;"></div>	FORM NO. 5523-10(C) DATE ISSUED 1/22/99 REVISION # 0 REVISION DATE:
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Environmental Audit Report: Privileged Information

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TO BE COMPLETED BY ENVIRONMENTAL PERSONNEL ONLY

Division	NAO: <u>X</u>	Other: _____	EPA ID#: <u>IND006036099</u>	GMBA#: <u>550924 (51050)</u>
Plant Name: <u>GMPT Bedford</u>		Plant Address: <u>105 GM Drive, Bedford, IN 47421</u>		
Reported to Agencies By: _____			Report Date/Time: _____	
Phone Number: _____		Names of Plant Response Personnel Contacted: _____		
Date of Incident: _____ Time (am/pm): _____ Released During Production Hours (yes / no / unk.): _____				
Duration of Release (minutes, hours, days, etc.): _____ Material: _____				
CHRIS Code: _____ How Discovered: _____				
Location of Loss Material (be specific): Bldg #: _____ Floor: _____ Bay#: _____				
Outside of Plant (be specific): _____				
Amount Spilled/Released: _____ Concentration: _____				
Reportable Quantity (in pounds): _____ Exceeded RQ (yes/no): _____ RQ Substance: _____				
Receiving Stream: _____				
Describe the event (include the type of equipment and other details): _____				
Describe weather condition (precipitation, wind, temperature, and other details): _____				
Spill /Release Reached (check applicable):				
1) Storm Sewer: GM _____ Non GM _____	2) Surface Water: GM _____ Non-GM _____			
3) Sanitary Sewer: GM _____ Non GM _____	4) Combined Sewer: GM _____ Non-GM _____			
5) Publicly owned Treatment Works: _____	6) Groundwater: _____		7) Soil: _____	
8) Industrial Wastewater Treatment Plant: _____	9) Ambient Air: _____		10) Other: (describe below)	

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER	EMERGENCY RESPONSE <u>External Spill/Release Report</u> <div style="background-color: #cccccc; height: 15px; width: 100%;"></div>	FORM NO. 5523-10(C) DATE ISSUED 1/22/99 REVISION # 0 REVISION DATE:
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Environmental Audit Report: Privileged Information

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Action Taken: Material was contained (yes/no): _____ Estimate amount of material contained (e.g., gal., lb., %): _____ Describe containment/effort made: _____ _____ _____ Material lost (yes/no): _____ Estimate amount of material lost (e.g., gal., lb., %): _____ Total injuries (i.e., #): _____ Known health affects (describe): _____					
IMMEDIATE Notification: Report for Information Only (no RQ exceeded): _____					
Agency	Contact Person	Phone Number	Date	Time	Report Number
NRC:	_____	_____	_____	_____	_____
State:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
Local:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
GM NOTIFICATION:					
Department	Contact Person	Phone #	Date	Time	Report Number
Plant Manager:	_____	_____	_____	_____	_____
GM Legal:	_____	_____	_____	_____	_____
GM EES:	_____	_____	_____	_____	_____
DAS/NAO Div.:	_____	_____	_____	_____	_____
Plant PR:	_____	_____	_____	_____	_____
Division PR:	_____	_____	_____	_____	_____

Attachment D

GM Procedures for Disposal of Wastes

Note: This attachment may not contain the most current versions of these procedures! Before using the procedures verify with the Plant Master List of Procedures that these procedures are current. If not, obtain a current copy from the Quality Department or the shared "S" drive (S:\QS9000sn), which is available on most computers within the facility.

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER: Ken Hackney Requested By: R. Simmerman	STANDARD PROCEDURE *STORAGE AND DISPOSAL OF USED FLUIDS AND OILS <div style="background-color: black; color: white; text-align: center; padding: 2px;">UNCONTROLLED COPY</div>	PROC. NO. 5533-18 DATE ISSUED 9-8-76 REVISION # 9 REVISION DATE 6/5/00
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Quality Wins

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PURPOSE:

*Used fluids from plant sources may be recycled or may contain regulated contaminants requiring disposal in accordance with applicable local, state and federal regulations. This procedure provides a safe and structured method for proper transporting, storage and disposal of *used* fluids, hydraulic oils, cutting fluids and lubricants *at the Bedford Plant*.

SCOPE:

*This procedure applies to all used hydraulic fluids, oils and lubricants. In addition, all *used* fluids removed *from* plant machinery and reservoirs are covered by this procedure.

RESPONSIBILITY:

*The PC&L and the Environmental Management Departments, working with the Resource Management Team, have direct responsibility as outlined in this procedure. All other departments must meet the requirements of this procedure for Storage and Disposal of *Used* Fluids and Oils.

DOCUMENT CONTROL:

Document	Location	Retention
Proc 5533-18	Document Control Center	5 years from obsolescence

REFERENCES:

Procedure 5533-14, Compliance with DOT and EPA Material Shipping Regulations for Hazardous Materials
 Job Instruction 5581-05, Waste Stream Inspections
 CFR Title 49

PROCEDURE:

- *1.0 Any person having *used* fluid for disposal should take the material to one of the locations established for the temporary storage of *used* fluids and transfer *the* fluid into the appropriate container.
- *2.0 Any person having a question concerning *used* fluid disposal that is not answered in this procedure should contact the Resource Management Team @ 7144.
- 3.0 Different types of fluids are not to be mixed within containers. Example: Water base fluids such as hydraulic fluid should not be mixed with mineral based fluids such as motor oil.
- *4.0 *Used* fluids, *at the Bedford Plant*, have been defined and segregated into *two* types with a corresponding color code.
 - 4.1 MINERAL BASE FLUIDS - YELLOW
 - *4.2 GLYCOL BASE FLUIDS / WATER BASE FLUIDS - BLACK

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>* INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R. Simmerman</u></p>	<p align="center">STANDARD PROCEDURE</p> <p align="center">*STORAGE AND DISPOSAL OF USED FLUIDS AND OILS</p> <p align="center">UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-18</p> <p>DATE ISSUED 9-8-76</p> <p>REVISION # 9</p> <p>REVISION DATE 6/5/00</p>
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Quality Wins

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- *5.0 It will be the responsibility of the Resource Management Team to insure each drum is labeled before placing in the temporary used fluid storage locations.
 - *5.1 The label must be placed on the upper one-third of the container covering any existing, identification, but not on the lid. Standard labels for each of the two fluid types are maintained by the Resource Manager.
 - 5.2 All drums containing mineral based fluids are labeled "USED OIL".
- *6.0 A PC&L truck driver will be assigned to check each temporary used fluid storage locations daily.
 - 6.1 When a funnel has been moved from the front drum on the pallet to the rear drum on the pallet and the bung has been replaced in the front drum, this will constitute a "pull signal" for the driver from PC & L to take the full drum to the designated waste management area.
 - 6.2 PC&L is responsible to replace the full drum with a properly labeled empty drum on the waste containment pallet. The empty drum will be placed on the rear of the pallet and the drum being filled moved to the front position on the pallet.
- *6.3 All used fluids will be held within the designated waste management storage area on waste containment pallets.
- *7.0 The environmental coordinator or designated representative will determine the proper method of disposal / recycling and the appropriate disposition site for removal of used oils and fluids from the plant premises.
 - *7.1 Mineral based fluids will be held within designated storage areas until shipped.
 - *7.2 Glycol and water base fluids will be delivered to the wastewater treatment facility on site.
- *8.0 Analytical analysis to support the waste characterization of the used fluids is to be performed at least annually by the Resource Management Team.
- *9.0 Shipment of used fluids must be in compliance with the P C & L procedure 5533-14, Compliance with DOT and EPA Material Shipping Regulations for Hazardous Materials, which includes requirements of the Hazardous Materials Shipping Act and CFR TITLE 49.

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER: <u>Ken Hackney</u> Requested By: R. Simmerman	STANDARD PROCEDURE *STORAGE AND DISPOSAL OF USED FLUIDS AND OILS UNCONTROLLED COPY	PROC. NO. 5533-18 DATE ISSUED 9-8-76 REVISION # 9 REVISION DATE 6/5/00
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Quality Wins

PAGE 3 OF 3

APPROVED BY:

ENVIRONMENTAL SYSTEMS MANAGER DATE

P C & L MANAGER DATE

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>*INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R.Simmerman</u></p>	<p>STANDARD PROCEDURE</p> <p><u>DISPOSAL</u> <u>OF</u> <u>SOLID WASTE</u></p> <p>UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-28</p> <p>DATE ISSUED 6/21/82</p> <p>REVISION # 12</p> <p>REVISION DATE 12/14/00</p>
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION PAGE 1 OF 6

PURPOSE:

To identify a safe and structured method for proper collection, segregation, transportation and disposal of solid waste material and to support waste minimization and recycling.

SCOPE:

Any solid waste material generated by the facility.

RESPONSIBILITY:

P C & L - 5533
Maintenance - 5534
Environmental Engineering- 5581
Resource Management Team
All departments generating solid waste.

DOCUMENT CONTROL:

Document	Location	Retention
Proc 5533-28	Document Control Center	5 years from obsolescence
Solid Waste Disposal Matrix	Environmental Engineering	until obsolescence
Form 5533-28 (A)		

REFERENCE:

Procedure 5533-32 Storage, Handling, and Disposal of Chip System Afterburner Material and Baghouse Dust
Environmental Job Instruction 5581-05, Waste Stream Inspections
Procedure 5581-08 Waste Minimization Procedure
Procedure 5532-04 Concrete and / or Soil Removal
Maintenance Department Job Instruction 5534-4003, Handling or Waste Lamps, Bulbs, and Aerosol cans
PC&L Job Instruction 5533-61, Control of Aerosol Cans Within the Bedford Plant
Procedure 5533-18 Storage and Disposal of Used Fluids and Oils

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>*INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R.Simmerman</u></p>	<p align="center">STANDARD PROCEDURE</p> <p align="center"><u>DISPOSAL</u> <u>OF</u> <u>SOLID WASTE</u></p> <p align="center">UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-28</p> <p>DATE ISSUED 6/21/82</p> <p>REVISION # 12</p> <p>REVISION DATE 12/14/00</p>
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION PAGE 2 OF 6

PROCEDURE:

- 1.0 Each department will be responsible for establishing and maintaining a fixed location designated for solid waste collection.
 - 1.1 P C & L is responsible for maintaining solid waste management areas in all departments except maintenance.
 - 1.2 Each department is responsible for the housekeeping in the area where the solid waste hoppers are located.
- 2.0 It is the responsibility of each department to insure that liquid waste is NOT in containers/hoppers designated for solid waste. If free liquid is observed in any solid waste container, it must be reported to the Resource Management Team for proper disposition.
- 3.0 Every employee in the plant has the opportunity and should be encouraged to play an active role in minimizing the environmental impact of solid waste disposal by placing solid waste material in the appropriate container as defined by the waste management sign and/or color code.
- 4.0 It is the responsibility of the PC&L Department to develop and maintain signs and color code standards for each identified solid waste stream as appropriate.
- 5.0 The Solid Waste Disposal Matrix 5533-28(A) identifies the various solid wastes and the appropriate disposal / recycling facilities where the materials are to be sent. This matrix is maintained by the Environmental Engineering Staff.
- 6.0 Concrete / soil demolition material shall be tested and disposed of in accordance with Procedure 5532-04 Concrete and / or Soil Removal .
- 7.0 Chip System afterburner material and chip system dust collect bags must be handled in accordance with Procedure 5533-32.
- 8.0 Asbestos removed by contractors may be disposed of at sites other than those listed on the 5533-28(A) matrix if disposal is handled by the contracted firm and the location has been approved by the Environmental department.

GM POWERTRAIN BEDFORD PLANT *INDICATES REVISION REVISER: Ken Hackney Requested By: R.Simmerman	<p align="center">STANDARD PROCEDURE</p> <p align="center"><u>DISPOSAL</u> <u>OF</u> <u>SOLID WASTE</u></p> <p align="center">UNCONTROLLED COPY</p>	PROC. NO. 5533-28 DATE ISSUED 6/21/82 REVISION # 12 REVISION DATE 12/14/00
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION PAGE 3 OF 6

9.0 Recycling

9.1 Fluorescent light bulbs, high pressure sodium lamps, metal halide lamps, mercury vapor and incandescent bulbs are to be handled in accordance with Maintenance Job Instruction 5534-4003.

9.1.1 It is the responsibility of the electricians to place used bulbs, upon removal from operation, in the packaging from which the new, replacement bulbs were removed whenever practicable.

9.1.2 Used bulbs should then be placed in the BLUE containers for recycling universal waste labeled "Used Mercury Containing Lamps". The container lid is to remain closed except when adding or removing bulbs. There are two designated used light bulb storage areas; one in the Pistons Department and one in the electrical element rebuild area.

9.1.3 When full, the Blue containers are to be delivered to the sundry ship area to prepare the bulbs for shipment. Applicable manifesting, packaging, and labeling requirements must be met prior to shipment.

9.2 Alkaline, Nickel-Cadmium, and Lithium Batteries are designated as a universal waste.

9.2.1 Used alkaline, Ni-Cd, and Lithium batteries can be placed in the used battery collection containers located at the Ferguson delivery stations for recycling.

9.2.2 Batteries from these collection sites are periodically collected and accumulated in the PC&L department for later shipment to recycling. Applicable manifesting, packaging, and labeling requirements must be met prior to shipment.

9.3 Scrap Iron & Steel

9.3.1 Scrap Iron & Steel weighing less than 2000 lbs., copper, brass, etc. are to be collected & segregated in the designated waste management containers for shipment.

9.3.2 Scrap iron and steel weighing more than 2000 lbs. (e.g., die covers, ejectors, etc.) requires special handling and transportation arrangements. Disposal must be approved and coordinated through the PC&L Department & the Resource Management Team.

9.4 Lead-acid batteries become a waste stream when removed from fork trucks and other mobile equipment by the garage mechanics.

9.4.1 Garage mechanics are to place used 6V & 12V lead-acid batteries in designated containers provided by PC&L.

9.4.2 Garage mechanics are to notify PC&L when a fork truck battery (36V or 48V) is removed from service and becomes available for shipment.

9.4.3 Applicable manifesting, packaging, and labeling requirements must be met prior to shipment.

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>*INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R.Simmerman</u></p>	<p align="center">STANDARD PROCEDURE</p> <p align="center"><u>DISPOSAL OF SOLID WASTE</u></p> <p align="center">UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-28</p> <p>DATE ISSUED 6/21/82</p> <p>REVISION # 12</p> <p>REVISION DATE 12/14/00</p>
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION

PAGE 4 OF 6

9.5 Oil filter disposal

**9.5.1 All filters must be allowed to sufficiently drain into a recovery unit (no free flowing liquids remaining, 12 hours of draining is recommended) immediately after removal from service. Motor oil filters are to drain "hot" meaning near engine operating temperature and above 60 degrees Fahrenheit.*

**9.5.2 Garage mechanics are to crush the drained used motor oil filters using the "oil filter crusher". Draining after crushing is also recommended.*

9.5.2.1 Properly drained and crushed used motor oil filters become recyclable steel and are to be placed in the appropriate green hopper for scrap metal.

**9.5.3 Paper media filters must be placed in a black drum or hopper labeled to accept oil filters (i.e. "Used Oil Filters" drum or "Housekeeping Waste" hopper) after proper draining.*

9.5.4 The used oil drained from the filters is to be handled in accordance with procedure 5533-18, Storage and Disposal of Used Fluids and Oils.

9.6 Proper Disposal of Aerosol Cans – In order to prevent potentially explosive materials from being charged in our melting furnaces, it is necessary that we maintain control over the usage and disposal of aerosol pressurized spray cans in the plant. (Reference Maintenance Job Instruction 5534-4003 and PC&L Job Instruction 5533-61).

9.6.1 Only materials approved by the HMCC can be used in the plant.

9.6.2 Aerosol cans are distributed on a one for one exchange from PC&L. Additionally, any aerosol cans ready for disposal, full or empty, must be turned in to the PC&L department.

9.6.3 Aerosol cans punctured in the AEROSOLV aerosol can recycling station may be recycled with other scrap steel.

9.7 Wood pallet disposal

**9.7.1 Wood pallets are to be collected and loaded onto a trailer for recycling.*

9.7.2 Pallets must be in a condition acceptable for recycling. (i.e. , not oil soaked or covered with paint)

9.8 Kitchen grease is collected in a special closed semi-bulk dump container located outside, west of the Tool Room, per the recyclers handling requirements.

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>*INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R.Simmerman</u></p>	<p>STANDARD PROCEDURE</p> <p><u>DISPOSAL</u> <u>OF</u> <u>SOLID WASTE</u></p> <p>UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-28</p> <p>DATE ISSUED 6/21/82</p> <p>REVISION # 12</p> <p>REVISION DATE 12/14/00</p>
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION PAGE 5 OF 6

- 10.0 Any department having a question about any solid waste material and its proper disposition should contact the Resource Management Team @ 7144.
- 11.0 It is the responsibility of the Resource Management Team to conduct testing as necessary on waste materials to properly define waste streams and assist the Environmental Department in completing waste profiles as required for disposal.
- 12.0 It is the responsibility of the Resource Management Team to conduct periodic inspections and maintain appropriate records of these inspections as defined in Job Instruction 5581-05, Waste Stream Inspections.
- 13.0 The Resource Management Team acting under the direction of the Environmental Department has the responsibility to oversee the proper disposition of all Solid Waste materials.

<p>GM POWERTRAIN</p> <p>BEDFORD PLANT</p> <p>*INDICATES REVISION</p> <p>REVISER: <u>Ken Hackney</u> Requested By: <u>R.Simmerman</u></p>	<p align="center">STANDARD PROCEDURE</p> <p align="center"><u>DISPOSAL</u> <u>OF</u> <u>SOLID WASTE</u></p> <p align="center">UNCONTROLLED COPY</p>	<p>PROC. NO. 5533-28</p> <p>DATE ISSUED 6/21/82</p> <p>REVISION # 12</p> <p>REVISION DATE 12/14/00</p>
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ENVIRONMENTAL AUDIT REPORT : PRIVILEGED INFORMATION PAGE 6 OF 6

Approved By:

Production Manager Date

PC & L Manager Date

Maintenance Systems Manager Date

Environmental Manager Date

Attachment E

Bedford Public Relations Guidelines

Note: This attachment may not contain the most current version of the guidelines!
Before using these guidelines verify with the facility Disaster Preparedness Plan that
the guidelines are the most current.

BUILDING EMERGENCY INFORMATION COORDINATOR

The Public Relations Coordinator, in conjunction with the Personnel Director, are designated as the Emergency Information Coordinators. These people are responsible for performing the information functions.

Primary Responsibilities:

1. Obtain verified disaster-related information.
2. Prepare and issue news statements to the media.
3. Establish a media center (as necessary) during a building emergency situation/disaster to coordinate emergency information and brief the media (see emergency numbers, page 42).
4. Coordinate with local government authorities to establish a joint public information center (JPIC). Conduct press conferences and issue news statements during an extended or large scale emergency situation.

Attachment F

Inspection Forms

Note: The inspection forms included in this section are for example purposes only and are not necessarily the most current version. The most current version of the inspection forms can be obtained by contacting the respective department in charge of conducting the inspections.

Form 5581-05 (A): GMPT - Bedford Weekly Inspection Report for the Waste Storage Area**Location** Waste Management Area**References**

Resource Manager Specifications

Procedure 5533-18 Storage and Disposal of Waste Fluids and Oils

Procedure 5533-14 Compliance with DOT and EPA Material Shipping Regulations for Hazardous Materials

DirectionsCheck each line item listed below that applies. Corrective actions shall be recorded in the space provided at the end of this form.**General Area**

	<u>YES</u>	<u>NO</u>
Is the general appearance of the area good?	_____	_____
Are drain grates clear and free of debris?	_____	_____
*Is containment pad free of significant cracks or deterioration?	_____	_____
*Is the pad free of any liquid build-up? (from precipitation/leaks)	_____	_____
*Is a spill kit accessible?	_____	_____
*Is an emergency phone accessible and operable?	_____	_____

Drum Storage

Number of Non-Hazardous Waste drums _____ Number of empty drums _____
 Are all drums properly segregated? (Y/N) _____

Non-Hazardous Waste Drums

	<u>YES</u>	<u>NO</u> ⇒ <u>No.</u>	<u>N/A</u>
Are all drums stored under a roof?	_____	_____	_____
*Are all drums in good condition and not leaking?	_____	_____	_____
*Are all drums closed?	_____	_____	_____
*Are all drums labeled and readable?	_____	_____	_____
*Are all drums placed on a containment pad?	_____	_____	_____

Cylinder Storage - (Report problems to Safety Department)

	<u>YES</u>	<u>NO</u> ⇒ <u>No.</u>	<u>N/A</u>
*Are all cylinders properly stored upright?	_____	_____	_____
*Are all cylinders properly secured in place?	_____	_____	_____
*Are all cylinders labeled?	_____	_____	_____
*Are all cylinders free of any evidence of leakage?	_____	_____	_____
*Are all caps secured on cylinders?	_____	_____	_____

"GOOD" condition means that the container is not rusted, have structural defects or leak.

* These are high priority items. If corrective action is required, actions should be initiated immediately. All other line items represent opportunities for improvement and should be reported to the appropriate departmental supervisor.

Comments / Corrective Actions

Date of Inspection _____**Time of Inspection** _____**Name of Inspector** _____

This weekly inspection report shall be retained by the Resource Manager for a minimum of five years or open tax year, whichever is longer.

Environmental Audit Report: Privileged Information

**Form 5581-05 (B): GMPT - Bedford Weekly Inspection Report
for Hazardous Waste**

Location Waste Management Area

References

Procedure 534-4002 Maintenance - Waste Solvent Handling, Storage, and Disposal
Procedure 5533-14 Compliance with DOT and EPA Material Shipping Regulations for Hazardous
 Materials

Directions Check each line item below that applies. Corrective actions shall be recorded in the space
provided at the end of this form.

Number of Hazardous Waste drums _____

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
*Is the storage cabinet in good condition?	_____	_____	_____
*Are all drums in good condition and not leaking?	_____	_____	_____
*Are all bungs securely closed?	_____	_____	_____
*Do all drums meet DOT/UN specifications?	_____	_____	_____
*Are all drums labeled properly as "Hazardous Waste"?	_____	_____	_____
*Is the accumulation start date listed on each and less than 90 days?	_____	_____	_____
*Has the required 2 foot space been maintained for emergency access to the cabinet?	_____	_____	_____
*Is a spill kit accessible?	_____	_____	_____
*Is a fire extinguisher accessible?	_____	_____	_____
*Is an emergency phone accessible and operable?	_____	_____	_____
*Is the following current information posted at the emergency phone?	_____	_____	_____
• name and phone number of the emergency coordinator			
• location of fire extinguishers and spill control material			
• phone number for fire or other emergencies			

"GOOD" condition means that the container is not rusted, have structural defects or leak.

*These are high priority items. If corrective action is required, actions should be initiated immediately.

Comments / Corrective Actions

Date of Inspection _____

Time of Inspection _____

Name of Inspector _____

This weekly inspection report shall be retained by the Resource Manager for a minimum of five years or open tax year, whichever is longer.

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: <u>Tim Galloway</u>	JOB INSTRUCTION NPDES Sampling - Specific to GM Powertrain-Bedford	JOB INSTR. NO. 5580-28 DATE ISSUED 6/24/97 REVISION # 5 REVISION DATE 1/8/01
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Quality Wins PAGE 1 OF 4

PURPOSE

Detailed sampling requirements beyond the requirements set forth in NPDES Permit IN0003573.

SCOPE

This instruction applies to all sampling of 002 and 003 outfalls.

RESPONSIBILITY

Laboratory personnel and those persons properly trained (operators), etc.

DOCUMENT CONTROL

Document	Location	Retention Period
Job Instr. 5580-28	Waste Water Treatment Facility	5 years from obsolescence

DEFINITIONS

NPDES - National Pollution Discharge Elimination System

PROCEDURE

1.0 Samples and measurements taken, first and foremost, must meet the requirements set forth in the NPDES Permit IN0003573.

2.0 002 Discharge sampling located in Calgon Building.

*2.1 Composite samples must be started on Sunday, Monday, Tuesday and/or Wednesday to facilitate shipment to contract lab. *Short workweeks can affect the availability of the contract lab to perform analysis 3 times per week.*

*2.1.1 Start samples at 11:00 a.m. or designated time by initiating automatic composite sampler by pressing "Resume" (#3) on keypad.

2.1.2 Stop sampler by pressing "Halt" (#2) on keypad.

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: <u>Tim Galloway</u>	JOB INSTRUCTION NPDES Sampling - Specific to GM Powertrain-Bedford	JOB INSTR. NO. 5580-28 DATE ISSUED 6/24/97 REVISION # 5 REVISION DATE 1/8/01
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Quality Wins

PAGE 2 OF 4

2.1.3 Transfer sample from composite sample jug to transport jug.

2.1.4 Return composite sample to lab or to refrigerator if there will be a delay before shipment.

2.2 Grab samples should be taken by laboratory personnel or a properly instructed individual.

2.2.1 Sampling spigot is located on discharge side of GAC vessels.

2.2.1.1 Lines should always be flushed for several minutes before grabbing sample.

2.2.1.2 Sampling line should be cleaned periodically because of algae growth and its sloughing off can affect sample results.

*2.3 The 002 outfall should be observed weekly and recorded that such observation was made on Daily Sampling/Shipping form (Form 5580-28(B)). *This observation should include a check for proper operation of the defoamer pump and be included on (Form 5580-28(B)).*

3.0 003 Discharge sampling located at storm lagoon pump station.

3.1 Sampling commences when an overflow alarm alerts operator via computer higher level alarm and/or any additional alarming.

3.1.1 This first sample is the initial sample to contribute to the 24-hour composite.

3.1.2 Additional samples should be taken every four hours while overflow is occurring.

3.1.3 Samples should be labeled with:

3.1.3.1 Exact time

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: <u>Tim Galloway</u>	JOB INSTRUCTION NPDES Sampling - Specific to GM Powertrain-Bedford	JOB INSTR. NO. 5580-28 DATE ISSUED 6/24/97 REVISION # 5 REVISION DATE 1/8/01
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Quality Wins

PAGE 3 OF 4

3.1.3.2 Date

3.1.3.3 Height of overflow through the six-foot rectangular weir obtained from staff gauge.

3.1.4 Samples taken every four hours must be brought back to treatment facility and placed in temperature-controlled refrigerator (4° C).

3.2 Grab samples taken for specific test requirements should be taken in addition to the grabs, which will comprise the source of water for the final composite sample.

3.2.1 Use dipper to fill bottles.

3.2.2 Return samples to lab or refrigerator if not shipping immediately.

3.3. Discharge flows must be figured using sample information and the table provided (see Table 6-3B) for six foot rectangular weir, column MGD and column Head in Feet.

3.4 The 003 outfall should be observed weekly and recorded that such observation was made in Operator's Notes of Daily Log (Form 5580-28 (A)).

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: <u>Tim Galloway</u>	JOB INSTRUCTION NPDES Sampling - Specific to GM Powertrain-Bedford	JOB INSTR. NO. 5580-28 DATE ISSUED 6/24/97 REVISION # 5 REVISION DATE 1/8/01
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Quality Wins

PAGE 4 OF 4

Approved By:

Wastewater Treatment Manager Date

DATE ISSUED: 01/01/87
REVISION #1
REVISION DATE: 11/11/98
FORM 5580-28(B)

[illegible]

Waste Water Treatment - Daily Log

Exhibit B

Total Softener Process	93800 gal
Meter #1	47800 gal
Meter #2	45800 gal
Process Add	0 gal
City Add	0 gal
Central Res Hardness	120 ppm
Process Hardness	160.00 ppm
City Hardness	200.00 ppm
Chlorine Residual	0.70 ppm
ORP	689.00

Drawgard 120 (Corrosion Inhibitor)	44.00 in	585.2 gal
Drawchlor 4107 (Sodium Chlorite)	36.00 in	478.8 gal
Draw 6110 (Sodium Hypochlorite)	99.00 in	1316.7 gal
Draw 6005 (Hydrochloric Acid 30%)	29.00 in	385.7 gal
Polymer Feed	1.00 Setting	
Alum Level	1470 gal	
Urea Feed 3rd Shift	100 lbs	
Urea Feed 1st Shift	100 lbs	
Urea Feed 2nd Shift	0 lbs	
Alum Feed	20 %	
Urea Feed	0 SPM/(%)	

North Surge Basin	3.3 ft
South Surge Basin	-1.6 ft
North Aeration Holding Basin	20.3 ft
South Aeration Holding Basin	6.5 ft
North Holding Basin	-2.1 ft
South Holding Basin	17.3 ft
West Thickener	0 ft
East Thickener	0 ft

1	1610	5	0005
2	1820	6	0515
3		7	0815
4		8	1220

Date:		Time:	
-------	--	-------	--

North Primary	13.0 ft
South Primary	13.0 ft
Sludge Pit Level	7.3 ft
Primary Sludge Pumping N.	NO
Primary Sludge Pumping S.	NO

1	On	4	On
2	Off	5	Off
3	Off	6	Off

Shut off # 5 Blower @ 0734 / Urea to 20 SPM @ 0740 / Start 002 @ 1100 TST /
Storm Lagoon Level 11' 3" / Unplug Urea @ 1230 /
7 / 19 / 98 NAB temp 28.1 c

Attachment G

GM Truck Loading/Unloading Job Instruction

Note: This attachment may not contain the most current version of this job instruction! Before using the job instruction verify with the PC&L Master List of Documents that this job instruction is current. If not, obtain a current copy from the PC&L Department or the shared "S" drive (S:\Job Instructions\), which is available on most computers within the facility.

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: R.Simmerman	JOB INSTRUCTION <u>PC&L</u> <u>TANK TRUCK</u> <u>UNLOADING</u>	J. I. NO.5533-57 DATE ISSUED 7/14/98 REVISION #2 REVISION DATE - 1/18/2000
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ACCEPTANCE CRITERIA (-0-) NON- CONFORMANCES

PAGE 1 OF 2

PURPOSE:

To define the various processes required to insure a "zero defect" delivery.

SCOPE:

This instruction applies to bulk materials received at the Bedford Plant in tank trucks.

RESPONSIBILITIES:

It is the responsibility of applicable personnel when acting as the "receiving agent" and the carrier's driver to abide by the provisions of this instruction.

<u>Document Control:</u>	<u>Document</u>	<u>Location</u>	<u>Retention</u>
	JI 5533-57	PC&L Office	1 year from obsolescence
*	Receiving Document	Receiving Office/ Chemical Mgmt	2 years
*	Scale Ticket	Receiving Office / Chemical Mgmt	2 years

INSTRUCTION:

1.0 General

- 1.1** Unloading of tank trailers will be performed during daylight hours with the following exceptions:
Emergency conditions, nitrogen and argon deliveries.
- 1.2** Driver must check in at main Gatehouse to obtain vehicle pass and weigh-in. Scale ticket must be used to document record of this weigh-in.
- 1.3** Driver must insure that tank trailer is accurately spotted for unloading at the proper location.
- 1.4** Tank trucks brakes will be set and the driver must remain with the vehicle during the entire unloading period.
- 1.5** Tank truck flashers are to be utilized during the entire unloading period to signal personnel in the vicinity that the unloading operation is in progress.
- 1.6** Unloading operations shall be performed only by reliable persons properly instructed and made responsible for compliance with applicable regulations.
- 1.7** The following items must be verified by the carrier driver and where appropriate the receiving agent prior to off-loading:
 - Tank trailer number must match the trailer number on the shipping papers to determine contents and avoid mixing of products.
 - The product name on the shipping papers matches the markings on the storage tank/fill line.

GM POWERTRAIN GROUP BEDFORD PLANT * INDICATES REVISION REVISER: R.Simmerman	JOB INSTRUCTION <u>PC&L</u> <u>TANK TRUCK</u> <u>UNLOADING</u>	J. I. NO.5533-57 DATE ISSUED 7/14/98 REVISION #2 REVISION DATE - 1/18/2000
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ACCEPTANCE CRITERIA (-0-) NON- CONFORMANCES

PAGE 2 OF 2

- There is a visible means of measuring the level in the storage tank.
- The storage tank will hold the amount of product being delivered.
- The storage tank is vented.
- If the storage tank is not visible during unloading, the "receiving agent" must be present near the storage tank.
- A connection has been made from the proper tank truck outlet to the proper storage tank.
- Insure that an appropriate catch basin/bucket is available to catch any liquids that may be in the outlet chamber or fill hose during or after unloading is completed.

- 1.8 Open tank outlet valve and proper valves in the unloading line/storage tank.
- 1.9 Start pump (or pressurizing tank) checking to insure there is no leakage at any of the connections. Should leakage be present, immediately stop pump (or pressure) and correct conditions as necessary.
- 1.10 After tank unloading is complete, stop pump (or pressure), close all valves, disconnect plant unloading line from tank truck, replace cap to outlet and make all other closures tight.
- 1.11 Tank truck flashers may be shut off, and return to Main Security Gatehouse to get weighed out and process paperwork. Scale ticket must be used to document record of outbound weight. Scale ticket record is used to verify quantity of material received and is to be attached to the receiving document.

2.0 Fire Resistant Hydraulic Fluid Delivery

- * 2.1 Upon arrival of tank truck, the receiving checker must notify maintenance that a tank truck has been spotted for unloading.
- 2.2 A receiving inspection will be performed by the machine repair/fluid management personnel.
- 2.3 The results of the receiving inspection will be communicated to the truck driver. If the fluid is OK, the unloading process can begin, if the material is rejected it will be returned to the supplier.

3.0 Flammable Liquid (Gasoline) Delivery

- 3.1 The unloading of flammable liquid poses additional hazard potential which must be addressed.
- 3.2 In addition to the general requirements outlined in this instruction, delivery personnel must follow the provisions of the Mullis petroleum, "Procedures and Requirements for Drivers Delivering Gas and Fuel to GM Powertrain Bedford", dated 6/23/98, labeled as Attachment1 to this job instruction.

Approved by:

en., Supervisor., PC & L

Date

POWERTRAIN BEDFORD PLANT

7333 - FIRE/MEDI-CART
7360 PLANT PROTECTION

KEY

	TORNADO SHELTER AREA
	TORNADO SHELTER AREA IN BASEMENT
	EXIT
	HAZARDOUS STORAGE EVACUATION ROUTE (PRIMARY)
	GENERAL EVACUATION ROUTE (ALT HAZ ROUTE)
	STAIRWAY
	EVACUATION ASSEMBLY AREA
	SIGNALS
	COMPANION CENTER
	SECURITY

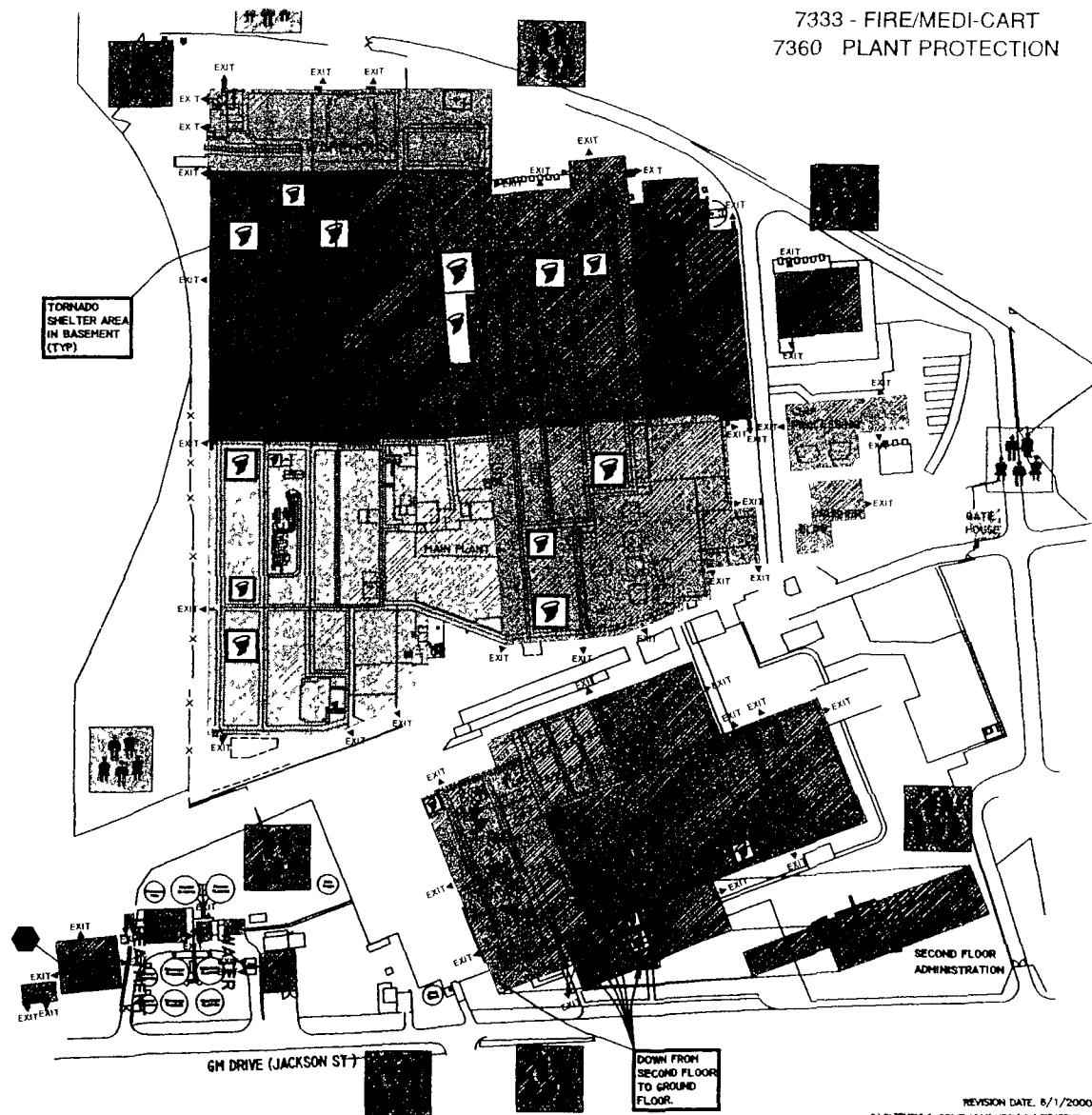
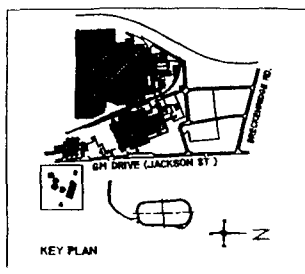
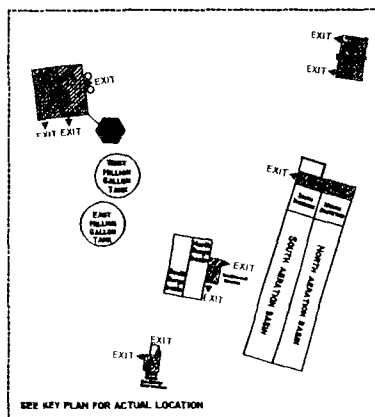
ALL EXIT ROUTES FROM YOUR LOCATION ARE PRIMARY ROUTES. IF YOUR CLOSEST EXIT ROUTE IS BLOCKED, USE THE NEAREST UNOBSTRUCTED ROUTE WHICH WILL BECOME YOUR ALTERNATE ROUTE.

● = HAZARDOUS MATERIAL STORAGE

TORNADO SHELTER AREA IN BASEMENT (TYP)

EMERGENCY GUIDELINES

- FAMILIARIZE YOURSELF WITH ALL EXIT LOCATIONS.
- KNOW WHERE ALL FIRE EMERGENCY AND SAFETY EQUIPMENT IS LOCATED.
- FAMILIARIZE YOURSELF WITH COLOR CODED WORK AREA ROUTES AND EXITS.
- *EVACUATE THE BUILDING WHEN FIRE/EVACUATION SIGNAL SOUNDED AND PROCEED TO NEAREST ASSEMBLY AREA OR
- PROCEED TO THE TORNADO SHELTER AREA WHEN THE TORNADO/TAKE COVER (SEVERE WEATHER) SIGNAL SOUNDS.
- PROCEED TO NEAREST ALTERNATE EVACUATION ROUTE IF PRIMARY ROUTE IS BLOCKED.
- REGARDLESS OF THE EVACUATION EXIT USED, EMPLOYEES SHOULD PROCEED TO THEIR ASSIGNED EVACUATION ASSEMBLY AREA. ALTERNATE ASSEMBLY AREAS SHOULD BE USED WHEN PRIMARY AREAS ARE UNACCESSIBLE.
- ONCE IN SHELTERS, REMAIN IN AREA UNTIL "ALL CLEAR" IS SOUNDED.
- DO NOT REENTER BUILDING UNTIL "ALL CLEAR" SIGNAL HAS BEEN GIVEN.



REVISION DATE: 6/1/2000

S:\PLTDSM\G-DRIVE\ACT2\MECH\PL\7333\7360.dwg

Attachment I

SPCC Checklist

SPCC CHECKLIST

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Has there been any change (e.g., design, construction/demolition, operation, material type, material volume) that affects your facility's potential to discharge oil or other polluting substance into the waters of the United States during the previous twelve months? <i>[If yes, plan needs to be <u>amended</u> and recertified.]</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | Has there been a change in personnel and/or phone numbers listed on the internal notification list? <i>[If yes, plan needs to be <u>updated</u>.]</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you inspected/inventoried spill response equipment as listed in the Spill Response section of this plan? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you have a current contract with an emergency response contractor who can remediate a worst case spill from your facility? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you reviewed this plan in detail prior to your signature on this page? |
| <input type="checkbox"/> | <input type="checkbox"/> | Has your facility experienced a reportable spill within the last twelve months? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, was your spill plan utilized and effective? If you answer no to this question state what changes were made to eliminate the deficiency. |
| <input type="checkbox"/> | <input type="checkbox"/> | Has your facility had two reportable spill events within a twelve month period or one spill of 1000 gallons or more of oil into navigable waters? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, did you submit your SPCC Plan within 60 days? |
| <input type="checkbox"/> | <input type="checkbox"/> | Does your plan conform to the content and format of the current version of the GM Standard Environmental Practice for SPCC Plans? |

Comments:

Signature

Title

Date



SPCC CHECKLIST

Yes

No

- | | | |
|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Has there been any change (e.g., design, construction/demolition, operation, material type, material volume) that affects your facility's potential to discharge oil or other polluting substance into the waters of the United States during the previous twelve months? <i>[If yes, plan needs to be <u>amended</u> and recertified.]</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Has there been a change in personnel and/or phone numbers listed on the internal notification list? <i>[If yes, plan needs to be <u>updated</u>.]</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have you inspected/inventoried spill response equipment as listed in the Spill Response section of this plan? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Do you have a current contract with an emergency response contractor who can remediate a worst case spill from your facility? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have you reviewed this plan in detail prior to your signature on this page? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Has your facility experienced a reportable spill within the last twelve months? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, was your spill plan utilized and effective? If you answer no to this question state what changes were made to eliminate the deficiency. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Has your facility had two reportable spill events within a twelve month period or one spill of 1000 gallons or more of oil into navigable waters? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, did you submit your SPCC Plan within 60 days? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Does your plan conform to the content and format of the current version of the GM Standard Environmental Practice for SPCC Plans? |

Comments:

The major change to the plan was the update to the internal and external notification list. There were some minor updates to the emergency response equipment list.

Kimberly Doloreschi
Signature

Environmental Engineer
Title

12/27/00
Date



SPCC CHECKLIST

- | Yes | No | |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Has there been any change (e.g., design, construction/demolition, operation, material type, material volume) that affects your facility's potential to discharge oil or other polluting substance into the waters of the United States during the previous twelve months? <i>[If yes, plan needs to be <u>amended</u> and recertified.]</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Has there been a change in personnel and/or phone numbers listed on the internal notification list? <i>[If yes, plan needs to be <u>updated</u>.]</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have you inspected/inventoried spill response equipment as listed in the Spill Response section of this plan? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Do you have a current contract with an emergency response contractor who can remediate a worst case spill from your facility? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have you reviewed this plan in detail prior to your signature on this page? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Has your facility experienced a reportable spill within the last twelve months? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, was your spill plan utilized and effective? If you answer no to this question state what changes were made to eliminate the deficiency. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Has your facility had two reportable spill events within a twelve month period or one spill of 1000 gallons or more of oil into navigable waters? |
| <input type="checkbox"/> | <input type="checkbox"/> | If yes, did you submit your SPCC Plan within 60 days? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Does your plan conform to the content and format of the current version of the GM Standard Environmental Practice for SPCC Plans? |

Comments:

The change in the facility that has affected our "potential to discharge oil ... into the waters of the U.S. ..." was a positive change. Additional containment has been placed around the fuel oil storage tank at the West Storm Lagoon decreasing the facility's potential of releasing oil to the environment.

Kimberly Delorenzo
Signature

Environmental Engineer
Title

3/7/99
Date



Attachment J

Spill History

SPILL HISTORY

Spill Events

The following is a summary of the spill events that have occurred at the facility since June 10, 1973:

November 12, 1976 - Black material discharged at 002.

February 22, 1977 - Approximately 5 gallons of used flushing spilled at west side of plant.

November 18, 1977 - A noncompliance with NPDES permit report was filed as a result of excessive suspended solids and grease and oils in 001 and 002 outfalls.

September 21, 1984 - Approximately 2500 gallons spilled from a transport tanker into the plant storm water collection system.

May 24, 1990 - Approximately 20 gallons of 66% sulfuric acid from a 55 gallon plastic drum leaked onto a curbed concrete storage pad.

Description of Incidents:

On November 12, 1976, black material was observed flowing from 002 outfall. This condition lasted approximately one half hour. A test indicated this material contained approximately 160 ppm PCB's. No source of contamination was found. The connection between the settling lagoon and the sewer was removed. By-passed the areas that once contained lagoons.

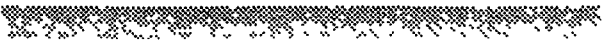
On February 22, 1977, approximately five gallons of used hydraulic flushing fluid siphoned from its storage tank and reached a storm drain discharging into a ditch west of GM property. The siphoned flow was stopped and the fluid dammed with sand, then cleaned up and disposed of. The ditch was dredged and dredge material disposed of. The storm drain and sewer were abandoned and plugged. The storage tank was moved to a diked area.

On November 18, 1977, a non-compliance with NPDES permit report was filed. Test results at 001 and 002 outfall indicated suspended solids and grease and oils content concentrations that exceeded allowable limits. The reasons for the exceedance were excessive influent flow of water to the treatment plant resulting from a break in underground city water line and a reservoir level control malfunction. Both faults were corrected and effluent water quality returned to allowable quality.

On September 14, 1984, a tank transporter unloading hydraulic fluid to the plant ruptured, releasing approximately 2500 gallons of fluid. The spill plan was activated, containing the majority of the spilled fluid with the remaining fluid entering into the plant's storm water collection system. This fluid was contained at a lift station where the fluid was pumped out

and all lines flushed.

On May 24, 1990, a 55 gallon plastic drum developed a small leak from which approximately 20 gallons of 66% sulfuric acid leaked onto a curbed concrete storage pad. The sulfuric acid ran into a grated perimeter drain trough which runs around the inside of the curbed area and then into a 2' x 2' x 3' pump collection box where the material was contained. Spill Recovery of Indiana was brought in to clean up the spilled acid.

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE <u><i>*Internal Spill/Release Report</i></u> 	FORM NO. 5523-10(A) DATE ISSUED 9/24/98 REVISION # 1 REVISION DATE: 1/19/99
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Environmental Audit Report: Privileged Information

PAGE 1 OF 1

***TO BE COMPLETED BY SECURITY AND/OR ENVIRONMENTAL PERSONNEL**

1. Name, Phone Number of Caller: <u>Security</u> GM Employee? <u>X</u> Yes <u> </u> No <u> </u> If No, Identify <u> </u>
2. Date and Time of Call: <u>5:35 pm</u> <u>April 12, 1999</u>
3. Date and Time of Incident (Estimate): <u>5:00 pm</u>
4. Exact Location of Incident: <u>Receiving Department - Outside the northeast side of the Receiving office.</u>
5. Type of Incident Being Reported: Spill <u>X</u> Fire <u> </u> Explosion <u> </u> Other <u> </u>
6. Discharge to: Interior Bldg. <u>X</u> Exterior Containment <u> </u> Sewer System <u> </u> Surface Water <u> </u> Atmospheric Release <u> </u> Ground <u> </u> Other <u> </u>
7. Did the material leave GM Property?: Yes <u> </u> No <u>X</u> Unknown <u> </u>
8. Types (or name) of materials involved (If known, be specific): <u>Gulf Cut Soluble Oil</u>
9. Quantities of materials involved (Estimate): <u>approximately 305 gallons</u>
10. What is the source of the spill?: <u>Nozzle was broken off the container. Nozzle was up against a wall. When a fork truck driver went to pick the tote up the nozzle caught on the wall and broke off.</u>
11. Is material continuing to be released?: <u>No.</u>
12. What actions, if any, have been taken to contain or clean up materials?: <u>The material has been contained. A vac truck will be used to suck up the material and then the material will be sent to WWT to be treated through the WWT.</u>
13. Any Injuries?: <u>No.</u>

***ENVIRONMENTAL USE ONLY**

14. Did the Release Plan and any applicable emergency response procedures appropriately address the Incident?: Yes <u>X</u> No <u> </u> If No, explain deficiency (use back of form if necessary):
Explain necessary revisions to the Plan to address future incidents (use back of form if necessary): <u>A revision to the Release Plan is not necessary but the P&L department will be investigating buying new totes that have protected nozzles, nozzles that</u> <u>do not stick on from the tote.</u>
Print Name: <u>Kimberly Dobosenski</u> Time: <u>5:50 pm</u> Signature: <u>Kimberly Dobosenski</u> Date: <u>4/12/99</u>

***Note: If this form was initiated by Security Personnel, please submit to the Environmental Department for completion and record retention.**

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE <u><i>*Internal Spill/Release Report</i></u> <div style="background-color: black; height: 15px; width: 100%;"></div>	FORM NO. 5523-10(A) DATE ISSUED 9/24/98 REVISION # 1 REVISION DATE: 1/19/99
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Environmental Audit Report: Privileged Information

PAGE 1 OF 1

***TO BE COMPLETED BY SECURITY AND/OR ENVIRONMENTAL PERSONNEL**

1. Name, Phone Number of Caller: <u>R. Z Williams to Security</u> GM Employee? <u>X</u> Yes <u> </u> No <u> </u> If No, Identify <u> </u>
2. Date and Time of Call: <u>Tuesday, June 20 at approximately 2:00pm</u>
3. Date and Time of Incident (Estimate): <u>Tuesday, June 20, 2000 at approximately 2:00pm</u>
4. Exact Location of Incident: <u>PC + L receiving area → just east of receiving offices</u>
5. Type of Incident Being Reported: Spill <u>X</u> Fire <u> </u> Explosion <u> </u> Other <u> </u>
6. Discharge to: Interior Bldg. <u>X</u> Exterior Containment <u> </u> Sewer System <u> </u> Surface Water <u> </u> Atmospheric Release <u> </u> Ground <u> </u> Other <u> </u>
7. Did the material leave GM Property?: Yes <u> </u> No <u>X</u> Unknown <u> </u>
8. Types (or name) of materials involved (if known, be specific): <u>Die Lube 5150</u>
9. Quantities of materials involved (Estimate): <u>Approximately 250 - 300 gallons.</u>
10. What is the source of the spill?: <u>A tote of Die Lube was being lifted down by a forklift truck to allow sampling of the material. Due to the slick bottom on the tote and the fact that the forks weren't securely in place the tote fell over popping off the lid.</u>
11. Is material continuing to be released?: <u>No.</u>
12. What actions, if any, have been taken to contain or clean up materials?: <u>A floor sweeper was brought in, but was unsuccessful in sucking up the material. A sucking truck will be brought in instead. It has the suction necessary for the job.</u>
13. Any Injuries?: <u>No.</u>

***ENVIRONMENTAL USE ONLY**

14. Did the Release Plan and any applicable emergency response procedures appropriately address the Incident?: Yes <u>X</u> No <u> </u> If No, explain deficiency (use back of form if necessary): <u>Security was contacted and the appropriate notifications were made.</u> Explain necessary revisions to the Plan to address future Incidents (use back of form if necessary):

Print Name: Kimberly Dobosenski Time: 5:00 pm
Signature: Kimberly Dobosenski Date: 6/20/00

***Note: If this form was initiated by Security Personnel, please submit to the Environmental Department for completion and record retention.**



**Worldwide Facilities Group
Environmental Operations
Midwest Region - Bedford Facility**

105 GM Drive
Bedford, Indiana 47421-0271
(812)-279-7404 [fax 7258]
8-343-7404 [fax 7258]

Date: January 15, 2001
To: Environmental Files
From: Kim Dobosenski
Subject: #9 Furnace Spill

On September 28, 2000 there was a loss of aluminum from the #9 furnace in the Main Melting Department. Since this incident was a spill there should have been an Internal Spill/Release Report written to describe and evaluate the situation. Due to the nature of this material (a hot molten metal), one of the primary concerns is fire. As a result of focusing on the fire situation, the fact that this had also been a spill event had been overlooked. Later in evaluating Health and Safety's write-up of the event, it came to my attention that a spill report should have been completed. To help prevent this oversight in the future, aluminum furnaces will be included in the pre-plan binder of potential facility spill events (currently in development). By focusing on the release of molten aluminum in the pre-plan, it should help remind myself and other members of the response team that the release of molten aluminum needs to be considered as a spill event, in addition to the other hazards it presents.

GM POWERTRAIN BEDFORD PLANT * INDICATES REVISION REVISER Kim Dobosenski	EMERGENCY RESPONSE <u>*Internal Spill/Release Report</u> <div style="background-color: black; height: 15px; width: 100%;"></div>	FORM NO. 5523-10(A) DATE ISSUED 9/24/98 REVISION # 1 REVISION DATE: 1/19/99
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Environmental Audit Report: Privileged Information

PAGE 1 OF 1

***TO BE COMPLETED BY SECURITY AND/OR ENVIRONMENTAL PERSONNEL**

1. Name, Phone Number of Caller: <u>Security Sue Prideaux, 7360</u> GM Employee? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, Identify _____
2. Date and Time of Call: <u>10-22-00 at 2:30 pm</u>
3. Date and Time of Incident (Estimate): <u>10-22-00 - time unknown</u>
4. Exact Location of Incident: <u>Gas and Diesel fueling area. As part of our effort to put containment around the current gas + diesel tanks, temporary fueling tanks were brought in - the temporary diesel tank had the release of fluid</u>
5. Type of Incident Being Reported: Spill <input checked="" type="checkbox"/> Fire <input type="checkbox"/> Explosion <input type="checkbox"/> Other _____
6. Discharge to: Interior Bldg. _____ Exterior Containment _____ Sewer System _____ Surface Water _____ Atmospheric Release _____ Ground <input checked="" type="checkbox"/> Other _____
7. Did the material leave GM Property?: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown _____
8. Types (or name) of materials involved (if known, be specific): <u>Unocal Diesel #1</u>
9. Quantities of materials involved (Estimate): <u>150 - 200 gallons</u>
10. What is the source of the spill?: <u>A temporary diesel fuel tank had been damaged either by support stand collapsing or from being hit.</u>
11. Is material continuing to be released?: <u>No, doesn't appear to be.</u>
12. What actions, if any, have been taken to contain or clean up materials?: <u>Material is naturally being contained on top of the clay soil. No internal actions have been taken to further contain material - called</u>
13. Any Injuries?: <u>No. Barrier has been established to keep people out - no smoking signs posted.</u>
<p align="center">*ENVIRONMENTAL USE ONLY</p> <p>14. Did the Release Plan and any applicable emergency response procedures appropriately address the Incident?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If No, explain deficiency (use back of form if necessary): <u>However, as a recommendation for improvement, it was suggested that the insurance papers for our spill responders be kept in our spill plan.</u> Explain necessary revisions to the Plan to address future incidents (use back of form if necessary): <u>None observed.</u> </p>

Spill of T. for exten resp.

Print Name: Kimberly Dobosenski Time: 4:00 pm
 Signature: Kimberly Dobosenski Date: 10/22/00

***Note: If this form was initiated by Security Personnel, please submit to the Environmental Department for completion and record retention.**

SPILL RECOVERY OF INDIANA, INC.

RESPONSE REPORT

Customer Name/ Address: General Motors Powertrain
105 GM Drive Bedford, IN 47421

Response Requested By: Kimberly Dodosenki GM Powertrain
Name/ Company/ Date/ Time: 10/22/00 3:15 p.m.

Date/Time Spill Occurred: 10/22/00 exact time unknown to SROI

Cause of Spill: Overturned AST

Spill Location: General Motors Powertrain
Address/ City/ Zip Code: Bedford, IN

Area Affected: 1400 sq. ft.

Product Name/ Description: Diesel Fuel

Amount Spilled: Est. 200-gallon Amount Recovered: 163-gallon

Containment/ Clean-up: The SROI Project Manager received a call from Kimberly Dodosenki with GM Powertrain in Bedford requesting response to a diesel fuel spill at the Bedford location. It was agreed upon between the SROI Project Manager and Kimberly Dodosenki that SROI would only remove the free liquid. SROI responded to the scene with a vacuum truck and stake truck, Project Manager, Equipment Operator, and Spill Technician. All free liquid on the ground was Crew applied a thin layer of peat out of the soil.

Ms. Kimberly Dodosenki would complete the rest of the clean-up.

MSDS: {X} On File

Disposal of Recovered Material:

On Scene Representatives:
Spill Recovery of Indiana:

Site Map Attached: ____ Yes

Re: 109395

box #s
410931 and
410791
were the soil
removed from
this area.

with the vacuum truck.
vacuumed dry. The SROI
dual product that may leach
✓ Powertrain personnel

SK Services, L.C. - A Safety-Kleen Company

Shipping Bill of Lading

1. Generator's US EPA ID No. (if any)

2. Gen. BOL No.

11 N 0 0 0 0 0 3 6 0 9 9

4121913

3. Generator's Name and Mailing Address

General Motors Powertrain Div.
105 GM Drive
Bedford, IN 47421

Generator's Phone (812) 279-7144

4. Transporter 1 Company Name

Canadian Pacific

MND008982641

(800)-765-4397

5. Transporter 2 Company Name

UPRR

NED001792910

(402)-271-4400

6. Transporter 3 Company Name

7. Transporter 4 Company Name

8. Designated Facility Name and Site Address

ECDC Environmental

1111 W. Highway 123, P.O. Box 69, East Carbon, Utah 84520, Phone (801) 888-4451

9. U.S. DOT Description (including Proper Shipping Name)

HM

10. Containers

No.

Type

11.

Total Quantity

12. Unit

Wt/Vol

13. Waste Profile Sheet #

Non-Hazardous, Non-Regulated Material per 49 CFR
& 40 CFR (Concrete/Soil)

001 CM

3124190 Lbs-Yd

14. Additional Descriptions for Materials Listed Above

Profile# GM21450-1000

Containers# 410791

15. Special Handling Instructions and Additional Information

Emergency Phone# 1-800-635-5053

ERG# 171

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

Printed/Typed Name

on behalf of GMPT

Signature

Daniel Eatz Edward L. Raines Edward L. Raines

Month Day Year

11 21 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Transporter 3 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

20. Transporter 4 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

21. Discrepancy Indication Space

22. Facility Owner or Operator: Certification of Receipt of non-hazardous materials covered by this Bill of Lading except as noted in Item 21.

Printed/Typed Name

Signature

Month Day Year

GENERATOR

TRANSPORTER

ACTIVITY

SK Services, L.C. - A Safety-Kleen Company

Shipping Bill of Lading

1. Generator's US EPA ID No. (If any)

2. Gen. BOL No.

IND0008030000

4121914

3. Generator's Name and Mailing Address

General Motors Powertrain Div.
105 GM Drive
Bedford, IN 47421

Generator's Phone (812) 279-7144

4. Transporter 1 Company Name

Canadian Pacific

MND006962641

(800)-766-4397

5. Transporter 2 Company Name

UPRR

NED001792910

(402)-271-4400

6. Transporter 3 Company Name

7. Transporter 4 Company Name

8. Designated Facility Name and Site Address

ECDC Environmental

1111 W. Highway 123, P.O. Box 69, East Carbon, Utah 84520, Phone (801) 888-4451

9. U.S. DOT Description (including Proper Shipping Name)

HM

10. Containers

No.

Type

11.

Total Quantity

12. Unit

Wt/Vol

13.

Waste Profile

Sheet #

a. Non-Hazardous, Non-Regulated Material per 49 CFR
& 40 CFR (Concrete/Soil)

001 C M

30200 Lbs.

Yes

b.

14. Additional Descriptions for Materials Listed Above

Profile# GM21450-1000

Containers# 410931

15. Special Handling Instructions and Additional Descriptions

Emergency Phone# 1-800-655-6653

ERG# 171

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

on behalf of GMPT

Printed/Typed Name

Daniel Foltz

Signature

Edward L. Raines

Edward L. Raines

Month Day Year

11 21 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Transporter 3 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

20. Transporter 4 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

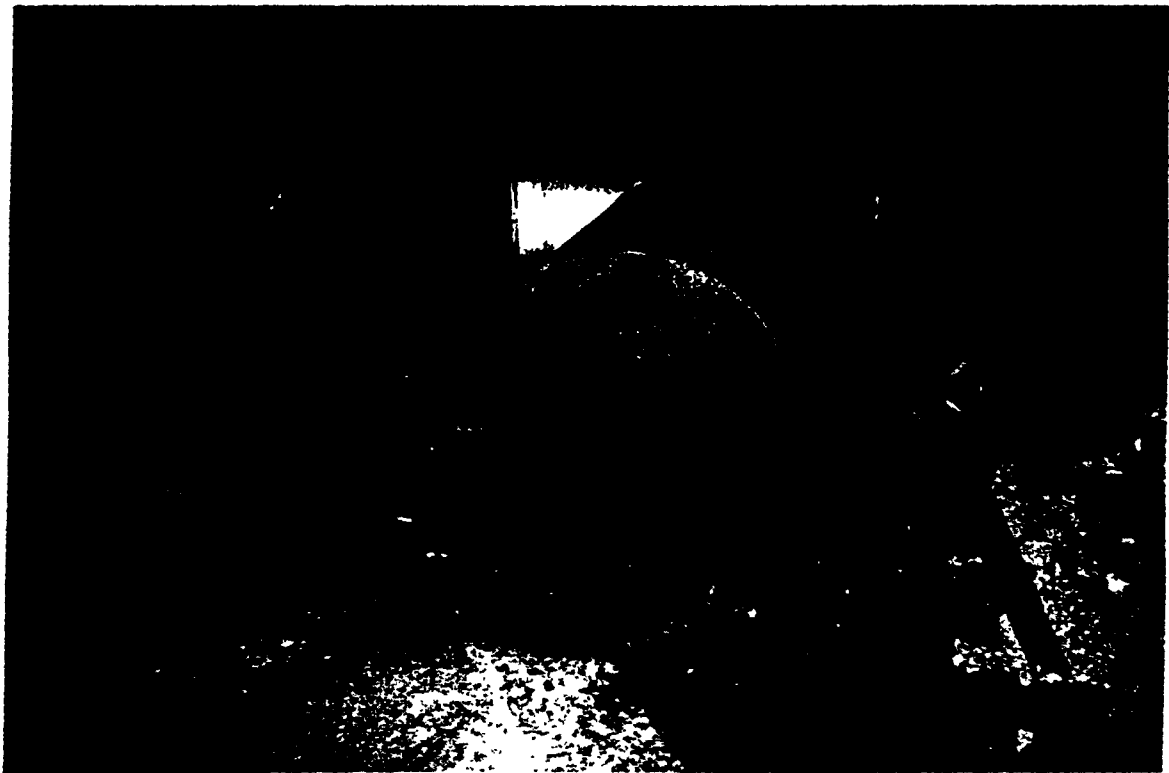
21. Discrepancy Indication Space

22. Facility Owner or Operator: Certification of Receipt of non-hazardous materials covered by this Bill of Lading except as noted in item 21.

Printed/Typed Name

Signature

Month Day Year





SAM ADAMS
PROJECT MANAGER

PO BOX 34337
INDIANAPOLIS, IN 46234
1-800-421-7764

THIS MEMORANDUM is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate covering the property named herein, and is intended solely for filing or record.

Shipper's No. 117-22

(Carrier) Spill Recovery of Indiana, Inc. SCAC. _____ Carrier's No. IMD981956055
Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading

at Indianapolis, IN date 11-2-82 from G. H. Evans & Co.
The property described below, in apparent good order except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company the world company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract, agree to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee for purposes of notification only.)

TO: Consignee Spill Recovery of Indiana
Street 10635 E. US Hwy 136
Destination Indianapolis, IN Zip 46234

FROM: G. H. Evans & Co.
Shipper
Street
Origin Zip

Route:

Delivering Carrier

Trailer Initial/Number 57

U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	Weight (including container)	Class or rate	Labels required (see exceptions)	Check column
		<u>Peroxide from container</u>				<u>137</u>	<u>G</u>		
		<u>Peroxide from tank</u>				<u>26</u>	<u>G</u>		
					<u>Total</u>	<u>163</u>	<u>G</u>		

Remit C.O.D. to:

Address:

City:

State:

Zip:

COD

AMT:

\$

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse to the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

C. O. D. FEE

Prepaid ☐

Collect ☐ \$

"If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is 'carrier's or shipper's weight'. Note - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____"

Charges Advanced

\$

(Signature of consignor)

FREIGHT CHARGES

☐ Prepaid ☐ Collect

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation

PLACARDS
REQUIRED

PLACARDS
SUPPLIED

☐ YES ☐ NO - FURNISHED BY CARRIER
DRIVER'S SIGNATURE:

SHIPPER: G. H. Evans & Co.

PER: _____ DATE: 11-2-82

CARRIER: SR of Indiana, Inc.

PER: _____ DATE: 11-2-82

EMERGENCY RESPONSE 800 421-7764
TELEPHONE NUMBER: 800 421-7764

Permanent post office address of shipper

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (\$172.60)

9-BLS-A3 (Rev. 7/9)

SPILL RECOVERY OF INDIANA, INC.

CERTIFICATION OF FUEL BLENDING

TO: GENERAL MOTORS POWERTRAIN
105 GM DRIVE
BEDFORD, IN 47421

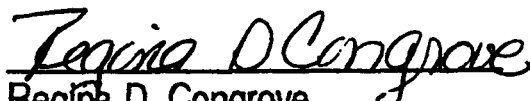
PRODUCT: DIESEL

GALLONS: 163

THE MATERIAL AND GALLONS AS INDICATED ABOVE, WAS ENTERED INTO A FUEL BLENDING PROGRAM. THE FUELS ARE OFFERED FOR THIS PROGRAM TO **WARRIOR OIL SERVICES, INC.**, IN ACCORDANCE WITH UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, FOR FUEL BLENDING PROGRAMS.

LOCATION: SAME

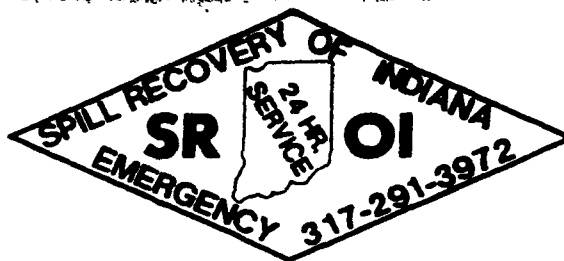
INVOICE NUMBER: 109395


Regina D. Congrove
Client Services

SPILL RECOVERY OF INDIANA, INC. EPA ID# IND981956055
WARRIOR OIL SERVICE, INC. EPA ID# IND984900308

SROI

109395



P.O. Box 34337
Indianapolis, IN 46234
1-800-421-SROI (7764)

Soil
Control
Associates
of America

CUSTOMER

P.O. # _____

Date 10/1 TEL # _____Customer Robert R. [unclear] Contact [unclear]Billing Address 105 [unclear] Rd. [unclear] IN 46234Location of Work 1.5 [unclear]Job Description [unclear]

PPE Level _____

EQUIPMENT

QTY.	HOURS	DESCRIPTION
		Vacuum Truck # 5
		Vacuum Truck #
		Vacuum Truck #
		Tanker #
		Stake Truck # 7
		Support Vehicle #
		Support Vehicle #
		Front Loader #
		Dump Truck #
		Backhoe #
		Track Hoe
		Swap Loader

EQUIPMENT

QTY.	HOURS	DESCRIPTION
		EMER. RESPONSE UNIT #
		Hand Tools
		Sampling Equipment
		PPE

MATERIALS

QTY.	DESCRIPTION
	Pads bale each
	5" Boom bale each
	8" Boom bale each
	Pillows bale each
	Sweep bale
	Sample Tags

MATERIALS

QTY.	DESCRIPTION
	Kiln Dust
	Spahg Sorb size: C.F.
	Floor Dri
	Drum 17-H 17-E Poly Steel
	Drum, O-Pak gal Poly Steel
	Drum Labels

Man Hours

QTY.	DESCRIPTION
	Project Mgr/Foreman
	Equipment Operator
	Equipment Operator
	Equipment Operator
	Technician
	Technician
	Technician
	Technical Service

Man Hours

INT.	QTY.	DESCRIPTION	INT.
		Delivery	
		Fuel Blending	
		Water Treatment	

Rep. for

Customer _____

Title: _____

SROI Rep. _____

Date 10/23

NOTE: The above Work Order does not include certain incurred costs for materials or services supplied in the performance of the contract. The liability for which Spill Recovery Of Indiana has not yet received notification. Such incurred liabilities shall be included in a final invoice for services rendered in the performance of the contract. For example, but not limited to: fuel, telephone, miscellaneous tools, gloves, mileage, etc.

SPILL RECOVERY & CLEANUP CONTRACT

Comes now SPILL RECOVERY OF INDIANA, INC., hereinafter referred to as the "Contractor", and

Comes now _____

hereinafter referred to as the "Customer", by and through its duly authorized representative, agent, servant and/or employee, and

IT IS COVENANTED AND AGREED AS FOLLOWS:

1. The Customer hires the Contractor for the purpose of the recovery/clean-up of the materials of which said spill occurred

on or about 10-22-2000 and involves an area in the location of

G.M. Power Train

2. The Contractor agrees to undertake the spill recovery work and to satisfy the requirements of the various governmental authorities which are made known by the Customer to the Contractor, providing all necessary materials, labor and equipment as per a schedule of charges, which is attached hereto, made a part thereof, and marked Exhibit "A" for identification.

3. The Customer authorizes the Contractor to use whatever equipment the Contractor deems necessary and provide whatever labor the Contractor deems necessary to complete the spill recovery/clean-up as herein provided, and Customer agrees to pay the charges for said material, labor and equipment as set forth in Exhibit "A" attached hereto.

4. Payment shall be made by the Customer to the Contractor promptly upon submission of invoices, and will be from time to time submitted during the course of the work by the Contractor to the Customer. If any invoice is not paid within thirty (30) days from its due date, Contractor may take any action at law or equity for recovery and Customer agrees to pay all costs, including reasonable attorney fees incurred by Contractor in bringing such action.

5. The Customer shall designate the area in which the spill recovery/clean-up is to be conducted in writing and attach hereto as Exhibit "B", and the Customer will hold the Contractor harmless from any and all claims arising out of necessary ingress and egress and operation on lands necessitated by the recovery or clean-up, but the Contractor shall be responsible for any damages to lands or buildings thereon caused by the negligence of the Contractor, his servants, agents and/or

employees, and shall hold the Customer harmless from claims arising out of that said negligence.

6. The Contractor will carry suitable liability insurance covering its operation, a copy is attached and marked Exhibit "C". The Contractor shall carry the necessary Workmen's Compensation Insurance and upon demand, deliver a certificate for said insurance to the Customer.

7. The Customer shall agree to furnish a Certificate of Insurance covering liability to SPILL RECOVERY OF INDIANA, INC.

8. The Customer may stop the spill recovery/clean-up work upon twenty-four (24) hour written notice, and upon payment of all invoices submitted or due at the time of the work stoppage.

9. Any estimates of time, labor, material and equipment given by the Contractor to the Customer are estimates only, since the work on the spill recovery/clean-up must be done in such a manner as to comply with the rules and regulations of various governmental authorities and the controlling price for work done shall not be the estimate but the actual amount of time, labor and equipment spent in accordance with Exhibit "A" attached hereto and invoices submitted thereon by the Contractor to the Customer.

DATED THIS day of 10-22-00

SPILL RECOVERY OF INDIANA, INC.

By [Signature]

Title Regional Manager

Customer General Motors Powertrain Division

By [Signature]

Title Environmental Engineer

Attachment K

Communications with Local Response / Emergency Facilities



**Worldwide Facilities Group
Environmental Services
Midwest Region - Bedford Facility**

105 GM Drive
Bedford, Indiana 47421-0271
(812)-279-7404 [fax 7258]

November 24, 1998

Dunn Memorial Hospital
1600 23rd Street
Bedford, IN 47421

Subject: Emergency Response and Preparedness - Release Plan

Dear Jon Maze, Ambulance Supervisor

Thank you for your interest in the GM Powertrain - Bedford, Emergency Response and Preparedness - *Release Plan*. The plan gives important background information about chemicals stored at our facility and the steps that would be taken in the event of a significant chemical release. As you will find in the plan, the Bedford Fire Department is the only local emergency response group that has direct responsibility for responding to significant chemical releases. The Bedford Fire Department has been trained in spill response under the HAZWOPER program and has the necessary skills to protect local health and the environment.

The Dunn Memorial Hospital would **NOT** be asked to respond directly to chemical releases at the facility. However, in the event of an emergency the Dunn Memorial Hospital may be utilized, if necessary, to give medical attention to people in the plant and the surrounding region.

If you have any questions with any of the information contained in the plan, please feel free to call me at 279-7404.

Sincerely,

Kimberly Dobosenski
Environmental Engineer



**Worldwide Facilities Group
Environmental Services**
Midwest Region - Bedford Facility
105 GM Drive
Bedford, Indiana 47421-0271
(812)-279-7404 [fax 7258]

November 24, 1998

Laurence County Local Emergency Planning Committee
Rt 10 Box # 1122
Bedford, IN 47421

Subject: Emergency Response and Preparedness - Release Plan

Dear Valerie Luchauer,

Thank you for your interest in the GM Powertrain - Bedford, Emergency Response and Preparedness - *Release Plan*. The plan gives important background information about chemicals stored at our facility and the steps that would be taken in the event of a significant chemical release. As you will find in the plan, the Bedford Fire Department is the only local emergency response group that has direct responsibility for responding to significant chemical releases. The Bedford Fire Department has been trained in spill response under the HAZWOPER program and has the necessary skills to protect local health and the environment.

If you have any questions with any of the information contained in the plan, please feel free to call me at 279-7404.

Sincerely,

Kimberly Dobosenski
Environmental Engineer



**Worldwide Facilities Group
Environmental Services
Midwest Region - Bedford Facility**

105 GM Drive
Bedford, Indiana 47421-0271
(812)-279-7404 [fax 7258]

November 24, 1998

Bedford Regional Medical Center
2900 West 16th Street
Bedford, IN 47421

Subject: Emergency Response and Preparedness - Release Plan

Dear Jim Pittman,

Thank you for your interest in the GM Powertrain - Bedford, Emergency Response and Preparedness - *Release Plan*. The plan gives important background information about chemicals stored at our facility and the steps that would be taken in the event of a significant chemical release. As you will find in the plan, the Bedford Fire Department is the only local emergency response group that has direct responsibility for responding to significant chemical releases. The Bedford Fire Department has been trained in spill response under the HAZWOPER program and has the necessary skills to protect local health and the environment.

The Bedford Regional Medical Center would **NOT** be asked to respond directly to chemical releases at the facility. However, in the event of an emergency the Bedford Regional Medical Center may be utilized, if necessary, to give medical attention to people in the plant and the surrounding region..

If you have any questions with any of the information contained in the plan, please feel free to call me at 279-7404.

Sincerely,

Kimberly Dobosenski
Environmental Engineer



**Worldwide Facilities Group
Environmental Services**
Midwest Region - Bedford Facility
105 GM Drive
Bedford, Indiana 47421-0271
(812)-279-7404 [fax 7258]

November 24, 1998

Bedford Police
1617 K. Street
Bedford, IN 47421

Subject: Emergency Response and Preparedness - Release Plan

Dear Dave Jarrard,

Thank you for your interest in the GM Powertrain - Bedford, Emergency Response and Preparedness - *Release Plan*. The plan gives important background information about chemicals stored at our facility and the steps that would be taken in the event of a significant chemical release. As you will find in the plan, the Bedford Fire Department is the only local emergency response group that has direct responsibility for responding to significant chemical releases. The Bedford Fire Department has been trained in spill response under the HAZWOPER program and has the necessary skills to protect local health and the environment.

The Bedford Police would **NOT** be asked to respond directly to chemical releases at the facility. However, in the event of an emergency the Bedford Police may be utilized, if necessary, to give assistance to the emergency situation.

If you have any questions with any of the information contained in the plan, please feel free to call me at 279-7404.

Sincerely,

Kimberly Dobosenski
Environmental Engineer



**Worldwide Facilities Group
Environmental Operations
Indiana Region - Bedford Facility**

P.O. Box, 271, 105 GM Drive
Bedford, Indiana 47421-0271

(812)-279-7308 [fax 7258]
8-343-7308 [fax 7258]

In order to meet our requirements under the ISO14000 program, we are issuing the following statement. This statement verifies that General Motors Environmental Personnel, from the Bedford facility, have discussed and made arrangements with the local Fire Department in regards to GM Bedford's Emergency Response and Preparedness - *Release Plan*. In the event of an actual or imminent emergency, beyond the capabilities of internal response, the Bedford Fire Department will be called to respond.

I certify that I have reviewed and discussed the GM Bedford Emergency Response and Preparedness - *Release Plan* with the Bedford Fire Chief.

Wm. Schwane
GM Environmental Engineer

11-30-98
Date

I certify that the GM Bedford Emergency Response and Preparedness - *Release Plan* has been reviewed and discussed with me by GM Environmental Personnel.

Carl Brueckamp
Bedford Fire Chief

11-30-98
Date

1. I also wish to receive the following services (for an extra fee):
☐ 1. Addressee's Address
☐ 2. Restricted Delivery
☐ Consult postmaster for fee.

2. Article Addressed to:
 R. 10
 O. Box 1122
 Bedford, IN 47421

3. Article Addressed to:
 PC att: Webster, Chair

4a. Article Number
 2 516 937 151

4b. Service Type
☐ Registered
☐ Express Mail
☐ Return Receipt for Merchandise
☐ Insured
☐ COD

7. Date of Delivery
 10/28/94

8. Addressee's Address (Only if requested and fee is paid)

9. Signature: (Address of Agent)
 X Kathy DeLonge

10. Received By: (Print Name)
 Kathy DeLonge

11. Date of Delivery
 10/28/94

12. Addressee's Address (Only if requested and fee is paid)

13. Domestic Return Receipt

14. PS Form 3811, December 1994

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

1. I also wish to receive the following services (for an extra fee):
☐ 1. Addressee's Address
☐ 2. Restricted Delivery
☐ Consult postmaster for fee.

2. Article Addressed to:
 Bedford Police Department
 Attn: Assistant Chief Dave Jarrard
 1617 K St.
 Bedford, IN 47421

3. Article Addressed to:
 Bedford Police Department
 Attn: Assistant Chief Dave Jarrard
 1617 K St.
 Bedford, IN 47421

4a. Article Number
 2 516 937 672

4b. Service Type
☐ Registered
☐ Express Mail
☐ Return Receipt for Merchandise
☐ Insured
☐ COD

7. Date of Delivery
 10/28/94

8. Addressee's Address (Only if requested and fee is paid)

9. Signature: (Address of Agent)
 X Kathy DeLonge

10. Received By: (Print Name)
 Kathy DeLonge

11. Date of Delivery
 10/28/94

12. Addressee's Address (Only if requested and fee is paid)

13. Domestic Return Receipt

14. PS Form 3811, December 1994

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

1. I also wish to receive the following services (for an extra fee):
☐ 1. Addressee's Address
☐ 2. Restricted Delivery
☐ Consult postmaster for fee.

2. Article Addressed to:
 Bedford Regional Medical Center
 Attn: James Pithman
 2900 W 16th St.
 Bedford, IN 47421

3. Article Addressed to:
 Bedford Regional Medical Center
 Attn: James Pithman
 2900 W 16th St.
 Bedford, IN 47421

4a. Article Number
 2 516 937 680

4b. Service Type
☐ Registered
☐ Express Mail
☐ Return Receipt for Merchandise
☐ Insured
☐ COD

7. Date of Delivery
 11-2-98

8. Addressee's Address (Only if requested and fee is paid)

9. Signature: (Address of Agent)
 X Kathy DeLonge

10. Received By: (Print Name)
 Kathy DeLonge

11. Date of Delivery
 11-2-98

12. Addressee's Address (Only if requested and fee is paid)

13. Domestic Return Receipt

14. PS Form 3811, December 1994

Thank you for using Return Receipt Service.

receive a copy of the GM Powertrain - B
 Emergency Response and Preparedness
 Release Plan.

Please address the package to the attention
 of Vlentic Luchauer
 (Name of Individual to receive the Release Plan)

at the following address:

2+10 Box #1122
Bedford, IN 47421

☒ Yes, Bedford Police would
 (Name of Emergency Service)
 receive a copy of the GM Powertrain - E
 Emergency Response and Preparedness
 Release Plan.

Please address the package to the attention
 of DAVE JARRARD
 (Name of Individual to receive the Release Plan)

at the following address:

1617 K Street
Bedford, IN 47421

☒ Yes, Bedford Regional Medical Center would
 (Name of Emergency Service)
 receive a copy of the GM Powertrain - E
 Emergency Response and Preparedness
 Release Plan.

Please address the package to the attention
 of Jim Pittman
 (Name of Individual to receive the Release Plan)

at the following address:

2900 W 16th St
Bedford, IN 47421

☒ Yes, David Memorial Hospital would
 (Name of Emergency Service)
 receive a copy of the GM Powertrain - B
 Emergency Response and Preparedness
 Release Plan.

Please address the package to the attention
 of Jon Maze, Ambulance Super
 (Name of Individual to receive the Release Plan)

at the following address:

1600-2300 St
Bedford, IN 47421

Is your RETURN ADDRESS completed on the reverse side?

1. I also wish to receive the following services (for an extra fee):
☐ 1. Addressee's Address
☐ 2. Restricted Delivery
☐ Consult postmaster for fee.

2. Article Addressed to:
 Dunn Memorial Hospital
 Attn: Patricia Pemberton
 2300 W 16th St.
 Bedford, IN 47421

3. Article Addressed to:
 Dunn Memorial Hospital
 Attn: Patricia Pemberton
 2300 W 16th St.
 Bedford, IN 47421

4a. Article Number
 2 516 937 683

4b. Service Type
☐ Registered
☐ Express Mail
☐ Return Receipt for Merchandise
☐ Insured
☐ COD

7. Date of Delivery
 12-31-98

8. Addressee's Address (Only if requested and fee is paid)

9. Signature: (Address of Agent)
 X Kathy DeLonge

10. Received By: (Print Name)
 Kathy DeLonge

11. Date of Delivery
 12-31-98

12. Addressee's Address (Only if requested and fee is paid)

13. Domestic Return Receipt

14. PS Form 3811, December 1994

Thank you for using Return Receipt Service.



**Worldwide Facilities Group
Environmental Services**

GM Powertrain 105 Dr.
Bedford, Indiana 47421
Phone: 812-279-7404
Fax: 812-279-7258

Date: October 27, 1998

To: Lawrence County Local Emergency Planning Committee

From: Kimberly Dobosenski, General Motors Environmental Engineer

Subject: New Version of the GM Powertrain - Bedford, Emergency Response and Preparedness Release Plan

The Emergency Response and Preparedness - Release Plan for the GM Powertrain - Bedford Aluminum Foundry has been updated and amended from the 1997 version. If you would like to have a copy of this Release Plan, please complete and return the following postcard.

Thank you for your support and services



**Worldwide Facilities Group
Environmental Services**

GM Powertrain 105 Dr.
Bedford, Indiana 47421
Phone: 812-279-7404
Fax: 812-279-7258

Date: October 27, 1998

To: Bedford Police Department

From: Kimberly Dobosenski, General Motors Environmental Engineer

Subject: New Version of the GM Powertrain - Bedford, Emergency Response and Preparedness Release Plan

The Emergency Response and Preparedness - Release Plan for the GM Powertrain - Bedford Aluminum Foundry has been updated and amended from the 1997 version. If you would like to have a copy of this Release Plan, please complete and return the following postcard.

Thank you for your support and services



**Worldwide Facilities Group
Environmental Services**

GM Powertrain 105 Dr.
Bedford, Indiana 47421
Phone: 812-279-7404
Fax: 812-279-7258

Date: October 27, 1998

To: Bedford Regional Medical Center

From: Kimberly Dobosenski, General Motors Environmental Engineer

Subject: New Version of the GM Powertrain - Bedford, Emergency Response and Preparedness Release Plan

The Emergency Response and Preparedness - Release Plan for the GM Powertrain - Bedford Aluminum Foundry has been updated and amended from the 1997 version. If you would like to have a copy of this Release Plan, please complete and return the following postcard.

Thank you for your support and services



**Worldwide Facilities Group
Environmental Services**

GM Powertrain 105 Dr.
Bedford, Indiana 47421
Phone: 812-279-7404
Fax: 812-279-7258

Date: October 27, 1998

To: **Dunn Memorial Hospital**

From: **Kimberly Dobosenski, General Motors Environmental Engineer**

Subject: **New Version of the GM Powertrain - Bedford, Emergency Response and Preparedness Release Plan**

The Emergency Response and Preparedness - Release Plan for the GM Powertrain - Bedford Aluminum Foundry has been updated and amended from the 1997 version. If you would like to have a copy of this Release Plan, please complete and return the following postcard.

Thank you for your support and services



14649 Highway 41 North • Evansville, IN 47711
 (812) 867-0100 • Fax (812) 867-4478
 www.koesterco.com
 1-888-KOESTER

SPECIFIC SERVICES AGREEMENT
(EMERGENCY RESPONSE SERVICE)
 KES Job Number S0199

This Agreement entered into by and between **GM Powertrain Group, GM Corporation (Bedford Plant)**, with its mailing address at **105 GM Drive, Bedford, IN 47421**, Phone: **812-279-7308** Fax: **812-279-7258** (hereinafter referred to as "Client"), and **Koester Environmental Services, Inc.** (hereinafter referred to as "KES");

1. **Details of Emergency.** (Identify known facts and conditions that requires emergency response action.)

Annual Specific Service Agreement to provide labor, equipment and materials necessary to perform emergency spill response and clean-up for hazardous materials accidentally released into the environment by representatives or property of GM Powertrain Group, GM Corporation (hereinafter referred to as the "Emergency").

2. **Location:**

Bedford Plant located at 105 GM Drive in Bedford, Indiana

3. **Services.** KES shall furnish labor, material and equipment for the Services necessary to respond to the Emergency in accordance with local, state, and federal regulations. KES shall attempt to stabilize, control or contain the Emergency within a reasonable time to prevent contamination and danger to the public and/or the environment. Actions taken by KES shall be based on the facts and information regarding the Emergency as set forth in paragraph 1 (hereinafter referred to as the "Services"). Client shall promptly inform KES in the event additional information concerning the Emergency becomes available.
4. **Price and Billing.** KES shall furnish labor, material and equipment for the Services necessary to respond to the Emergency in accordance with local, state, and federal regulations in association with the Equipment/Price List attached (see attachment A).
5. **Unknown Conditions.** Client understands and agrees that the exact Services needed to remedy the Emergency cannot be foreseen. The exact Services to be rendered will be determined by KES in consultation with participating parties pursuant to the circumstances of each situation and are hereby authorized by Client; provided, however, that if time allows, any extreme conditions not set forth in paragraph 1 of this Agreement shall be discussed with Client to determine such action to be taken.
6. **Inability to Respond.** Client understands that while KES will attempt to respond to the circumstances that may arise, KES does not guarantee that it will be able to respond to all situations.
7. **Certifications.** KES shall maintain its certification by applicable local, state and federal statutes and regulations to perform this class of environmental services.
8. **Notices.** All applicable notices of the Emergency and Services to governmental agencies or authorities are solely the responsibility of the Client unless the Client direct KES to notify appropriate entities.

GM Powertrain Group – Emergency Response Service
Page 2

9. **Authority.** Each individual executing this Agreement on behalf of the parties hereto represents and warrants that they are duly authorized to execute and deliver this Agreement on behalf of their respective companies or entities.
10. **Miscellaneous.** Client agrees and acknowledges that it shall submit all sums owed to KES under this agreement within 30 days of the date of the invoice. Client agrees to pay a 1.5% carrying charge per month on all amounts not paid within 30 days from the date of invoice. Client shall pay any and all costs and attorneys' fees that KES incurs in pursuing any collection of fees owed under this agreement.
11. **Effective Date.** This Agreement is effective immediately for one (1) year upon the execution of contract.

WITNESSETH THAT:

For and in consideration of the mutual promises, covenants, and agreements herein contained and agreed to be kept and performed by the parties hereby, the parties hereto do hereby mutually agree and understand the Agreement. The contract documents consist of this Agreement and the General Contract Conditions. This Agreement and the General Contract Conditions form the complete agreement of the parties. The General Contract Conditions is incorporated into this Agreement and is a part of this Agreement as if attached to this Agreement and repeated herein in its entirety. This Agreement and the General Contract Conditions represent the entire and integrated agreement between the parties hereto and supersede prior negotiations, representations or agreements, either written or oral.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands.

KOESTER ENVIRONMENTAL SERVICES, INC.

Dated: January 20, 2000

By:



Jan Schuler
Business Unit Manager, Industrial Services

By:

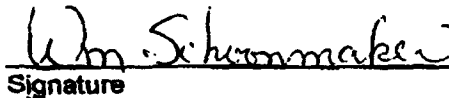


Michael E. Thompson
President

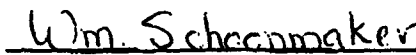
Client

Dated: Jan. 20, 2000

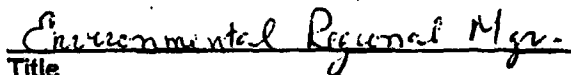
By:



Signature



Printed Name



Title

ATTACHMENT A
KOESTER ENVIRONMENTAL SERVICES, INC.
Time & Materials Rates

Revised / Effective March 29, 1998

Technical and Professional Staff:

Principal	150.00/Hr.
Vice President	100.00/Hr.
Sr. Manager	90.00/Hr.
Geologist	65.00/Hr.
Project Manager	65.00/Hr.
Environmental Scientist	55.00/Hr.
Engineer	60.00/Hr.
Supervisor/Operator	50.00/Hr.
Leadman	42.00/Hr.
Field Technician	30.00/Hr.
Shop Personnel	35.00/Hr.
Industrial Hygienist	60.00/Hr.
Waste Mgmt Personnel	50.00/Hr. Ea.
Administrative Support	35.00/Hr.
Drafter/Illustrator	30.00/Hr.
Analyst	45.00/Hr.
Estimators	46.00/Hr.
Photographs	Cost + 15%
Copies	0.15/Ea.
Per Diem	25.00/Man/Day
Accommodations (Hotel, etc.)	Cost + 15%

Construction Equipment:

Concrete Saw	\$ 78.00/Day
Air Compressor	81.00/Day
Jackhammer & Hose (1" dia.) & Bit	45.00/Day
Pneumatic Drill	103.00/Day
Acetylene Torch	25.00/Day
Wrecking Ball	78.00/Day
Bobcat - 900/1300 lb. capacity	141.00/Day
Extendahoe	40.00/Hr.
Excavator PC220	78.00/Hr.
Roller Compactor w/vibrator 66	57.00/Hr.
Crane up 18 Ton	58.50/Hr.
Crane up 65 Ton	150.00/Hr.
Dump Truck w/Driver	55.00/Hr.
Triaxle Truck w/Driver	65.00/Hr.
Vacuum Truck w/Driver	105.00/Hr.
Drum Vac	12.50/Hr.

NOTE: Construction Equipment Rates are for KES equipment. If not available, equipment will be rented and charged at rental rate costs + 15%.

Koester Environmental Services, Inc.
 Schedule of Fees
 Revised / Effective March 29, 1998

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Drilling and Drilling Support Equipment:

Mobilization	Quoted Per Occurrence/Dependent upon Equipment
Auger Rotary Drill Mounted on Ford Chassis	155.00/Hr.
Centrifugal/Submersible Pump	78.00/Day
Large Volume Pump	52.00/Day
Shelby Tube	16.00/Each
Split Spoon Samples	13.00/Each

Monitoring Equipment:

Air Flow Monitor	52.00/Day
Combustible Gas Meter	16.00/Hr.
Draeger Sampler	16.00/Hr.
Field GC	412.00/Day
LEL/O2 Meter	103.00/Day
Metal Detector	78.00/Day
Photo-Ionization Detector (PID)	55.00/Day

Protective and Safety Equipment:

Cartridges	Cost + 10%
Caution Tape	Cost + 10%
EPA Level A Responder Suits	Per Occurrence
EPA Level B	250.00/Day/Man
EPA Level C	115.00/Day/Man
Manifold Air Supply	150.00/Day
Plastic Liner (6mil, 8mil, etc.)	Cost + 10%
Saranex-Chemical Suits	20.00/Each
Tyvek Suits	16.00/Each
Baricades	42.00/Day
Cones	2.25/Each/Day
Flashing Arrow	155.00/Day
Signs	16.00/Day
Snow Fence	2.25/Foot/Day
Decontamination	Per Occurrence

Sampling Equipment:

Air Sampling Pump	78.00/Day
Bailer(s)/Dedicated	16.00/Day
GC Sampling Equipment	31.00/Day
Colliwassa	25.00/Each
Hand Auger	16.00/Day
Sampling Containers	3.25/Each

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Laboratory Analysis:

Method 8015 TPH	Cost + 15%
Method 8020 BTEX	Cost + 15%
TCLP Volatiles	Cost + 15%
TCLP Metals	.....	Cost + 15%
Full TCLP	.....	Cost + 15%
PCBs	.....	Cost + 15%
RCI	.....	Cost + 15%

Materials, Expenses, Vehicles, and Mileage:

Materials	Actual + 20%
Expenses	.....	Actual + 20%
Truck, Pickup (unlimited miles)	.....	68.00/Day
Car (unlimited miles)	.....	60.00/Day
Mileage, Car	.....	0.38/Mile
Mileage, Pickup Truck	.....	0.43/Mile

UST Remediation:

Permitting Disposal of Petroleum Contaminated Soil	...	750.00/Waste Stream
Loading, Transportation, and Disposal of Non-Hazardous special solid waste.	.....	\$TBD
Site Characterization and/or Investigation	.....	\$TBD
Remedial Investigation and Feasibility Study	.....	\$TBD (based on the amount and type of contamination)
Corrective Action Plan (CAP)	.....	\$TBD

Demolition - Furnish labor, tools and equipment to demolish concrete slab and haul off site as follows (disposal not included):

6" thick concrete with wire mesh	.....	1.95/Sq.Ft.
8" thick concrete with #4 rebars one mat	.....	2.50/Sq.Ft.
12" thick concrete with #5 rebars two mats	.....	4.50/Sq.Ft.

Additional backfilling to replace contaminated soil from tank excavation and repiping trenches and compaction to ASTM standard (price to include normal estimated costs to purchase, transport, and place material with standard compaction to 95% [standard proctor]):

Fill sand	.....	15.00/Ton
Clean Dirt	.....	18.00/Ton
Crushed Stone	.....	20.00/Ton
Pea Gravel	16.00/Ton

Koester Environmental Services, Inc.
Schedule of Fees
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Surface Restoration - KES will furnish labor, material, tools, equipment and supervision to perform the following:

Concrete paving with 6" thick concrete with wire mesh 6" x 6" 6/6
and 4000 PSI compressive strength after 28 days at 5.50/Sq.Ft.

Concrete paving with 8" thick concrete with #4 rebar 12 o.c. each
way, one mat and 4000 PSI after 28 days at 6.50/Sq.Ft.

Blacktop paving with normal strength 6" thick base of compacted crushed stone,
3" binder, 1" surface at 4.50/Sq.Ft.

Blacktop paving with high strength 10" thick base of compacted crushed
stone, 4" binder, 1" surface at 6.50/Sq.Ft.

\TMRates



14649 Highway 41 North • Evansville, IN 47711
(812) 867-0100 • Fax (812) 867-4478
www.koesterco.com
1-888-KOESTER

SPECIFIC SERVICES AGREEMENT
(EMERGENCY RESPONSE SERVICE)
8E80574

This Agreement entered into by and between **GM Powertrain Group, GM Corporation (Bedford Plant)** with its mailing address at **105 GM Drive, Bedford, IN 47421**, **Contact: William Schoonmaker, PE, CHMM** **Phone: 812-279-7308 Fax: 812-279-7258** (hereinafter referred to as "Client"), and **Koester Environmental Services, Inc.** (hereinafter referred to as "KES");

1. **Details of Emergency.** (Identify known facts and conditions that requires emergency response action.)

Annual Specific Service Agreement to provide labor, equipment and materials necessary to perform emergency spill response and clean-up for hazardous materials accidentally released into the environment by representatives or property of GM Powertrain Group, GM Corporation (hereinafter referred to as the "Emergency").

2. **Location.**

Bedford Plant located at 105 GM Drive in Bedford, Indiana

3. **Services.** KES shall furnish labor, material and equipment for the Services necessary to respond to the Emergency in accordance with local, state, and federal regulations. KES shall attempt to stabilize, control or contain the Emergency within a reasonable time to prevent contamination and danger to the public and/or the environment. Actions taken by KES shall be based on the facts and information regarding the Emergency as set forth in paragraph 1 (hereinafter referred to as the "Services"). Client shall promptly inform KES in the event additional information concerning the Emergency becomes available.
4. **Price and Billing.** KES shall furnish labor, material and equipment for the Services necessary to respond to the Emergency in accordance with local, state, and federal regulations in association with the Equipment/Price List attached (see attachment A).
5. **Unknown Conditions.** Client understands and agrees that the exact Services needed to remedy the Emergency cannot be foreseen. The exact Services to be rendered will be determined by KES in consultation with participating parties pursuant to the circumstances of each situation and are hereby authorized by Client; provided, however, that if time allows, any extreme conditions not set forth in paragraph 1 of this Agreement shall be discussed with Client to determine such action to be taken.
6. **Inability to Respond.** Client understands that while KES will attempt to respond to the circumstances that may arise, KES does not guarantee that it will be able to respond to all situations.
7. **Certifications.** KES shall maintain its certification by applicable local, state and federal statutes and regulations to perform this class of environmental services.
8. **Notices.** All applicable notices of the Emergency and Services to governmental agencies or authorities are solely the responsibility of the Client unless the Client direct KES to notify appropriate entities.

9. **Authority.** Each individual executing this Agreement on behalf of the parties hereto represents and warrants that they are duly authorized to execute and deliver this Agreement on behalf of their respective companies or entities.
10. **Miscellaneous.** Client agrees and acknowledges that it shall submit all sums owed to KES under this Agreement within 30 days of the date of the invoice. Client agrees to pay a 1.5% carrying charge per month on all amounts not paid within 30 days from the date of invoice. Client shall pay any and all costs and attorneys' fees that KES incurs in pursuing any collection of fees owed under this agreement.
11. **Effective Date.** This Agreement is effective immediately for one (1) year upon the execution of contract.

WITNESSETH THAT:

For and in consideration of the mutual promises, covenants, and agreements herein contained and agreed to be kept and performed by the parties hereby, the parties hereto do hereby mutually agree and understand the Agreement. The contract documents consist of this Agreement and the General Contract Conditions. This Agreement and the General Contract Conditions form the complete agreement of the parties. The General Contract Conditions is incorporated into this Agreement and is a part of this Agreement as if attached to this Agreement and repeated herein in its entirety. This Agreement and the General Contract Conditions represent the entire and integrated agreement between the parties hereto and supersede prior negotiations, representations or agreements, either written or oral.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands.

KOESTER ENVIRONMENTAL SERVICES, INC.

Dated: September 24, 1998

By:

William A. Shoulders
W. A. (Andy) Shoulders
Director of Hazmat/Field Operations

By:

Eric B. Dodd
Eric B. Dodd
President/CEO

GM Powertrain Group, GM Corporation

Dated: 9/28/98

By:

Wm Schoonmaker
Signature

Wm Schoonmaker
Printed Name

ENV. MANAGER
Title

Koester Environmental Services, Inc.

ATTACHMENT A

**KOESTER ENVIRONMENTAL SERVICES, INC.
EMERGENCY RESPONSE PRICE LIST**

CODE	QUANTITY	DESCRIPTION	UNIT	STANDARD	OVERTIME
14000		MOBILIZATION	LS	\$500.00	\$500.00
CODE		DESCRIPTION	UNIT	STANDARD	OVERTIME
14100		PERSONNEL			
14101	_____	PROJECT MANAGER	hour	\$88.00	\$88.00
14102	_____	ENVIRONMENTAL SCIENTIST	hour	\$65.00	\$65.00
14103	_____	SAFETY/SUPERVISOR	hour	\$50.00	\$50.00
14104	_____	ENVIRONMENTAL TECHNICIAN	hour	\$42.00	\$63.00
14105	_____	EQUIPMENT OPERATOR/TRUCK DR.	hour	\$29.00	\$43.50
14106	_____	TECHNICIAN	hour	\$19.00	\$28.00
14107	_____	PER DIEM	DAY	75.00	
CODE		DESCRIPTION	UNIT	STANDARD	OVERTIME
14200		TRANSPORTATION EQUIPMENT			
14201	_____	AUTOMOBILE	DAY	\$ 65.00	
14202	_____	PICK UP	DAY	\$ 72.00	
14203	_____	CREW CAB PICKUP TRUCK	DAY	\$ 88.00	
14204	_____	FOUR WHEEL DRIVE PICKUP TRUCK	DAY	\$ 90.00	
14205	_____	SERVICE TRUCK	DAY	\$ 90.00	
14206	_____	VAC TRUCK (3,200 GAL)	hour	\$115.00	
14207	_____	BOX TRUCK	DAY	\$350.00	
14208	_____	EMER. RESPONSE VAN W/TRAILER	DAY	\$300.00	
14209	_____	EMER. RESPONSE TRAILER(24FT)	DAY	\$240.00	
14210	_____	EQUIPMENT TRAILER	DAY	\$ 80.00	
14211	_____	DUMP TRUCK SINGLE AXLE	hour	\$ 50.00	
14212	_____	DUMP TRUCK TANDEM/TRI-AXLE	hour	\$ 65.00	
14213	_____	SEMI TRACTOR	DAY	\$330.00	
14214	_____	LOW-BOY/FLAT BED TRAILER	DAY	\$160.00	
14215	_____	FUEL/MECHANICS TRUCK	DAY	\$ 98.00	
14216	_____	OFFICE TRAILER	DAY	\$ 65.00	
14217	_____	DECON TRAILER	DAY	\$310.00	
CODE		DESCRIPTION	UNIT	STANDARD	OVERTIME
14300		RECOVERY EQUIPMENT			
14301	_____	WORK BOAT DIESEL TUG (30 FT)	12 HOUR	\$1140.00	
14302	_____	WORK BOAT (19 FT.)	12 HOURS	\$400.00	
14303	_____	WORK BOAT (17 FT.)	12 HOURS	\$350.00	
14304	_____	OIL SKIMMER (36" DRUM)	12 HOURS	\$600.00	
14305	_____	OIL SKIMMER (18" DRUM)	12 HOURS	\$540.00	
14306	_____	DIESEL DRIVE HYDRAULIC POWER PK	12 HOURS	\$300.00	
14307	_____	SKIRTED BOOM (19")	PER DAY	\$1.35/FT	
14308	_____	SKIRTED BOOM (9")	PER DAY	\$1.10/FT	
14309	_____	DRUM VAC	PER DAY	\$100.00	
14310	_____	FRAC TANK (20,000 GALLON)	PER DAY	\$ 70.00	(7 DAY MINIMUM)
14311	_____	POLY TANK (2,000 GALLON)	PER DAY	\$ 80.00	
14312	_____	CONTAINMENT POND (7,000 GALLON)	PER DAY	\$ 80.00	
14313	_____	CONTAINMENT POND (2,000 GALLON)	PER DAY	\$ 80.00	
14314	_____	POLYPROPYLENE DIAPHRAGM PUMP	PER DAY	\$150.00	
14315	_____	DIAPHRAGM PUMPS (2"3")	PER DAY	\$ 50.00	
14316	_____	TRASH PUMPS (3"4")	PER DAY	\$100.00	
14317	_____	ANCHORS	PER DAY	\$ 15.00	
CODE		DESCRIPTION	UNIT	STANDARD	OVERTIME
14400		HEAVY EQUIPMENT			
14401	_____	BACKHOE 4X4	DAY	\$400.00	
14402	_____	EXTENDAHOE 4X4	DAY	\$450.00	
14403	_____	TRACKHOE PC 150	DAY	\$650.00	
14404	_____	TRACKHOE PC 220	DAY	\$750.00	
14405	_____	FRONT-END LOADER	DAY	\$750.00	
14406	_____	HIGH LIFT BULLDOZER	DAY	\$600.00	
14407	_____	BOBCAT	DAY	\$240.00	
14408	_____	AIR COMPRESSOR	DAY	\$150.00	
14409	_____	PRESSURE WASHER	DAY	\$ 95.00	

CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14500	EQUIPMENT AND TOOLS			
14501	CHAIN SAW	DAY	\$ 45.00	
14502	BLOWERS	DAY	\$ 45.00	
CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14500	EQUIPMENT AND TOOLS (CON'T)			
14503	GENERATOR	DAY	\$200.00	
14504	SATELLITE LIGHT TOWER	DAY	\$140.00	
14505	LIGHT TOWER	DAY	\$ 50.00	
14506	SPARK PROOF TOOLS	DAY	\$ 65.00	
14507	HAND TOOLS	DAY	\$ 45.00	
14508	MERCURY VAC	DAY	\$150.00	
14509	FLAIRING EQUIPMENT	DAY	\$400.00	
CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14500	EQUIPMENT AND TOOLS			
14510	SAFETY SHOWER	DAY	\$ 75.00	
14511	EYE WASH STATION	DAY	\$ 30.00	
14600	PERSONAL PROTECTION EQUIPMENT			
14601	LEVEL A PROTECTION	DAY	\$300.00	
14602	LEVEL B PROTECTION	DAY	\$250.00	
14603	LEVEL C PROTECTION	DAY	\$115.00	
14604	FLASH PROTECTION	DAY	\$100.00	
14605	TURNOUT GEAR	DAY	\$100.00	
14606	SELF CONT BREATHING APPARATUS	DAY	\$150.00	
CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14700	HAZMAT REPAIR KITS - MONITORING EQUIPMENT			
14701	CHLORINE KIT A	PER DAY	\$500.00	
14702	CHLORINE KIT B	PER DAY	\$500.00	
14703	CHLORINE KIT C	PER DAY	\$500.00	
14704	HAZMAT SPILL KITS A-2/C-1/C-2/A-E	PER ITEM	\$ 25.00	
14705	MSA PASSPORT	PER DAY	\$100.00	
14706	PHOTO IONIZATION DETECTOR	PER DAY	\$100.00	
14707	SENSIDYNE DRAGERTUBES	PER DAY	\$150.00	
14708	PH PAPER	PER DAY	\$ 10.00	
14709	PCBS TEST KIT	PER DAY	\$ 50.00	
14710	WEATHER STATION	PER DAY	\$ 70.00	
CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14800	EXPENDABLES			
14801	CAUTION TAPE	PER ROLL	\$ 15.00	
14802	ABSORBENT COMPOUND	PER BAG	\$ 10.00	
14803	ABSORBENT ROLL	PER ROLL	\$135.00	
14804	ABSORBENT PADS	PER BALE	\$ 50.50	
14805	ABSORBENT BOOM 4"	PER BOOM	\$ 47.50	
14806	ABSORBENT BOOM 8"	PER BOOM	\$ 49.00	
14807	STEEL 85 GALLON DRUM	EACH	\$155.00	
14808	POLY 95 GALLON DRUM	EACH	\$190.00	
14809	STEEL 55 GALLON DRUM	EACH	\$ 65.00	
14810	STEEL 8 GALLON DRUM	EACH	\$ 50.00	
14811	PLASTIC PAILS 5 GALLON	EACH	\$ 5.00	
14812	PLASTIC ROLL	PER ROLL	\$ 75.00	
14813	CPF-1	EACH	\$ 10.60	
14814	CPF-2	EACH	\$ 18.90	
14815	CPF-3	EACH	\$ 30.60	
14816	GREEN ACID SUITS	EACH	\$65.00	
14817	SARANEX SUITS	EACH	\$ 20.00	
14818	DISPOSAL BOOTIES	EACH	\$ 5.00	
14819	PCB GLOVES	PER PAIR	\$ 25.00	
14820	SURGICAL GLOVES	PER BOX	\$ 25.00	
14821	PVC GLOVES	PER PAIR	\$ 8.00	
14822	SILVER SHIELD GLOVES	PER PAIR	\$ 5.00	
14823	NEOPRENE GLOVES	PER PAIR	\$ 12.00	
14824	NEOPRENE BOOTS	PER PAIR	\$ 75.00	
14825	YELLOW POLY ROPE	PER ROLL	\$ 85.00	
14826	HIP WADERS	PER PAIR	\$ 75.00	
14827	RESPIRATOR CARTRIDGES	PER PAIR	\$ 18.00	
14828	HIGH ALKALINE INDUSTRIAL SOAP	/BTL	\$ 8.00	
14829	ORGANIC DEGREASER	5 GALLONS	\$120.00	

ATTACHMENT A

CODE	DESCRIPTION	UNIT	STANDARD	OVERTIME
14900	COMMUNICATIONS			
14901	MOBILE PHONE	PER MINUTE	\$ 1.50	
14902	PORTABLE RADIOS	PER DAY	\$ 80.00	
14903	MARINE RADIOS	PER DAY	\$ 80.00	
14904	FAX MACHINE	PER DAY	\$ 55.00	
14905	FIELD COMPUTER	PER DAY	\$ 75.00	
CODE	DESCRIPTION	UNIT	STANDARD	
14950	OTHER SERVICES			
14951	EXPENDABLE PURCHASES AND/OR EQUIPMENT RENTAL			COST + 20%
14952	EQUIPMENT REPLACEMENT			COST + 20%

ALL HOURLY RATES ARE PORTAL TO PORTAL

I HAVE REVIEWED AND AGREE TO PAY THE ABOVE LISTED PRICES FOR ANY SERVICES OR ITEMS USED DURING THIS EMERGENCY RESPONSE.

SIGNED _____ DATE _____
(REPRESENTATIVE)

WITNESS _____ DATE _____
(KOESTER ENVIRONMENTAL SERVICES)

ENVIRONMENTAL EMERGENCY SPILL RESPONSE AREA

14649 Hwy 41 North
Evansville, IN 47711
(812) 867-0100

EMERGENCY SPILL
(800) 448-4931



900 Manufacturers Road
Chattanooga, TN 37405
(423) 265-9551

EMERGENCY SPILL
(800) 925-9551

GENERAL CONTRACT CONDITIONS

Client and Koester Environmental Services, Inc., an Indiana corporation (hereinafter referred to as "KES"), agree that the following provisions shall be a part of their Agreement in conjunction with all terms contained in the Specific Services Agreement, which is incorporated herein by reference

1 Definitions. The following definitions shall apply to this Agreement and all interpretations of the relationship between the parties

- 1 1 "Client" refers to the individual(s) or entity which enters into this agreement with KES for the purpose of securing the Services of KES
- 1 2 "Specific Services Agreement" is the Specific Services Agreement executed by and between the Client and KES that outlines the specific activities which KES is to perform for the Client
- 1 3 "Site" is the location where KES is to perform Services according to the description in the Specific Services Agreement.
- 1 4 "Services" are those activities which the Client has obtained KES to perform
- 1 5 "Contract Documents" includes the Specific Services Agreement and these General Contract Conditions. The General Contract Conditions is incorporated into the Specific Services Agreement and is a part of the Specific Services Agreement. The Specific Services Agreement and the General Contract Conditions represent the entire agreement between the parties hereto
- 1 6 "Agreement" shall include the terms and conditions of this General Contract Conditions and those terms and conditions of the Specific Services Agreement

2 Client Responsibilities.

- 2 1 **Site Access.** Client shall provide KES, its employees, agents, and subcontractors with right-of-entry and access to all areas of the Site and Client hereby specifically warrants to KES that all KES employees shall have the right to enter and remain at the Site while KES is performing Services thereon for the Client. Client further agrees to cooperate with KES to keep all areas under KES's direction free of all unauthorized persons and all property within relative distance of KES's activities free from activities of the Client which may disturb, inhibit or endanger KES's activities and to ensure the safety of all ongoing operations to the extent of the Client's control over actions in any such areas

KES's Responsibilities.

- 3 1 **Standard of Performance.** KES shall perform all work in accordance with commonly accepted scientific, environmental and engineering practices and in a professional and workmanlike manner
- 3 2 **Confidentiality.** KES shall hold confidential all business or technical information obtained or generated in the performance of Services for the Client. KES shall not disclose any such information without the Client's consent except to the extent reasonably believed necessary for
 - (a) Compliance with professional standards of conduct for the preservation of public health, safety, and welfare,
 - (b) Compliance with a court order or government directive, or

KES is under no obligation or responsibility to actively oppose the compelled disclosure of any confidential information. If the Client actively opposes any proceeding to obtain confidential information, it shall do so at its own cost, including the cost of actively opposing any proceedings intended to compel KES to disclose information.

KES also agrees to execute appropriate confidentiality agreements of Client as required

- 4 **Indemnification.** Each party shall indemnify, defend and hold harmless, and hereby forever releases, the other party and its affiliates, directors, officers, shareholders, employees and agents from and against any and all claims, causes of action, and/or other costs which all or any one of them incur or for which all or any of them are held liable in connection with or arising from its negligent acts, omissions or misconduct.

- 5 **Force Majeure.** In no event shall KES have responsibility or liability to Client for any failure or delay in performance by KES which results, directly or indirectly, in whole or in part from any causes or circumstances beyond the reasonable control of KES. Such causes and circumstances include, but not limited to, fires, floods, strikes, riots, sabotage, explosion, adverse weather conditions not reasonably anticipated, unavoidable casualties, unavailability or insufficiency of labor, materials, supplies, equipment, transportation or services, process shut down, equipment malfunction, acts of God, acts or omissions of Client, court orders, acts, orders or regulations of any governmental agency, loss of permits and delays in mail or delivery services. Work stoppage or interruption in the performance of Services under this Agreement caused by any of the above events may result in additional costs beyond those outlined by KES in the Specific Services Agreement, which shall entitle KES to an adjustment in the charges and fees for Services under this Agreement.

6 Disclaimers and Limitations of Liability.

- 6 1 KES shall not be responsible for any non-compliance or offense which results from the action or inaction on behalf of governmental agencies, or of any change in regulations or laws relating to these Services or relating to the Site and any environmental contamination or danger caused thereby
- 6 2 KES may rely on all representations and information furnished by the Client to make decisions or recommendations regarding actions to be taken in the performance of this Agreement, and KES shall have no liability whatsoever for any occurrence that is a result, directly or indirectly, of misinformation, miscalculations, inaccurate statements, or false representations made by the Client, its employees or agents, to KES, whether such information was given negligently or intentionally
- 6 3 KES shall not be responsible for applications, notifications or any other disclosures that may be required by any local, state or federal governmental agencies unless KES specifically agrees to execute such documents in the Specific Services Agreement.
- 6 4 KES may advise the Client regarding the status of the environmental conditions of the Site and potential courses of action for the Client. These recommendations shall in no way be construed as giving KES the authority to make or control environmental decisions, nor shall any recommendations be considered as legal advice, but only as information based on KES's activities
- 6 5 KES will be responsible to have marked utility lines or conduits in accordance with standard utility company guidelines to the property. The Client shall be responsible to locate, verify existence and mark the location of all utility lines or conduits within the construction Site/area. KES will not be liable for damage to any utility lines or conduits which have not been properly located and marked within the construction Site/area
- 6 6 Under no circumstances should this Agreement or any actions by KES cause KES to hold any of the incidents of ownership, title or responsibility for any of the waste, waste materials, substances, chemicals, contaminated products or property, or by-products or property located at the Site. Nothing contained within this Agreement shall be construed or interpreted to cause KES to hold the status of a owner or operator, generator or a storage, treatment or disposal facility (as those terms are defined by RCRA or any other federal, state or local law, statute, rule or regulation governing the generation, treatment, storage or disposal of hazardous

wastes; solid wastes or special wastes) Under all events KES is an independent contractor providing Services at the direction of the Client. If the Services include the transportation of waste materials from Client's premises or facilities, KES may evaluate and arrange possible transporters and disposal sites for Client's use and subject to the Client's direction. Under RCRA and the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601 et seq. amended ("CERCLA"), and regulations thereunder, Client, as the generator or owner of the waste or contaminated property, shall maintain the ultimate legal liability for the evaluation and "selection" of the proper transporters and disposal sites for its waste. Client hereby acknowledges that it shall be solely responsible as the party who arranges for the transportation and disposal of any waste or property in connection with this Agreement.

- 6.7 KES shall not be responsible for any release, leak, spill or possible contamination that occurs while KES is on the Site or adjacent property which is not caused directly by the negligence of KES in its performance under this Agreement.
- 6.8 KES shall not be responsible for any contamination of products or raw materials which results from the proper operation of KES's activities including but not limited to the removal of underground storage tanks, appurtenances thereto, soils, sludge, liquids, or any other waste materials, chemicals or petroleum products.
- 6.9 KES accepts no responsibility for the removal, treatment, disposal, or disposition of any hazardous materials that should be discovered during its operations or investigations that were not previously anticipated and addressed in the execution of the Specific Services Agreement.
- 6.10 Liability under this Agreement shall apply only if the Client notifies KES in writing of its claim against KES within one (1) year of the completion of the Services and such claim sets forth in reasonable detail all the facts upon which it is based. For purposes of this Agreement, KES will be considered to have completed its Services when KES vacates the Site, location and facilities where it was performing Services for a period of ten (10) consecutive calendar days.
7. Substitution. KES shall have the right to substitute substantially equivalent equipment and/or methodology for the performance of Services at its sole discretion.
8. Termination. KES may immediately terminate and cancel this Agreement and cease performing Services without liability to the Client under the following circumstances:
- (a) Client fails to make any payment to KES when such payment to KES is due, or
 - (b) The discovery of any unknown or undisclosed conditions including, but not limited to, the presence of hazardous, toxic or other materials for which KES has not explicitly agreed to perform investigative or remedial activities in the Specific Services Agreement.
9. Governing Law. The validity, interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the State of Indiana.
10. Waiver. No waiver of the terms, conditions and/or covenants of this Agreement shall be binding and effective unless the same shall be in writing signed by the parties. No waiver by either party of any provision or condition of this Agreement shall be construed or deemed to be a waiver of any other provision or condition of this Agreement, or a waiver of a subsequent breach of the same provision or condition, unless such waiver is expressed in writing signed by the parties.
11. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the parties.
12. Payment and Collection. Client shall remit to KES all monies owed under this Agreement, as set forth in the Specific Services Agreement, within thirty (30) days of the date of the invoice. The Client shall pay to KES a 1.5% per month carrying fee on the total sum of any amount not paid within said thirty (30) days. In the event that KES obtains legal services to pursue the collection of the sums owed under this Agreement, then the Client shall pay all reasonable attorneys' fees, paralegal fees, account fees, and other costs and expenses incurred by KES in such collection efforts.

Attachment L

Arrangements with Clean-Up Contractors

Working with Randy Angle in Purchasing on this project.

late March - Randy called to inform me that he had received my request for an MBO and wanted to know what spill response groups we wanted to set up for the MBO. I mentioned a few firms we had worked with in the past, namely Spill Response of IN and Koester Environmental. He said he would query other plants in the area to see if they had a particular responder that they would recommend.

April 28, 2000 - Left Randy a message to see if he had gotten enough information from the other plants or if he needed any help in collecting additional information. He is on vacation until May 1.

May 6, 2000 - Called Randy to ask where he was at collecting information on Spill Contractors. He told me that Tim Renner from Delphi recommended Heritage and then Spill Recovery of IN. Lee Langzlot recommended SSI. Randy will call SSI and Heritage to get a pricing list. He will lean towards using SSI though since the MBO is for GM. He may get blankets for both...

May 25, 2000 - Received MBO for spill response!!! MBO #GMB06463 for Spill Recovery of Indiana. Will use price list dated 12-5-98 received by Randy from Stan Lucas (pages 1-4). Ft. Wayne and Metal Fab in Indy will also be assigned on this MBO - no other plants showed interest and he didn't want to wait for their reply any longer.

Attachment M

Certificate of Liability Insurance from External Spill Responders

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)
05/31/2000

PRODUCER (317)464-5000 FAX (317)464-5001

McGowan Insurance Group, Inc.
1850 Market Tower
10 West Market Street
Indianapolis, IN 46204

Attn: Emily Colwell

Ext: 122

INSURED

Spill Recovery Of Indiana, Inc.
P.O. Box 34337
Indianapolis, IN 46234-0337

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A American International Specialty
COMPANY B Commerce & Industry
COMPANY C Monroe Guaranty Insurance
COMPANY D

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY	PRO 2678197	06/03/2000	06/03/2001	GENERAL AGGREGATE \$ 2,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				PRODUCTS - COM/PROP AGG \$ 2,000,000
	<input checked="" type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				PERSONAL & ADV INJURY \$ 2,000,000
	OWNERS & CONTRACTOR'S PROT				EACH OCCURRENCE \$ 2,000,000
	<input checked="" type="checkbox"/> Professional Liabi				FIRE DAMAGE (Any one fire) \$ 50,000
					MED EXP (Any one person) \$ 5,000
B	AUTOMOBILE LIABILITY	CA7665895	06/03/2000	06/03/2001	COMBINED SINGLE LIMIT \$ 2,000,000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person) \$
	ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	SCHEDULED AUTOS				PROPERTY DAMAGE \$
	HIRED AUTOS				
	NON-OWNED AUTOS				
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT \$
	<input checked="" type="checkbox"/> ANY AUTO				OTHER THAN AUTO ONLY \$
					EACH ACCIDENT \$
					AGGREGATE \$
	EXCESS LIABILITY				EACH OCCURRENCE \$
	UMBRELLA FORM				AGGREGATE \$
	OTHER THAN UMBRELLA FORM				
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	W00 0208723	01/18/2000	01/18/2001	EL EACH ACCIDENT \$ 500000
	THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE				EL DISEASE - POLICY LIMIT \$ 500000
	OTHER				EL DISEASE - EA EMPLOYEE \$ 500000

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES

AUTHORIZED REPRESENTATIVE

Emily Colwell

Emily Colwell

ACORD CORPORATION 1992

AGORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)

01/05/2001

PRODUCER (317)464-5000 FAX (317)464-5001

cGowan Insurance Group, Inc.

1850 Market Tower

10 West Market Street

Indianapolis, IN 46204

SURED Spill Recovery Of Indiana, Inc.

P.O. Box 34337

Indianapolis, IN 46234-0337

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURER A: American International Specialty

INSURER B: Commerce & Industry

INSURER C: Monroe Guaranty Insurance

INSURER D

INSURER E

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
GENERAL LIABILITY	PRD 2678197	06/03/2000	06/03/2001	EACH OCCURRENCE \$ 2,000.00C FIRE DAMAGE (Any one fire) \$ 50.00C MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000.00C GENERAL AGGREGATE \$ 2,000.00C PRODUCTS - COMPI/OP AGG \$ 2,000.00C
<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Professional Liab <input checked="" type="checkbox"/> Pollution Liab GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				
AUTOMOBILE LIABILITY	CA7665895	06/03/2000	06/03/2001	COMBINED SINGLE LIMIT (Per accident) \$ 2,000.00C BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY EA ACC \$ AGG \$
EXCESS LIABILITY				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION \$				
WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WOO 0208723	01/18/2001	01/18/2002	X <input type="checkbox"/> POL STATE <input type="checkbox"/> POLY LIMITS <input type="checkbox"/> WITH ER FL DISEASE - EA ACCIDENT \$ 500.00C EL DISEASE - EA EMPLOYE \$ 500.00C EL DISEASE - POLICY LIMIT \$ 500.00C
OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

Certificate Holder is Additional Insured - Owner, Contractor or Lessee. \$2,500 Deductible applies General Liability; \$5,000 Deductible applies to Pollution and Professional Liability.

CERTIFICATE HOLDER

ADDITIONAL INSURED; INSURER LETTER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Emily Colwell

Emily Colwell

ORD 25-S (7/97)

AGORD CORPORATION 198

Attachment A

Spill Response Team

SPILL RESPONSE TEAM

NAME	PHONE NUMBER	DEPARTMENT
Eric Prenevau	812-279-7216	Safety
Eva Smith	812-279-7261	Training
Kim Dobosenski	812-279-7404	Environmental
Tom Shirley	812-279-7374	Maintenance
Kenny Knust	812-279-7370	Maintenance
Duane Cunningham	812-279-7370	Maintenance
James Simmerman	812-279-7370	Maintenance
Mike Corbin	812-279-7027	Maintenance
James Wells	812-279-7004	Maintenance

Attachment B

Emergency Response Contract Companies

EMERGENCY RESPONSE CONTRACT COMPANIES

McIntyre Brothers Construction
1020 Seventh Street
Bedford, IN 47421
(812) 275-5956

Spill Recovery of Indiana
10635 US Highway 136
Indianapolis, IN 46234
(317) 291-3972

Koester Environmental Services Inc.
14649 Highway 41 North
Evansville, IN 47711
(812) 867-0100

Attachment C

Levels of Hazardous Material Spills

LEVELS OF HAZARDOUS MATERIALS SPILLS

There are four levels of hazardous materials spills. They are determined by their level of air contaminant and the equipment necessary to respond as described in Attachment B of 29 CFR Part 19140.120. Refer to Attachment C of this plan for the corresponding Personal Protection Equipment.

Level A Protection Should be Worn When

- The hazardous substance has been identified and requires the highest level of protection for skin, eyes, and respiratory system based on either the measured high concentration of atmospheric vapors, gases or particulates; or site operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials that are harmful to skin or capable of being absorbed through the skin.
- Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible; or
- Operations are being conducted in confined, poorly ventilated areas, and the absence of conditions requiring Level A have not been determined.

Air contaminant: 500 ppm to 1,000 ppm above background

Level B Protection should be worn when

- The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection.
- The atmosphere less than 19.5 percent oxygen; or
- The presence of incompletely identified vapors or gases is indicated by a direct reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the skin.

Air containment: 5 ppm to 500 ppm above background

Level C Protection should be worn when

- The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin.
- The types of air containment's have been identified, concentrations measured and an air-purifying respirator is available that can remove contaminants; and
- All criteria for the use of air-purifying respirators are met.
- Air containment: Background to 5 ppm above background

Level D Protection should be worn when

- The atmosphere contains no known hazard; and
- Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.
- Air contaminant: 0 to Background

The personnel at GM Bedford are only trained to First Responder Awareness and Operations Level. They will be expected to respond to spills requiring Level D protection only. The Emergency Response Contractors have been retained to respond to spills requiring Level A, B, and C protection equipment.

Attachment D

Personal Protective Equipment

PERSONAL PROTECTIVE EQUIPMENT LEVEL A

- Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH).

- Respirators may be:

Pressure-demand, self-contained breathing apparatus (SCBA)

or

Pressure-demand, air line respirator (with escape bottle for Immediately Dangerous to Life and Health IDLH or potential for IDLD atmosphere)

- Fully encapsulating chemical-resistant suit
- Coveralls
- Gloves (inner), chemical resistant
- Boots, chemical-resistant, steel toe and shank
- Hard hat (under suit)
- Disposable gloves and boot covers (worn over fully encapsulating suit)
- Cooling unit or thermal underwear as weather dictates
- 2-way radio communication
- Seal all joints between protective clothing hems with duct tape

PERSONAL PROTECTIVE EQUIPMENT, LEVEL B

- Supplied-air respirator (MSHA/NIOSH approved)

SCBA

or

Airline respirator (pressure demand)

- Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical-resistant, one-piece suits)
- Coveralls
- Gloves (outer), chemical resistant
- Gloves (inner), chemical resistant
- Boots (outer), chemical resistant (disposable)
- Hard hat
- 2-way radio communication
- Use duct tape to secure all joints between clothing items such as cuffs

Appendix 1

Certification of the Applicability of the Substantial Harm Criteria

Certification of the Applicability of the Substantial Harm Criteria

Facility Name:

GM Powertrain Bedford

Facility Address:

105 GM Drive

Bedford, IN 47421

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _____ No X

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _____ No X

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes _____ No X

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No X

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No X



Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information. I believe that the submitted information is true, accurate, and complete.

Signature

John Thomas
Title Plant Manager

Name John Thomas

Date 11-25-98

(please type or print)



OIL STORAGE CAPACITY WORKSHEET¹

Capacity Item:

1. Bulk Oil Storage

Tanks	<u>5750</u>	gallons
Drums	<u>2750</u>	gallons
Totes	<u>14400</u>	gallons
Other	<u>N/A</u>	gallons

SUBTOTAL 1: 22900 GALLONS

2. Waste Water Treatment Facility

Skim Oil Tanks	<u>2000</u>	gallons
Other Tanks (with concentrated oil)	<u>N/A</u>	gallons
Remaining Treatment Facility (% oil * capacity)	<u>1000</u>	gallons

SUBTOTAL 2: 3000 GALLONS

3. Threshold Determinations

TOTAL OF SUBTOTALS 1 & 2: 25,900 GALLONS

[If under 500,000 gallons, enter total at bottom of page 2 in category (A), no need to do steps 4 & 5.]

¹ Please attach all reference data and any capacity tables (e.g., material inventory tables found in SPCC Plans) used in the oil storage calculations to show how the summation was derived.

OIL STORAGE CAPACITY WORKSHEET
(PAGE 2)

4. Coolant Transfer Systems (% oil * system capacity)

In-Plant Process Operations _____ gallons

In-Plant Piping _____ gallons

SUBTOTAL 4: _____ **GALLONS**

5. Machinery / Hydraulic Systems

Equipment Reservoirs _____ gallons

Transformers _____ gallons

Other Significant
Equipment / Systems _____ gallons

SUBTOTAL 5: _____ **GALLONS**

[Enter subtotals 4 & 5 at bottom in category (B)]

Total Oil Storage Capacity:

A) TOTAL OF SUBTOTALS 1 & 2: _____ 25,900 _____ **GALLONS**

B) TOTAL OF SUBTOTALS 4 & 5: _____ **GALLONS**

C) TOTAL OF SUBTOTALS 1,2,4, & 5: _____ 25,900 _____ **GALLONS**

Appendix 2
PCB Addendum

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
RELEASE PLAN
PCB ADDENDUM**

PCBs were used in the past in the hydraulic equipment on-site. After significant clean-up efforts in the plant, and significant testing of the hydraulic fluid, there is no known remaining PCB liquid (i.e. liquid containing greater than 50 ppm PCBs) on-site. However, if PCBs above 50 ppm are discovered in used hydraulic fluid, it will be placed in the PCB storage area, located in the waste management area.

Appendix 3

Emergency Spill Response Plan (HAZWOPER)

**GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA
EMERGENCY RESPONSE PLAN (HAZWOPER)**

PURPOSE

This HAZWOPER Plan was designed to minimize potential hazards to human health or the environment from any unplanned sudden or non-sudden release of a hazardous substance. It was developed in compliance with the Code of Federal Regulations 29 CFR 1910.120. The Plan outlines the steps necessary to effectively respond to an emergency.

GM Bedford takes every precaution in preventing spills. However, if a spill occurs the designated Maintenance Supervisors, the Emergency Coordinator, and the Health & Safety Contacts will act at the First Responder Operations Level and determine if outside help is needed. The Maintenance Supervisors, the Emergency Coordinator, or the Health & Safety Contacts will contact outside contractors to act as the spill response team, if necessary.

The Plan will be reviewed annually by representatives from the Environmental Engineering and Health and Safety Departments. Revisions to the program will be made on an as-needed basis. The HAZWOPER plan is a stand alone document and is separate from the SPCC Plan.

DEFINITION

Emergency response or responding to emergencies means a response effort by employees from outside the immediate release area or by other designated responders (e.g., mutual-aid groups, local fire departments, etc.) to an occurrence which results or is likely to result in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel are not considered to be emergency responses. Responses to releases of hazardous substances where there is no potential safety or health hazard (e.g., fire, explosion or chemical exposure) are not considered to be emergency responses.

EMERGENCY CONTROL CENTER

The Safety Conference Room serves as the Emergency Command Center. The emergency number is 7333 and is staffed 24-hours a day by Security Personnel. In case of a fire or explosion, fire alarm pullboxes are located throughout the plant and can be activated to signal the Security Office of the location of the fire or explosion.

SPILL RESPONSE TEAM REQUIREMENTS

Training

Participants of the spill response team, which includes members of the safety, maintenance and environmental departments, attend initial training as detailed in 29 CFR 1910.120 and are able to demonstrate competency in the specific level of training. Team members receive annual refresher training of sufficient content and duration to maintain their level of competency. The training records are maintained in the Training Department.

Medical Surveillance

All members of the spill response team undergo medical surveillance prior to assignment and at least every 12 months unless the Plant Medical Director believes a longer interval is appropriate; not longer than every other year. Refer to Attachment A for a list of the spill response team.

Respirators

All members of the spill response team are able to consistently pass respirator fit test. No beard growth of greater than one day is the guideline for facial hair as one day's growth may interfere with the respirator to face seal.

Bedford employees act only to First Responder Operations Level and therefore will not be required to use respirators.

SPILL RESPONSE TEAM

In a plant emergency, all members of management are responsible for providing leadership assistance and for implementing precautions to contain and minimize the effects of a natural or man-made emergency or disaster on the personnel and property under their control. Refer to Attachment A for a listing of the Spill Response Team and Attachment B for the Emergency Response Contract Companies.

Skilled Support Personnel

Personnel, not necessarily an employer's own personnel who are skilled in the operation of certain equipment such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work are not required to meet the training for the employer's regular employees. These personnel should be given an initial briefing at the site prior to participation in any emergency response.

Specialist Employees

Employees, who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and may be called upon to provide technical advice or assistance at a hazardous substance release. Specialist employees are trained to varying levels of responsibility. If on-site employees are not trained to the varying levels of spill response, outside contractors will be called upon to assist in an emergency. The different levels of training for the spill response team consist of:

First Responder Awareness Level

First responder at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities. First responder at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

- An understanding of what hazardous substances are, and the risks associated with them in an incident.
- An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
- The ability to recognize the presence of hazardous substances in an emergency.
- The ability to identify the hazardous substances, if possible.
- An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
- The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

Although all employees at Bedford Powertrain have received some awareness training in what to do in the event of a hazardous material release, only some employees (e.g. the spill response team) are trained to the First Responder Awareness Level.

First Responder Operations Level

First responder at the operations level are individuals who respond to releases of hazardous substances as part of the initial response to the site for the purpose of

protecting nearby person, property or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading and prevent exposures.

The GM Bedford Powertrain emergency coordinator (i.e. environmental engineer) and alternate coordinators (i.e. designated Maintenance Supervisors and Health & Safety Contacts) are trained to the First Responder Operations Level.

Hazardous Materials Technician

Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance.

If necessary, General Motors Bedford hires contract companies to respond as Hazardous Materials Technicians.

Hazardous Materials Specialists

Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, their duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The Hazardous Materials Specialist also acts as the site liaison with Federal, state, local and other government authorities in regards to site activities.

If necessary, General Motors hires contract companies to respond as Hazardous Materials Specialists.

On Scene Incident Commander

Incident commanders assume control of the incident scene beyond the First Responder Awareness Level. It is the responsibility of the Incident Commander to contact outside emergency personnel if deemed necessary. Telephone numbers of outside contractors that may assist in clean-up and response are located in Attachment B.

If necessary, General Motors hires contract companies to respond as the On Scene Incident Commander.

EMERGENCY PLANNING

Environmental Engineering Department has established contacts with local police, fire departments and outside emergency response contractors for use in the event an emergency condition which exists beyond the ability of the on-site spill response team members.

Emergency Recognition and Prevention

Procedures and Training

The Bedford Plant has developed procedures to be followed in order to minimize the potential for an unintentional release of hazardous materials or hazardous wastes. The procedures are in common use by the Bedford Plant employees and are integral part of the annual training program given to new and current employees.

Security

Security guards are present at the facility 24 hours a day. The guards control all entry to and departures from the plant. The entire GM Powertrain Bedford facility is fenced with guarded access gates. The facility is well lit on the exterior as well as the interior of the plant. A phone is available in the hazardous waste accumulation area as a means of direct communication.

Emergency Alarm System

A warning or alarm system will be utilized in the event an evacuation is necessary. The warning system consists of a plant wide annunciation system. An alarm system will be used to distinguish the need for evacuation or the all clear. Refer to the Disaster Preparedness Plan for the disaster code system.

Spill Discovery

Any employee who discovers or is involved in a spill or release of chemical materials or hazardous waste shall:

1. Direct all people to immediately leave the area if the spill or release presents an immediate hazard to health or safety.
2. Immediately stop the leaking material if there is sufficient knowledge of the spilled material and no immediate danger to personnel.
3. Contain the spilled material using any available means, including diking, absorbents, dirt, etc., if there is sufficient knowledge of the spilled material and no immediate danger to personnel.

4. Call Security at 7333. The caller should be prepared to provide the following information:

- ☐ Location of spill
- ☐ Site topography and accessibility (i.e., confined space, open areas, soil, paved area, etc.)
- ☐ Type of spill
 1. a spill to storm system off plant property
 2. a spill to sanitary sewer off plant property
 3. a spill to storm system that remains on plant property (reaches soil or storm sewers)
 4. a spill that does not reach soil or storm sewer
 5. a spill by railroad
- ☐ Specific information as to the material spilled, such as product name, ingredients, order number, use, hazard (i.e., flammability, corrosiveness, etc.)
- ☐ Total quantity released
- ☐ Amount, if any, that entered the storm sewer drain/system
- ☐ Any injuries or ill effects
- ☐ Number of people and equipment at hand to assist in cleanup
- ☐ Containment action taken

EMERGENCY RESPONSE PROCEDURES

When notification to the Security Department is made as detailed above, a member of the spill response team (i.e. Maintenance Supervisor, Emergency Coordinator, or Health & Safety Contact) will be dispatched to the scene. This person will assume responsibility at the First Responder Operations Level and make the determination if the incident represents a HAZWOPER emergency response as defined by this plan. At the time it is determined that a HAZWOPER emergency response is required, the designated person will make contact with the Security Console Officer to advise of the findings.

Personal Protection Equipment

Based upon the results of the preliminary site evaluation, an ensemble of Personal Protection Equipment (PPE) will be elected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits. If the

preliminary site evaluation does not produce sufficient information to identify hazards or suspected hazards of the site, an ensemble providing protection equivalent to Level B PPE will be provided as minimum protection. Refer to Attachment C and D for the different Levels of Hazardous Material Spills and Personal Protection Equipment.

Since GM Bedford only has employees responding at the First Responder Operations Level, only Level D personal protective equipment will be required. When outside agencies are called, they will assume responsibilities for their own personal protective equipment.

Spill Response Equipment

The following spill control and cleanup equipment is available at the plant:

A 300 gallon fluid collection system (Scrubber Vac) and tractor with a backhoe are available through the Maintenance Department. Oil absorption material is available in the old A-Crib area located in the southeast section of the Die Cast Building. Spill kits are available at the Fire Brigade Area, the Bulk Storage Area, Wastewater Treatment and the Paint Booth. Additional booms and absorbent pillows are also available at the wastewater treatment plant.

The following is a list of items in the spill kits:

(Paint Booth, Wastewater Treatment Plant, and Bulk Storage Spill Kits)

- 12-3" X 46" HAZ-MAT Socks
- 6-3" X 10' HAZ-MAT Socks
- 2 – 10' Dikes
- 7-16" X 17" Pillows
- 75-Mat Pads
- 10 Temporary Disposal Bags & Ties

(Fire Brigade Area Large Response Cart)

- 14-3" X 46" HAZ-MAT Socks
- 3-3" X 10' HAZ-MAT Socks
- 2 – 10' Dikes
- 7-16" X 17" Pillows
- 2-5 lb. Bags of Pulp
- 100-Mat double-weight Pads

- 15 Temporary Disposal Bags & Ties

Note: Shovels are also available in the area near the Spill Kit.

The following is a list of items on the fire wagon and equipment cart:

- Shovel
- 1 Axes
- City adapter
- Gloves 1 dozen
- 100 ft. rope
- 2 helmets
- Megaphone
- 2 crow bars

The following is a list of the Blood Borne Pathogens supplies and locations of the cabinets:

Locations of cabinets

- #1 Die Cast North in the aisle
- #2 Pistons by heat treat oven by supervisors desk.
- #3 Tool Room hallway by supervisor desk.
- #4 Die Cast South behind scale.
- #5 Maintenance office wall outside.
- #6 Melting going west wall of melting office.

Supplies

- 5 Personal Protective Kits that contain Head covers, masks, gowns, shoe covers, red biohazard bags, paper towels, antiseptic wipes and rubber gloves.
- 5 Small spill kits that contain Red biohazard bags, rubber gloves, antiseptic wipes.
- 5 large spill kits 2 Red biohazard bags, paper towels, antiseptic wipes, many rubber gloves.
- CPR biohazard bags, antiseptic wipes, one-way breathing mask, steril 4X4's and rubber gloves.

Emergency Response Sequence

Security will contact all required personnel in accordance to the internal notification flow chart (Refer to the Internal/External Notification Section) and maintenance personnel will initiate all required immediate response. These responses may include, but are not limited to:

- Activate internal facility alarms and communications systems, where applicable, to notify facility personnel;
- Mobilize the security section or initiate spill response procedures, as necessary;
- Notify appropriate local agencies with designated response roles if their help is needed.

The Spill Response Team must immediately identify the character, source, quantity, and extent of any released materials. The identification may be performed by observation or by review of records, labels, or placards.

Some of the responsibilities of the Spill Response Team are:

Evacuation

The Spill Response Team must assess possible hazards to human health and the environment. If the assessment indicates that the incident could threaten human health and/or the environment within the facility, the Spill Response Team:

- Orders all or portions of facility operations to be halted as required, and
- Orders facility evacuation or partial evacuation as required.

Confinement

Confinement is defined as those procedures taken to keep a material in a specific or local area.

- Land releases should be confined by such methods as diking; blocking sewer openings, drains or ditches; and adsorbing or neutralizing runoff.

Determination of the Size and Source of the Leak

The Spill Response Team must identify the type and location of the leak.

Isolation of the Source of the Leak

It may be possible to isolate the source to better control and lessen the spread of the hazard.

Containment

Containment of a leak is defined as those procedures performed to keep the material in its container(s). Containment is accomplished by overpacking (placing a damaged container into a larger container), plugging, patching, or transferring the material to another container.

EMERGENCY MEDICAL TREATMENT AND FIRST AID

Medical aid is available on-site 24 hrs each work day. A doctor is on-site Monday through Friday for 4 hours.

DECONTAMINATION

As the types of chemical materials used at the Bedford Plant (i.e., resins, oils, acids and caustics) are easily identifiable if spilled and site contamination with an unidentifiable material is unlikely.

At all times during the spill clean up, the incident commander will ensure that provisions are in place to minimize contamination of surrounding material, equipment, floors and property. As a final point in the spill clean up process, floors, pavement, equipment, personal protective equipment, etc., must be disposed of or cleaned properly.

Property

All floors, material, pavement, etc., must be thoroughly cleaned/neutralized to rid the area of contamination and prevent others from contacting the contaminated surface. All materials used for cleaning/neutralizing must be contained and placed in a holding receptacle such as drum for final disposal.

Equipment

All equipment used during the spill clean up must be thoroughly cleaned/neutralized to rid it of contamination and prevent others from contacting the contaminate when it is reused. If any equipment can not be clean/neutralized, the equipment will be placed in a holding receptacle such as a drum for final disposal.

Personal Protective Equipment

As spill clean up personnel leave the spill site and is ready to remove contaminated personal protective equipment not able to be cleaned/neutralized, they will remove contaminated equipment and place into a holding receptacle such as a drum for final disposal.

POST EMERGENCY RESPONSE ACTION

Critique of Emergency Response

At the conclusion of the emergency response, active and advisory personnel involved with the response will discuss the incident. The purpose of this discussion will be to determine possible methods to prevent a future occurrence, positive efforts of the response and response failures which need to be addressed and improved upon.

Waste Disposal

Environmental Engineering will direct proper methods for packaging and disposal of the material, equipment and personal protective equipment.

Spill Response Equipment Inventory

The Engineering Department will ensure provisions are made to inventory the spill response carts and spill supplies. They will initiate steps to restock used materials.

EVACUATION

If it becomes necessary to evacuate the facility, or portion hereof, due to a release of a chemical material, the Disaster Preparedness Plan, will be implemented. The plan designates certain safe areas in which employees are to be assembled.

PERSONAL PROTECTIVE EQUIPMENT LEVEL C

- Air-purifying respirator, full-face, canister-equipped (MSHA/NIOSH approved)
- Chemical-resistant clothing (coverall; hooded, one-piece or two-piece chemical splash suit; chemical -resistant hood and apron; disposable chemical-resistant coveralls)
- Coveralls
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), chemical-resistant, steel toe and shank
- Hard hat
- Escape mask
- 2-way radio communication

PERSONAL PROTECTIVE EQUIPMENT LEVEL D

- Coveralls
- Gloves
- Boots/shoes or chemical splash goggles
- Hard Hat (face shield)

3.dwg



DATE		REVISIONS		BY	
<div><div>GM</div><div>POWERTRAIN</div><div>BEDFORD PLANT</div></div>					
DRAWN	K TODD	DATE	11/23/98		
CHKD.					
APPRVD.					
CERTIFIED					
NAME: Release Plan Storage Tank Locations					
SCALE: NTS		NO. OF SHEETS			
PL3638					

MAY 25, 2001

APPENDIX B.4
BEDFORD FACILITY SEWER SYSTEM LAYOUT

SEWER SYSTEM DIAGRAM
PROVIDED BY:
GM POWERTRAIN BEDFORD
PLANT, 2000

The diagram illustrates the sewer system layout for the GM Powertrain Bedford Plant. It features a main sewer line running horizontally across the middle, with a branch line extending to the right. A storm line is also shown. Key components include an aeration basin, a treatment tank, a calson building, a pump building, and two large circular tanks. The system is situated in a wooded area with a gravel edge and a tree line. A creek is located to the right of the main line. A road and a residential house are also depicted. The diagram is labeled with various components and lines, including 'AERATION BASIN', 'TREATMENT TANK', 'CALSON BUILDING', 'PUMP BUILDING', 'TANK', 'CREEK', 'ROAD', 'RESIDENTIAL HOUSE (TYP)', 'TREE LINE (TYP)', 'EDGE OF GRAVEL', 'STORM LINE', 'BRANCH LINE', and 'MAIN LINE'. Elevation markers such as 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995 are present throughout the diagram.

MAY 25, 2001

APPENDIX B.5
NPDES PERMIT

STATE OF INDIANA



STREAM POLLUTION CONTROL BOARD

1330 West Michigan Street
P. O. Box 1964

September 25, 1985

VIA CERTIFIED MAIL

Mr. Glen Ohl, Environmental
Coordinator
General Motors Corporation
Central Foundry Division
Bedford Plant
P.O. Box 271
Bedford, IN 47421

Dear Mr. Ohl:

Re: NPDES Permit No. IN 0003573
Bedford Foundry

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act as amended by PL 92-500 and PL 95-217 (33 U.S.C. 1251, et seq.), and Public Law 100, Acts of 1972, as amended (IC 13-7, et seq., the "Environmental Management Act"). The enclosed NPDES Permit covers your facility which utilizes aluminum die casting and molding processes and that discharges into the Bailey Branch of Pleasant Run Creek. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A.2.) It is therefore urged that your office and treatment operator understand this part of the permit.

It should be noted that several changes have occurred in the permit since the 30-day public notice period. These changes are itemized on page 24 of the Fact Sheet for your review.

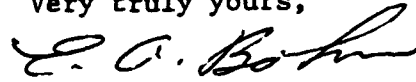
It should also be noted that any appeal must be filed under procedures outlined in 330 IAC 5-16. The appeal must be initiated by filing with the Stream Pollution Control Board a request for an adjudicatory hearing within 30 days of receipt of this letter.

20' GREG ETEEL R. M. Y.
G. Brent M. R. U.
D. Williams J. E. H.
J. OGDEN
T. M. U.

RECEIVED
9/27/85
3:10 PM '22/85

317/633-0838.

Very truly yours,



Earl A. Bohner
Technical Secretary

RAK/bt

Enclosures

cc: Chief, Permit Section U.S. EPA Region V
Lawrence County Health Department

INDIANA STREAM POLLUTION CONTROL BOARD
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended by P.L. 92-500 and P.L. 95-217 (33 U.S.C. 1251 et seq., the "Act"), and Public Law 100, Acts of 1972, as amended (IC 13-7, et seq., the "Environmental Management Act"), GENERAL MOTORS CORPORATION, CENTRAL FOUNDRY DIVISION, is authorized to discharge from a facility which produces aluminum die castings and permanent molded products and is located on North Jackson Street, Bedford, Indiana, to receiving waters named an unnamed tributary to the Bailey Branch of Pleasant Run Creek in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof.

The permit shall become effective thirty-five (35) days from the date of signature of the Technical Secretary.

This permit and the authorization to discharge shall expire at midnight August 31, 1990. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Stream Pollution Control Board no later than 180 days prior to the date of expiration.

Signed this 23 day of September, 1985, for the Indiana Stream Pollution Control Board.



Technical Secretary

PERMIT EFFECTIVE 10/28/85

TREATMENT FACILITY CLASSIFICATION

The discharger has a Class D industrial wastewater treatment plant, classified in accordance with 320 IAC 3-10.1, Classification of Water and Wastewater Treatment Plants.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge from outfall(s) 002 (Carbon Column effluent). Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations

Effluent Characteristic	kg/day (lbs/day)		Other Limitations		Monitoring Requirement	
	Daily Average	Daily Maximum	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	--	--	--	--	5 X Weekly	
Total Suspended Solids	--	--	10 mg/l	15 mg/l	3 X Weekly	24-Hr. Comp.
Oil and Grease	--	--	--	10 mg/l	2 X Weekly	Grab
Total Copper	--	--	--	0.06 mg/l	Weekly	24-Hr. Comp.
Total Lead	--	--	--	0.05 mg/l	Weekly	24-Hr. Comp.
Total Zinc	--	--	0.2 mg/l	0.73 mg/l	Weekly	24-Hr. Comp.
Total Phenols (4AAP)	--	--	--	0.1 mg/l	3 X Weekly	24-Hr. Comp.
Total Toxic Organics**	--	--	--	--	Semi-annually	24-Hr. Comp.
Total Residual Chlorine*	(Monitor for a period of 6 months)				2 X Monthly	Grab
Polychlorinated Biphenyls	--	--	--	0.001 mg/l	3 X Weekly	24-Hr. Comp.
Ammonia (as N)*	(Monitor for a period of 3 months)				Weekly	24-Hr. Comp.
TBOD ₅	--	--	--	10 mg/l	3 X Weekly	24-Hr. Comp.
1,1,1-Trichloroethane*	(Monitor for a period of 3 months)				2 X Monthly	24-Hr. Comp.
Tetrachloroethylene*	(Monitor for a period of 3 months)				2 X Monthly	24-Hr. Comp.

Water treatment additives in use have been reviewed and do not appear to contain toxic materials in significant amounts. In the event that changes are to be made in the use of water treatment additives contributing to outfall 002, then the Permittee shall notify the Indiana Stream Pollution Control Board as required by Part II of this permit.

his monitoring should be done at the time the permit is obtained
*The above noted parameter(s) are to be monitored to determine

the end of this sampling period, the permittee may request, in writing, a review of these requirements. Upon review by the ISPCB, monitoring requirements may be deleted, if appropriate, without public notice or opportunity of hearing. Alternatively, the permit may be modified, after public notice and opportunity for hearing, to include appropriate effluent limitations.

****Toxic Organic Pollutant Monitoring.** For one year beginning on the effective date of this permit, the permittee shall complete a semi-annual monitoring program (2 sampling events) at the treatment plant effluent for the purpose of further characterizing the discharge of toxic organic pollutants. The following shall be specifically analyzed for:

<u>Priority Pollutant No.</u>	<u>Chemical Name</u>
011	1,1,1-Trichloroethane
085	Tetrachloroethylene

Additional specific pollutants may be added to the above list by the (State Agency) based upon information provided by the toxic organic pollutant management plan as required by Part I.D. of this Permit. At least two grab samples for volatile pollutants and either an 8-hour or a 24-hour composite sample for acid and base/neutral pollutants shall be obtained on each monitoring day. Wastewater samples shall be prepared and analyzed by GC-MS in accordance with U.S. EPA approved methods 624 and 625. In addition to the quantitative analysis for the priority pollutants, a reasonable attempt shall be made to identify and quantify any additional substances indicated to be present in the extracts by peaks on the reconstructed gas chromatograms (total ion plots) more than 10 times higher than the adjacent peak-to-peak background noise. Identification shall be by reference to the EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be an order-of-magnitude estimate based upon comparison with an internal standard.

After review of the results of the toxic organic pollutant monitoring program, the (State Agency) may propose effluent limitations for specific toxic organic pollutants, or continue or modify the monitoring program as appropriate.

- The pH shall not be less than 6 nor greater than 9. The pH shall be monitored as follows: by a 5 X weekly grab sample.
- The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.
- The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

- d. Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into an unnamed tributary to the Bailey Branch of Pleasant Run Creek.

2. During the period beginning on the effective date of this permit to discharge from outfall(s) 003 (Overflow from stormwater retention lagoon). Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations

<u>Effluent Characteristic</u>	<u>kg/day (lbs/day)</u>		<u>Other Limitations</u>		<u>Monitoring Requirement</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>	<u>Daily Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)*	--	--	--	--	Measure when	sampling
Oil and Grease**	--	--	--	--	Weekly	Grab
Polychlorinated Biphenyls	--	--	--	--	Daily	24-Hr. Comp.

The permittee is required to provide the ISPCB within 30 days from the effective date of this permit the pumping rate or draw down rate at which the contents of the storm lagoon are fed into the biological treatment system. The storm lagoon is to be drawn down at a yet to be established rate continuously whenever precipitation reduces the reserve capacity below the 15-year, 24-hour storm volume.

*The permittee shall act to maintain a reserve capacity in the stormwater retention lagoon greater than or equal to that sufficient to contain a 15-year, 24-hour storm event on the lagoon and contributing areas. Dry weather discharge is prohibited. Discharge from Outfall 003 is permitted only when a severe storm event or combination of storm events results in an overflow of the retention lagoon despite the permittee's efforts to maintain the storage capacity as noted. In the event of an overflow, the permittee shall monitor the discharge as noted above.

**If oil and grease is measured in the effluent in detectable quantities, the source of such discharge is to be investigated and eliminated if feasible, and the findings reported to the Indiana Stream Pollution Control Board. Samples shall be taken within fifteen minutes from the commencement of the overflow unless an underflow discharge pipe is used.

- The pH shall not be less than 6 nor greater than 9. The pH shall be monitored as follows: by a weekly grab sample.
- The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.
- The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

- d. Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into an unnamed tributary to the Bailey Branch of Pleasant Run Creek.

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports (DMR-1 Form) to the Indiana Stream Pollution Control Board containing results obtained during the previous month and shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

If there is to occur a substantial period of time during which there will be no discharge from an authorized outfall, then the permittee may submit a written request to the Indiana Stream Pollution Control Board for relief from reporting requirements. The Indiana Stream Pollution Control Board may then suspend reporting requirements without public notice or opportunity for public hearing.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance of the permit.

3. Definitions

a. Daily Average

(1) Weight Basis - The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "daily average" concentration means the arithmetic average (proportional to flow) of all daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Maximum" Discharge

- (1) Weight Basis - The "daily maximum" discharge means the total discharge by weight during any calendar day.
- (2) Concentration Basis - The "daily maximum" concentration means the daily determination of concentration for any calendar day.

c. 24-Hour Composite Sample--Consists of at least four individual flow-proportional samples of wastewater which are taken at approximately equally spaced time intervals during a 24-hour period and which are combined prior to analyses.

d. Concentration--The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

e. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn Street, Chicago, Illinois 60604.

f. The Indiana Stream Pollution Control Board is located at the following address: 1330 West Michigan Street, Indianapolis, Indiana 46206.

4. Test Procedures

Test procedures for analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, the most recent edition of "Standard Methods for the Examination of Water and Wastewater," or other methods approved by the Indiana Stream Pollution Control Board, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The dates the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Indiana Stream Pollution Control Board Monthly Monitoring Report. Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer, if requested by the Regional Administrator or the Indiana Stream Pollution Control Board.

C. REOPENING CLAUSE

This permit shall be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

- (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- (2) controls any pollutant not limited in the permit.

D. TOXIC ORGANIC POLLUTANT MANAGEMENT PLAN

The Permittee is required to submit a management plan for toxic organic pollutants. This document is to be submitted to the Indiana Stream Pollution Control Board within 90 days of the date of issuance of this permit, and is to include a listing of the toxic organic compounds used, including petroleum based oils and coatings in use, the method of disposal, and procedures for ensuring that these compounds do not routinely spill or leak into the process wastewaters, noncontact cooling water, groundwater, stormwater or other surface waters. Upon review and approval of the plan, the ISPCB may modify this permit to include the plans as a provision of the permit. Additional specific pollutants may be added to the Discharge Limitations upon information provided by the above report and or the TTO monitoring program.

PART II
STANDARD CONDITIONS FOR NPDES PERMITS
FOR INDUSTRIAL FACILITIES

SECTION A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Indiana Environmental Management Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Pursuant to the Indiana Environmental Management Act, any person who violates a permit condition implementing sections 301, 302, 306, 307, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year or both. If the conviction is for a violation committed after a first conviction of such person under this provision, punishment shall be a fine of not more than fifty thousand dollars (\$50,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

Except as provided in permit conditions on "Bypassing," Section B, Paragraph 2 and "Upsets," Section B, Paragraph 3, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

4. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

~~The filing of (i) a request by the permittee for a permit modification~~
~~changes or anticipated noncompliance does not stay any permit condition.~~

5. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

7. Transfers

This permit is nontransferable to any person except after notice to the Director pursuant to Regulation 330 IAC 5-2-5(c). The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

Notwithstanding Paragraph A-4, above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants injurious to human health within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

9. Containment Facilities

When cyanide or cyanogen compounds are used in any of the processes at this facility, the permittee shall provide approved facilities for the containment of any losses of these compounds in accordance with the requirements of Stream Pollution Control Board Regulation 330 IAC 1-2.

10. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Environmental Management Board as required by IC 13-1-6.

11. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

12. Property Rights

The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or an invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

13. Severability

The provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

14. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

15. Construction Permit

The permittee shall not construct, install, or modify any water pollution control facility without a valid construction permit issued by the Indiana Stream Pollution Control Board pursuant to 330 IAC 3.1.

SECTION 2. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems for wastewater collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit.

2. Bypass of Treatment Facilities

a. Definitions:

- (1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility normally utilized for treatment of the waste stream.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production at the permittee's facility.

b. (Prohibition of Bypass) Bypass which causes or is likely to cause applicable effluent limitations to be exceeded is prohibited unless the following three conditions are met:

- (1) Bypass is unavoidable to prevent loss of life, personal injury or severe property damage;
- (2) There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal period of equipment down-time; and
- (3) The permittee submits notice of an unanticipated bypass to the Director within 24 hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). Where the permittee knows or should have known in advance of the need for a bypass, this prior notification shall be submitted for approval to the Director, if possible, at least ten days before the date of the bypass.

c. An anticipated bypass which meets the three criteria of Paragraph b of this subsection may be allowed under conditions determined to be necessary by the Director to minimize any adverse effects.

3. Upset Conditions

- a. Definition: "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. (Effect of an upset) An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection are met.
- c. (Conditions necessary for a demonstration of upset) A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
 - (1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;
 - (2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and
 - (3) The permittee complied with any remedial measures required under Paragraph A.3 of this Part.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

SECTION C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by advance notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

Monitoring results shall be reported at the intervals and in the form specified in Part I.B.2.

3. Compliance Schedules

Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

4. Twenty-Four Hour Reporting

The permittee shall report information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance:

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours; and
- c. Any noncompliance which may pose a significant danger to human health or the environment.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

5. Other Noncompliance

The permittee shall report any instance of noncompliance not reported under Paragraph 3 or 4 of this Section at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Paragraph 4 of this Section.

6. Other Information

Where the permittee becomes aware that he failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or corrected information.

7. Changes in Discharge of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established in Part III of the permit by the Director.
- b. That it has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

8. Signatory Requirements

- a. All reports required by the permit and other information requested by the Director shall be signed and certified by a person described below or by a duly authorized representative of that person:
 - (1) For a corporation: by a principal executive officer of at least the level of vice-president (including a person who is not a vice-president but performs similar policy-making functions for the corporation);
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) For a Federal, State, or local governmental body or an agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
- b. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described above.
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of

~~or position of equivalent responsibility.~~ (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Director.

- c. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

9. Availability of Reports

Except for data determined to be confidential under Board Regulation 330 IAC 5-1.5, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Stream Pollution Control Board and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

10. Penalties for Falsification of Reports

The Indiana Environmental Management Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

RAK
WPC 14wwI
9/19/85

(NPDES) PERMIT PROGRAM

FACT SHEET

for

A Draft NPDES Permit to Discharge into Waters of the State
Proposed to be Issued by the:

Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206

Public Notice No.:

Public Notice Issued on:

Name and Address of Applicant:

General Motors Corporation
Central Foundry Division
P.O. Box 271
Bedford, IN 47421

Name and Address of Facility
where Discharge Occurs:

General Motors Corporation
Central Foundry Division
North Jackson Street
Bedford, IN 47421

Receiving Water: The Bailey Branch of Pleasant Run Creek via an unnamed ditch.

Use Classification: The receiving water is classified for partial-body contact recreation and aquatic life.

I. Tentative Decision on the Application

The above-named applicant has applied for an NPDES permit to discharge wastewaters into the above-described receiving water. The NPDES permit program is administered by the Indiana Stream Pollution Control Board ("Board") pursuant to Sec. 402(b) of the Federal Clean Water Act, as amended, the Indiana Environmental Management Act, as amended (IC 13-7), and Board Rule 330 IAC 5. The Technical Secretary of the Board has examined the application and has developed a draft permit which is proposed to be issued subject to concurrence of the U.S. Environmental Protection Agency. Principal provisions of the draft permit, including effluent limitations, and other pertinent information, are outlined below.

II. Location of Discharge

A description and/or sketch of the location of the discharge is appended as Attachment I.

III. Description of Existing Discharge

A quantitative description of the existing discharge in terms of significant effluent parameters is appended as Attachment II.

IV. Description of Effluent Limitations and Effluent Limitations Rationale

- A. The effluent limitations in the draft permit as well as monitoring requirements, schedule of compliance, and special conditions are described in Attachment III. Also included is an effluent limitations rationale which provides the basis for each limitation or condition.
- B. The other special conditions in the proposed permit may include, but are not necessarily limited to: monitoring, recording, and reporting discharges; limiting discharges of oil, hazardous substances, collected solids, visible floating solids, foams, and effluent batch discharges; planning for electric power failure and spill prevention and containment; and prohibiting bypass of treatment facilities. Persons wishing further information about the special conditions may contact the Indiana Stream Pollution Control Board.

V. Procedures for the Formulation of Final Determination

- A. Interested persons are invited to submit written comments upon the proposed discharge. Comments should be submitted in person or by mail no later than 30 days after the date of the public notice was issued for the permit application. Deliver or mail all comments to:

Mrs. Julie Bright
Division of Water Pollution Control
Permits Section
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, IN 46206

The application and public notice numbers should appear next to the above address on the envelope and on each page of any submitted comments. All comments received no later than 30 days after the public notice is issued will be considered in the formulation of final determinations. The Indiana Stream Pollution Control Board will issue final determinations in a timely manner after the expiration of the public comment period.

- B. If written comments indicate a significant public interest in the application, the Technical Secretary of the Indiana Stream Pollution Control Board shall hold a public hearing on the application. If held, the public hearing will be designed to collect relevant information pertaining to the application in an orderly and expeditious manner. Public notice of a public hearing will be circulated at least 30 days in advance of such event. The public hearing will be held within the State of Indiana. After the public hearing, the Technical Secretary of the Indiana Stream Pollution Control Board will formulate his final determination. Further information regarding the conduct and nature of the public hearings concerning discharge

~~Permit Control Board.~~

Requests for a public hearing should: state the name and address of the person requesting the hearing and of any person represented at the hearing by the requester; identify the interest in the proposed permit of the requester and of any person represented by him; state the reasons for the request; state the issues proposed to be considered at the hearing; and state the position of the requester on the issues to be considered at the hearing.

VI. Staff Contact and Availability of Information

Additional information concerning the draft permit or permit issuance procedures may be obtained between the hours of 8:15 a.m. and 4:45 p.m., Monday through Friday from:

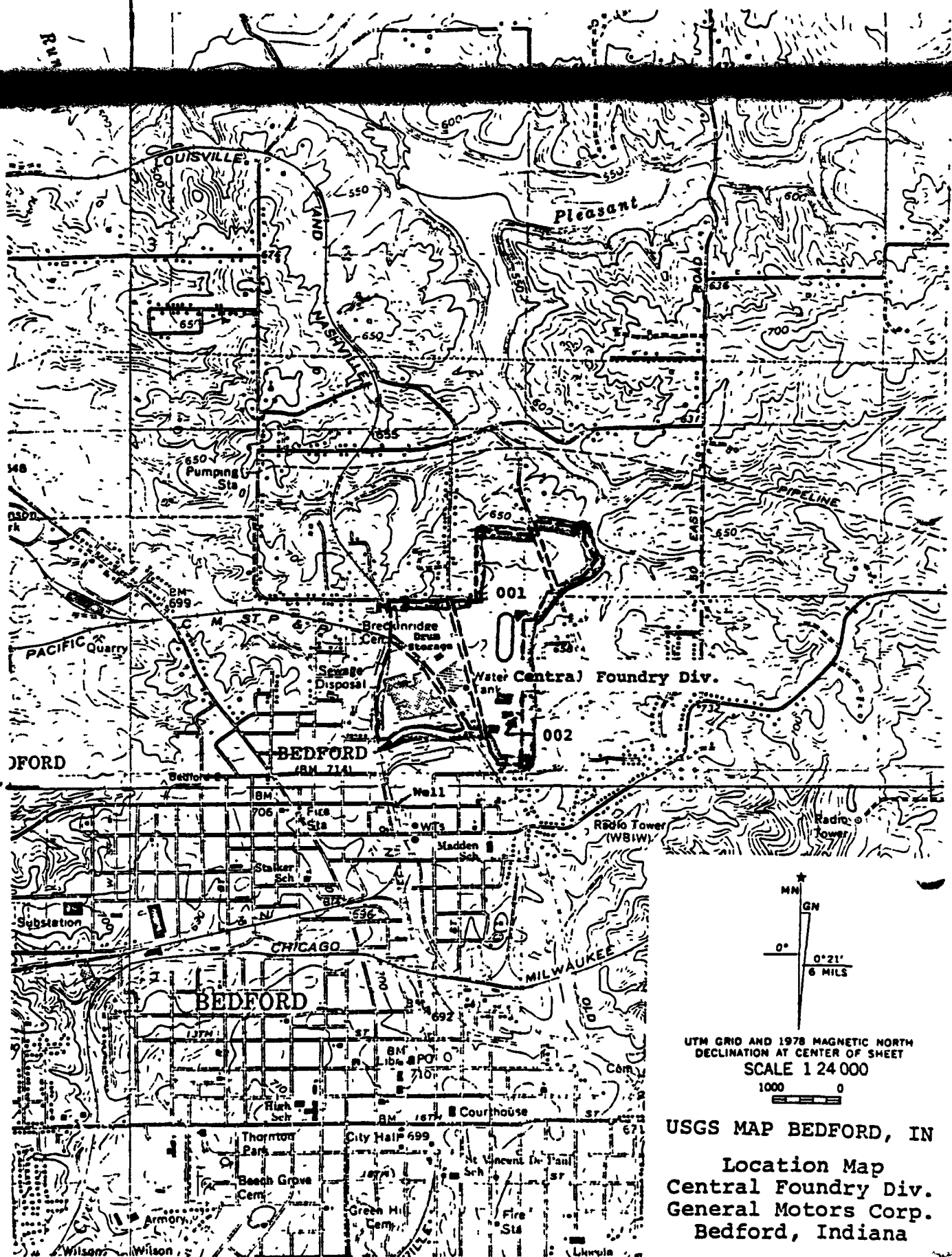
Mr. Robert A. Kelsey at AC 317/633-0838

Copies of the application, proposed permit including proposed effluent limitations, special conditions, comments received, and other documents are available for inspection and may be copied at a cost of 15 cents per page at the Indiana State Board of Health, Room 336, 1330 West Michigan Street, Indianapolis, Indiana.

Attachment I

Location of Discharge

See the attached topographic map of GMC-Central Foundry Division for each specific outfall location.



UTM GRID AND 1978 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET
SCALE 1 24 000

1000 0

USGS MAP BEDFORD, IN

Location Map
Central Foundry Div.
General Motors Corp.
Bedford, Indiana

Attachment II

Description of Existing DischargeGeneral

The applicant operates an aluminum casting foundry in Bedford, Indiana. Discharges at this facility are authorized by NPDES Permit No. IN 0003575 which expired April 1, 1978, and which is at this time being renewed. A five-year renewal permit and a short-term renewal permit were proposed for issuance in 1981 and 1982, respectively. Due to a PCB problem that resulted in several Consent Orders requiring construction of additional treatment facilities and increased effluent sampling requirements, coupled with a delay, among others, in publication of Effluent Limitations Guidelines for the Foundry Category, have prevented further processing of a renewal permit until now.

Type of Industry

Operations from this facility are listed under SIC Code 3361 for an aluminum foundry for the production of automobile transmission casings, pistons, intake manifolds, and engine blocks utilizing aluminum die castings and permanent molding processes.

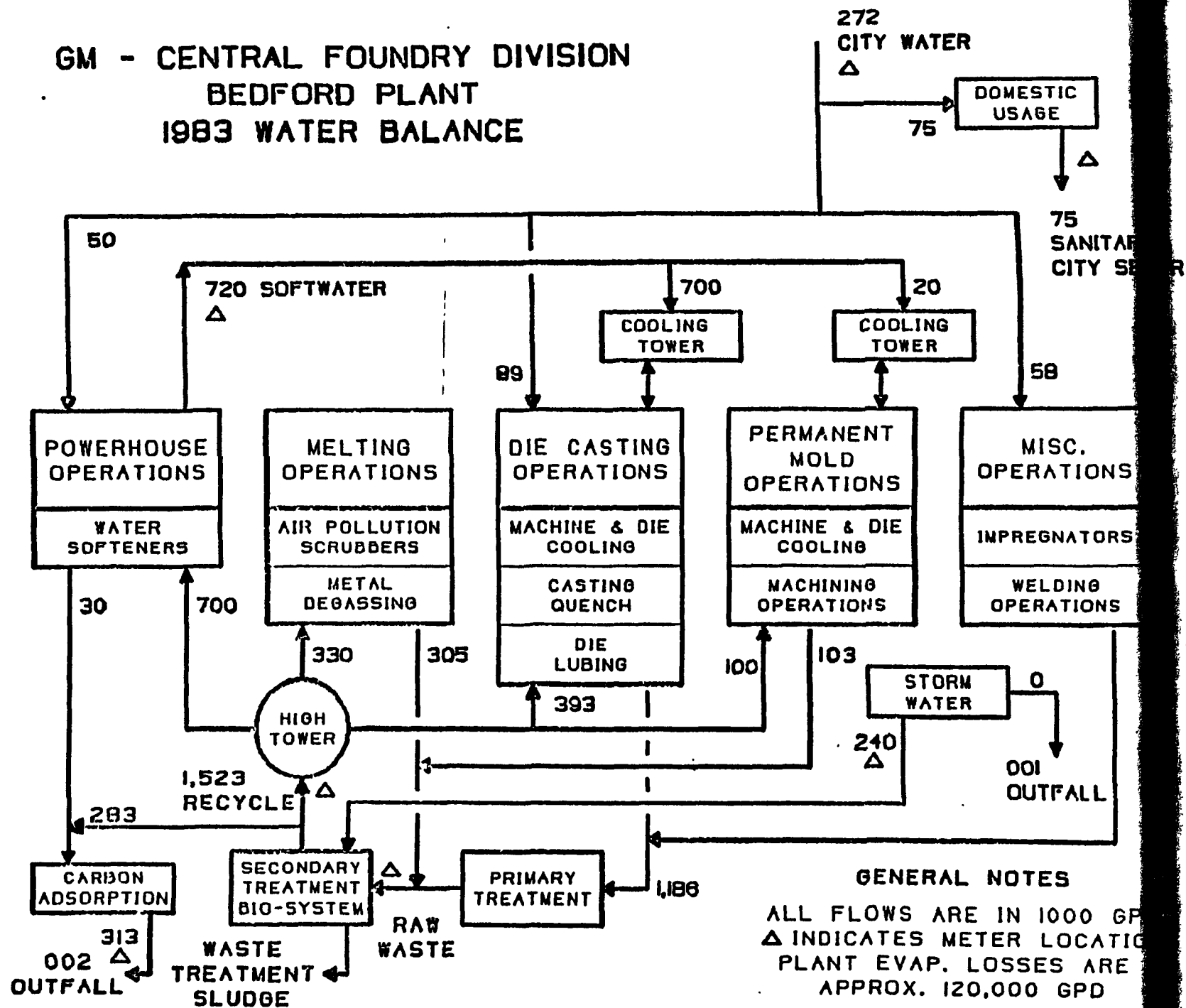
Intake Water and Wastewater Treatment

The City of Bedford provides the applicant with water which is used as process and sanitary make-up water. Contaminated stormwater runoff is collected and recycled and comprises the largest share of makeup water for process operations. (See the attached 1983 water balance sheet for Central Foundry.)

Treated wastewater originating from aluminum die casting, permanent molding processes, and contaminated stormwater runoff are discharged through outfall 002. The process wastewater specifically arises from air scrubbers and the cooling of dies and castings. Sanitary wastewater discharges to the city sewer for treatment at the publicly operated treatment works (POTW).

Prior to 1972, the hydraulic fluid used in machinery at the Bedford foundry contained PCBs (polychlorinated biphenyls). Since 1972 all new hydraulic fluid purchased by Central Foundry has been PCB-free, but the prior use of PCBs has contaminated the facility so that measurable concentrations of PCBs are still found in its wastewater and storm water runoff. As a result of this discharge of PCBs, several Notices of Hearing before the Indiana

GM - CENTRAL FOUNDRY DIVISION BEDFORD PLANT 1983 WATER BALANCE



Stream Pollution Control Board were issued on April 26, 1977 and July 7, 1981. Negotiations resulted in a Stipulation and Consent Orders (Cause Numbers B-416 and B-802) dated October 21, 1980 and March 15, 1983, respectively.

In the original treatment system, noncontact cooling water and stormwater were discharged from a lagoon via Outfall 001. Process wastewaters were partially recycled and then discharged in common with some stormwater and spring water (which until recently flowed across a certain section of the permittee's property) through Outfall 002. To comply with the Consent Order (Cause No. B-416) of October 21, 1980, Central Foundry did the following: (1) expanded their recycle system; (2) rerouted the noncontact cooling water to the recycle system; (3) constructed the 25-year, 24-hour stormwater retention lagoon; and (4) constructed a collection system to route runoff from improved areas, if any, to the new retention lagoon. Central Foundry treats the stormwater from the new lagoon by routing it to either the recycle system or the carbon adsorption column for discharge. There is only carbon column effluent discharging from Outfall 002 while a discharge from 001, consisting solely of stormwater, will occur only when there is a storm event (or combination of storm events) thereby reducing the reserve capacity of the lagoon to less than that needed to hold the volume of runoff caused by the 15-year, 24-hour storm event.

Any uncontaminated spring water that surfaces ~~intermittently~~ onto the permittee's property or flows onto it from a subsurface conduit shall be conveyed to their natural point of exit. If the spring water is contaminated it shall be routed through the permittee's treatment system.

The Consent Orders contained other items, such as a requirement for a stream study, which has not been included here. The NPDES permit will in no way supersede the Consent Orders, but, instead will exist as a separate document with requirements which coincide with and supplement the pertinent items of the Consent Orders.

At the present time, the existing 3.0 mgd process recycle treatment system consists of primary treatment having oil separation and flow equalization. The secondary and advanced wastewater treatment facilities includes aerobic digestion, coagulation, flocculation, clarification, disinfection, filtration, and carbon adsorption. In addition, sludge thickeners and a plate filter press are used to dewater sludge from secondary treatment while heat treatment and a centrifuge system are used for

treatment system. Sludges generated from these operations are disposed of in a sanitary landfill. See the attached Wastewater Treatment System Schematic that follows.

Receiving Stream

The receiving stream for both Outfalls 001 and 002 is an unnamed ditch tributary to the Bailey Branch of Pleasant Run Creek. The discharges (001 and 002) enter the unnamed ditch at different locations and eventually combine together outside the permittee's property. Pleasant Run Creek is tributary to Salt Creek. Salt Creek is tributary to the East Fork of the White River. The City of Bedford also has an intermittent water intake on Salt Creek downstream of Pleasant Run Creek. The seven-day, ten-year low flow of the Bailey Branch of Pleasant Run Creek is assumed to be 0 cfs.

A description of the existing discharges (for the period of July 1983 to June 1984) obtained from discharge monthly reports (DMR's) for Outfalls 001 and 002 follows:

Outfall 001

<u>Effluent Parameter</u>	<u>Average mg/l</u>	<u>Maximum mg/l</u>
Flow (MGD)	(No flows reported during this period)	
BOD ₅		
Oil and Grease		
Total Suspended Solids		
PCB's		
pH units		

Outfall 002

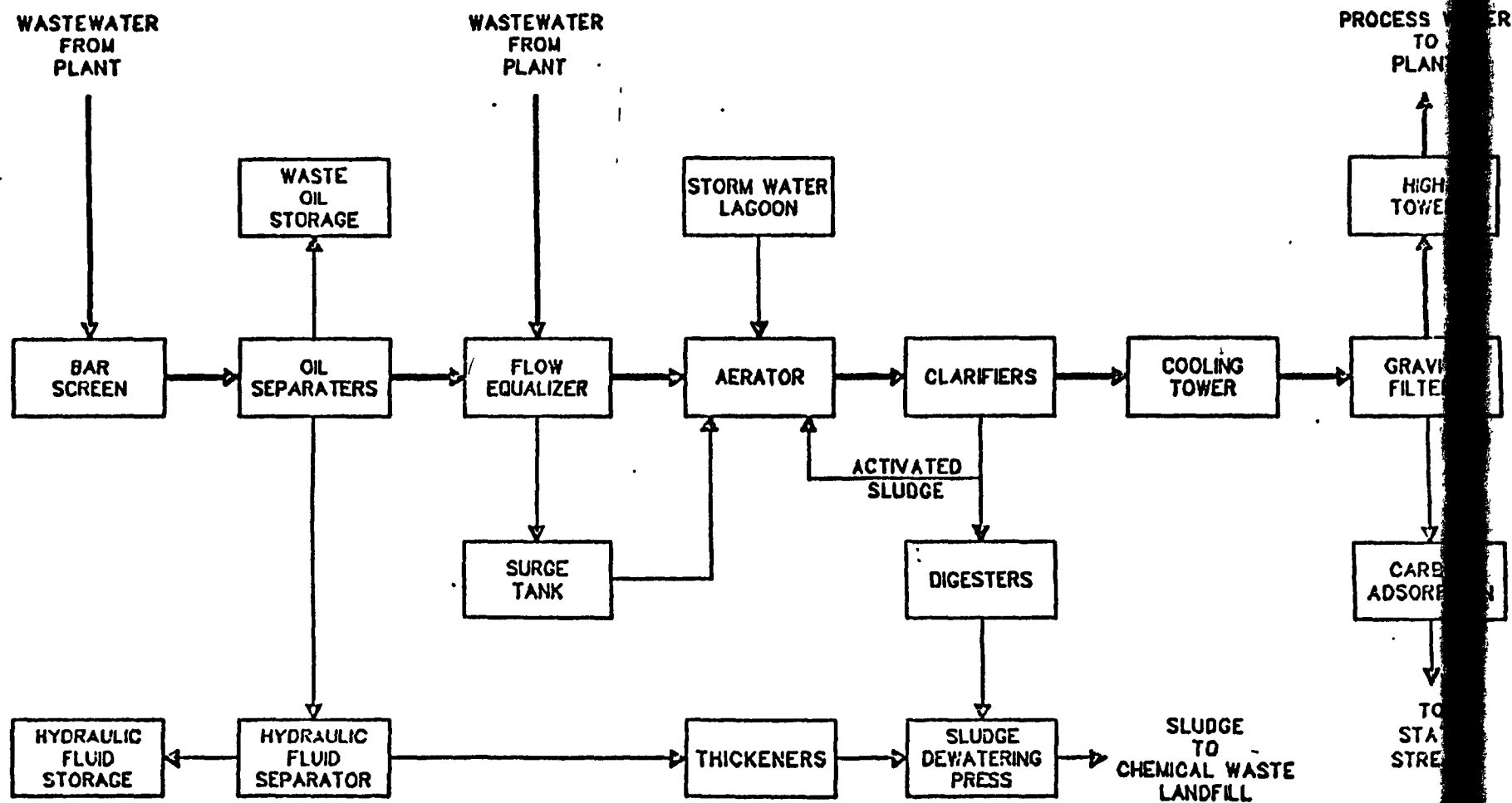
<u>Effluent Parameter</u>	<u>Average mg/l</u>	<u>Maximum mg/l</u>
Flow (MGD)	(0.353)	(0.5)
BOD ₅	6.3	114
Oil and Grease	4.0	10
Total Suspended Solids	3.2	11.8
PCB's	(less than 1.0 ug/l)	(6.5 ug/l)
pH units	(7.2 s.u.)	(8.2 s.u.)

A further description of Outfall 002 representing data submitted with the permittee's 2c renewal application follows:

Outfall 002

<u>Effluent Parameter</u>	<u>D. Maximum mg/l</u>	<u>No. of Analysis</u>
Ammonia (as N)	8.3	1
T. Aluminum	0.12	1
T. Copper	less than 0.01	1
T. Lead	less than 0.1	1
T. Phenols	3.50	1
T. Zinc	less than 0.10	1
Tetrachloroethylene	6.20	1
1,1,1-Trichloroethane	0.09	1

BIOLOGICAL WASTEWATER TREATMENT SYSTEM



Attachment III

Description of Effluent Limitations and Effluent Limitations RationaleOutfall 001 (Overflow from Stormwater Retention Lagoon)

<u>Effluent Parameter</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>	<u>Frequency</u>	<u>Type</u>
Flow (MGD)*	--	--	Measure when sampling	
Oil and Grease	--	--	Weekly when discharging	Grab
Polychlorinated Biphenyls	--	--	Daily when discharging	24-Hr. C
pH units	(limited between 6 and 9)		Weekly when discharging	Grab

*The permittee shall act to maintain a reserve capacity in the stormwater retention lagoon greater than or equal to that sufficient to contain a 15-year, 24-hour storm event on the lagoon and contributing areas. Discharge from Outfall 001 is permitted only when a severe storm event or combination of storm events results in an overflow of the retention lagoon despite the permittee's efforts to maintain the storage capacity as noted. In the event of an overflow, the permittee shall monitor the discharge as noted above.

Oil and Grease

If detectable levels of oil and grease are present in this nonprocess related effluent the source of such discharge is to be investigated and eliminated, if feasible, and the findings reported to the Indiana Stream Pollution Control Board (ISPCB).

Polychlorinated Biphenyls

These requirements are the direct result of a Consent Order (Cause No. B-416) agreed to between the permittee and the ISPCB for the State of Indiana.

pH

According to ISPCB regulation 330 IAC 1-1, no pH values below 6 nor above 9 shall be allowed.

<u>Effluent Parameter</u>	<u>Discharge Limitations</u> lbs/day (mg/l)		<u>Monitoring Requirements</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>	<u>Frequency</u>	<u>Type</u>
Flow (MGD)	--	--	5 X Weekly	24-Hr. Total
Total Suspended Solids	(10)	(15)	3 X Weekly	24-Hr. Comp.
Oil and Grease	--	(10)	2 X Weekly	Grab
Total Copper	--	(0.06)	Weekly	24-Hr. Comp.
Total Lead	--	(0.05)	Weekly	24-Hr. Comp.
Total Zinc	--	(0.73)	Weekly	24-Hr. Comp.
Total Phenols (4AAP)	--	(0.1)	3 X Weekly	24-Hr. Comp.
Total Residual Chlorine	(0.2)	(0.5)	2 X Weekly	Grab
Ammonia (as N)	--	--	Weekly	24-Hr. Comp.
TBOD ₅	--	(10)	3 X Weekly	24-Hr. Comp.
Polychlorinated Biphenyls	--	(0.001)	3 X Weekly	24-Hr. Comp.
Total Toxic Organics	--	--	Semi-Annually	24-Hr. Comp.
1,1,1-Trichloroethane	--	--	2 X Monthly	24-Hr. Comp.
Tetrachloroethylene	--	--	2 X Monthly	24-Hr. Comp.
pH Units	(limited to a range between 6 and 9)		5 X Weekly	Grab

TSS, Oil and Grease, and Metals (Copper, Lead, and Zinc)

Two separate sets of effluent limitations (primary and secondary) for these parameters were planned to be proposed in the permit. Company representatives provided production data that showed that the production level for the high month for the last twelve months to be 16.3×10^6 pounds (or 388 T/D, as shown on page 17, for an average 21-day production month) of aluminum cast. However, Company representatives also made a plausible argument that production is expected to reach the 27.258×10^6 pounds per month production level within the duration of the permit. In some cases, such as with the automotive industry, historical data may show large random or cyclic fluctuations in production rates, of either a short or long term nature. In those situations, it may be appropriate to have alternate limits which are applicable at some increased production rate or setting the limit based upon a level of production higher than the average. See page 18 of this document for more specifics.

After calculating separate or alternate limitations based on historical and projected production levels, a significant differential did not exist based upon the February 15, 1985, Notice of Availability for the Metal Molding and Casting Industry Point Source Category Effluent Limitations Guidelines Document (40 CFR Part 464). Therefore, alternate limits are not being proposed at this time. Instead, one set of effluent limitations are proposed. Mass limitations are based on the production level of 24.45×10^6 pounds of aluminum produced per month. This amount also represents that level which would have been the monthly production level upon which alternate (or secondary) limits would have been based.

As described on page 18, alternate or secondary limits were not calculated precisely on the projected level of 27.258×10^6 pounds of aluminum cast. Staff believe that a reasonable measure of production is represented by the projected level of 24.45×10^6 pounds of aluminum cast per month. This level should provide for a certain amount of production increase above the historical value of 16.3×10^6 pounds of aluminum cast while still conforming to EPA guidance documents for alternate limitations calculations.

Data sheets representing the initial rationale and calculation of primary and secondary limits are attached for the record starting on Page 18.

Mass limitations for TSS and Oil and Grease based on BPT requirements are not being proposed. Instead, concentration limitations are being proposed that provide the permittee with an allowance for treating plant contaminated stormwater runoff. The bottom of Page 22 indicates calculated Federal Effluent BPT limitations which do not include an allowance for stormwater runoff or nonscope flows which are intended to be dealt with on a case-by-case basis. The concentration based limitations provide the permittee with a continuous allowance since this is usually the case due to the existence of the 25-year, 24-hour storm lagoon. Staff feel the proposed limitations are protective of the receiving stream while not being overly restrictive. TSS and Oil and Grease limitations are the same as in the expiring permit.

Concentration based limitations are proposed to meet water quality requirements for T. Copper and T. Zinc based upon EPA Acute Toxicity Criteria and a water hardness level of 270 mg/l as CaCO_3 . The following EPA formulas were used to calculate those limitations.

Maximum Acute Copper Toxicity concentration with a specified hardness level (as CaCO_3) is represented by the formula:

$$e^{(0.94 \ln (\text{Hardness}) - 1.23)} = \text{ug/l}$$

Maximum Acute Zinc Toxicity concentration with a specified hardness level (as CaCO_3) is represented by the formula:

$$e^{(0.83 \ln (\text{Hardness}) + 1.95)} = \text{ug/l}$$

Limitations for T. Lead and T. Phenols are based upon U.S.P.H.S. Drinking Water Standards and Water Quality considerations, respectively. Total Phenols were not specifically listed in the previously cited Notice of Availability but due to past water quality violations at the plant and the potential for stream degradation, effluent limitations for T. Phenols are proposed. Staff believe the final regulations will include T. Phenols limitations.

the calculated BAT mass limitations using both the average daily flow (0.353 mgd) and the maximum flow (0.5 mgd) reported to determine the corresponding concentrations. These concentrations were then compared with the previously mentioned EPA Acute Toxicity information, U.S.P.H.S. Drinking Water Standards, and Water Quality Standards to determine the more protective stream requirements.

TBOD₅

The expiring permit limited BOD₅ to a daily maximum limitation of 10 mg/l. Based upon water quality considerations and the fact that there is presently an enforcement action for past BOD₅ violations the expiring permit limitations are being retained for the duration of the renewal permit.

Ammonia

Monitoring for a three-month period is proposed to determine whether or not significant levels are present. The permit may be modified to include appropriate effluent limitations. Monitoring is being required due to elevated levels, as reported in their 2C application, and because of ammonia's oxygen demand and toxicity to aquatic organisms.

Polychlorinated Biphenyls

This limitation has been placed on Outfall 002 as a result of a Consent Order (Cause No. B-416) agreed to by the permittee and the ISPCB for the State of Indiana due to the carcinogenic properties of PCB's. Contaminated areas resulted from past uses of hydraulic fluid containing PCB's.

Total Residual Chlorine (TRC)

Limitations on TRC have been required to prevent excessive quantities of this disinfectant/biocide from being discharged into the receiving stream to protect the aquatic life. These limitations are the same requirements as those issued under the Steam Electric Power Generating Point Source Category (40 CFR Part 125 and 423) promulgated November 19, 1982.

Total Toxic Organics (TTO) Monitoring

As a result of a June 14, 1985, bioassay, conducted on the plant effluent which showed that significant toxicity exists and to further characterize the discharge in order that those pollutants that need to be controlled, are controlled, semi-annual monitoring for a period of one-year is required. This one-year period should allow the permittee the time to correct the deficiencies that now exist in the treatment system while providing the necessary supporting data for whether or not continued monitoring is required, or for imposing effluent limitations for specific parameters.

In addition to the organics monitoring mentioned above, 1,1,1-trichloroethane and Tetrachloroethylene were found in the effluent as reported in the permittee's 2C renewal application. Monitoring for a period of three months is required to determine whether or not these concentrations found are representative of the discharge or are an anomaly that occurred during a time of wastewater treatment plant deficiencies.

REPRESENTING THE HIGH MONTH FOR 1984

<u>Operation</u>	<u>Production</u>
Die Casting*	388 Tons/Day
Mold Cooling	388 Tons/Day
Casting Quench	307 Tons/Day
Casting Cleaning	252 Tons/Day
Melting Furnace Scrubber	156,000 SCFM

*Federal Effluent Guidelines Limitations (40 CFR Part 464)
combine die casting, permanent molding, and semi-permanent
molding processes together under one category - Die Casting.

Initial Alternate Limitations Rationale

22 Day month
Twenty percent separates the various levels from the Primary Limitations level. EPA generally agrees that a 10-20 percent fluctuation in production is within the range of normal variability, while changes in production "substantially higher" than this range could warrant consideration of alternate limitations.

- 10,866,500-lbs/mo. Secondary/Alternate Limitations applicable for production falling below the 13,040,000 pounds levels for a projected month. Permit would need to be modified in this case.
- 13,040,000-lbs/mo. Lower threshold level which would trigger alternate limitations.
- 16,300,000-lbs/mo. Primary Limitations based on high month²² for the last twelve months.
- 19,560,000-lbs/mo. Upper threshold level which would trigger alternate limitations.
- *24,450,000-lbs/mo. Secondary/Alternate Limitations applicable for production exceeding the 19,560,000 pounds level for a projected month.

300 1/2
EPA considers a 20% fluctuation to be within the normal range of variability. A 20% increase above the primary production level of 16.3×10^6 pounds aluminum would then be within this normal range which would serve as an upper threshold level. This would correspond to the level of 19.56×10^6 pounds of aluminum. Any production above this value could then be considered for alternate limits. Staff believe that a 25% increase above this threshold level would then be the basis for any secondary limits. This would correspond to the level of 24.45×10^6 pounds of aluminum. Therefore, a 20% swing above or below this secondary level of production would be included. A 20% increase above the 24.45×10^6 pounds level would then include the permittee's projected production level of 27.258×10^6 pounds of aluminum per month.

~~41277D~~
*Selected to be the basis for actual permit limitations since no significant differential existed after primary and secondary limitations were calculated.

Primary Effluent Limitations Calculation
(40 CFR Part 464)

Die Casting

Production = 388 T/D; Blowdown = 5.3 GPT

	<u>Effluent Limitations (lbs/day)</u>			<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	<u>* Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	<u>Result. Multiplier</u>
T. Copper	1.49	0.29	1.715×10^{-2}	0.026	0.005	5.0×10^{-2}
T. Lead	0.24	0.2	1.715×10^{-2}	0.004	0.003	5.0×10^{-2}
T. Zinc	2.67	0.53	1.715×10^{-2}	0.046	0.009	5.0×10^{-2}
Oil and Grease	6.5	2.6	1.715×10^{-2}	0.111	0.045	5.0×10^{-2}
T. Phenols	--	--	--	--	--	--
T. Suspended Solids	23.5	6.8	1.715×10^{-2}	0.403	0.117	5.0×10^{-2}
T. Toxic Organics	--	--	--	--	--	--

Casting Cleaning

Production = 252 T/D; Blowdown = 24.0 GPT

	<u>Effluent Limitations (lbs/day)</u>			<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	<u>* Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	<u>Result. Multiplier</u>
T. Copper	1.49	0.29	1.715×10^{-2}	0.026	0.005	5.0×10^{-2}
T. Lead	0.24	0.2	1.715×10^{-2}	0.004	0.003	5.0×10^{-2}
T. Zinc	2.67	0.53	1.715×10^{-2}	0.046	0.009	5.0×10^{-2}
Oil and Grease	6.5	2.6	1.715×10^{-2}	0.111	0.045	5.0×10^{-2}
T. Phenols	--	--	--	--	--	--
T. Suspended Solids	23.5	6.8	1.715×10^{-2}	0.403	0.117	5.0×10^{-2}
T. Toxic Organics	--	--	--	--	--	--

Mold Cooling

Production = 388 T/D; Blowdown = 25 GPT

	<u>Effluent Limitations (lbs/day)</u>			<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	<u>* Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	<u>Result. Multiplier</u>
T. Copper	1.49	0.29	8.09×10^{-2}	0.121	0.023	7.425×10^{-3}
T. Lead	0.24	0.2	8.09×10^{-2}	0.019	0.016	7.425×10^{-3}
T. Zinc	2.67	0.53	8.09×10^{-2}	0.216	0.043	7.425×10^{-3}
Oil and Grease	6.5	2.6	8.09×10^{-2}	0.526	0.210	7.425×10^{-3}
T. Phenols	--	--	--	--	--	--
T. Suspended Solids	23.5	6.8	8.09×10^{-2}	1.901	0.55	7.425×10^{-3}
T. Toxic Organics	--	--	--	--	--	--

Casting Quench

Production = 307 T/D; Blowdown = 2.9 GPT

	<u>Effluent Limitations (lbs/day)</u>			<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	<u>* Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	<u>Result. Multiplier</u>
T. Copper	1.49	0.29	8.09×10^{-2}	0.121	0.023	7.425×10^{-3}
T. Lead	0.24	0.2	8.09×10^{-2}	0.019	0.016	7.425×10^{-3}
T. Zinc	2.67	0.53	8.09×10^{-2}	0.216	0.043	7.425×10^{-3}
Oil and Grease	6.5	2.6	8.09×10^{-2}	0.526	0.210	7.425×10^{-3}
T. Phenols	--	--	--	--	--	--
T. Suspended Solids	23.5	6.8	8.09×10^{-2}	1.901	0.55	7.425×10^{-3}
T. Toxic Organics	--	--	--	--	--	--

T/D = Tons per day

GPT = Gallons per ton

* = Treatment effectiveness concentrations (mg/l) using "EPA and Confirmed DMR Data" for NonFerrous Foundries (see February 15, 1985, Notice of Availability - Metal Molding and Castings Effluent Limitations Guidelines).

Primary Effluent Limitations Calculation (Cont'd.)

Melting Furnace Scrubber

Feed Rate = 156,000 SCFM; Blowdown = 0.47 gal. per 1000 SCF

				<u>Effluent Limitations (lbs/day)</u>	
	<u>D. Max.</u>	* <u>Mo. Ave.</u>	<u>Result Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>
T. Copper	1.49	0.29	8.81×10^{-1}	1.312	0.255
T. Lead	0.24	0.2	8.81×10^{-1}	0.211	0.176
T. Zinc	2.67	0.53	8.81×10^{-1}	2.351	0.467
Oil and Grease	6.5	2.6	8.81×10^{-1}	5.725	2.29
T. Phenols	--	--	--	--	--
T. Suspended Solids	23.5	6.8	8.81×10^{-1}	20.692	5.988
T. Toxic Organics	--	--	--	--	--

Primary Limitations Totals

	<u>Effluent Limitations (lbs/day)</u>	
	<u>D. Max.</u>	<u>Mo. Ave.</u>
T. Copper	1.545	0.3
T. Lead	0.248	0.206
T. Zinc	2.768	0.55
Oil and Grease	6.736	2.694
T. Phenols	--	--
T. Suspended Solids	24.355	7.048
T. Toxic Organics	--	--

T/D = Tons per day

GPT = Gallons per ton

* = Treatment effectiveness concentrations (mg/l) using "EPA and Confirmed DMR Data" for NonFerrous Foundries (see February 15, 1985, Notice of Availability - Metal Molding and Castings Effluent Limitations Guidelines).

Secondary Effluent Limitations Calculation

Die Casting

Production = 582 T/D; Blowdown = 5.3 GPT

				<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	* <u>Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	
T. Copper	1.49	0.29	2.573×10^{-2}	0.038	0.007	
T. Lead	0.24	0.2	2.573×10^{-2}	0.006	0.005	
T. Zinc	2.67	0.53	2.573×10^{-2}	0.069	0.014	
Oil and Grease	6.5	2.6	2.573×10^{-2}	0.167	0.067	
T. Phenols	--	--	--	--	--	
T. Suspended Solids	23.5	6.8	2.573×10^{-2}	0.605	0.175	
T. Toxic Organics	--	--	--	--	--	

Casting Cleaning

Production = 378.4 T/D; Blowdown = 24 GPT

				<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	* <u>Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	
T. Copper	1.49	0.29	7.572×10^{-2}	0.113	0.022	
T. Lead	0.24	0.2	7.572×10^{-2}	0.018	0.015	
T. Zinc	2.67	0.53	7.572×10^{-2}	0.202	0.040	
Oil and Grease	6.5	2.6	7.572×10^{-2}	0.492	0.197	
T. Phenols	--	--	--	--	--	
T. Suspended Solids	23.5	6.8	7.572×10^{-2}	1.780	0.515	
T. Toxic Organics	--	--	--	--	--	

Mold Cooling

Production = 582 T/D; Blowdown = 25 GPT

				<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	* <u>Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	
T. Copper	1.49	0.29	12.135×10^{-2}	0.181	0.035	
T. Lead	0.24	0.2	12.135×10^{-2}	0.029	0.024	
T. Zinc	2.67	0.53	12.135×10^{-2}	0.324	0.064	
Oil and Grease	6.5	2.6	12.135×10^{-2}	0.798	0.316	
T. Phenols	--	--	--	--	--	
T. Suspended Solids	23.5	6.8	12.135×10^{-2}	2.852	0.825	
T. Toxic Organics	--	--	--	--	--	

Casting Quench

Production = 460 T/D; Blowdown = 2.9 GPT

				<u>Effluent Limitations (lbs/day)</u>		
	<u>D. Max.</u>	* <u>Mo. Ave.</u>	<u>Result. Multiplier</u>	<u>D. Max.</u>	<u>Mo. Ave.</u>	
T. Copper	1.49	0.29	1.112×10^{-2}	0.017	0.003	
T. Lead	0.24	0.2	1.112×10^{-2}	0.003	0.002	
T. Zinc	2.67	0.53	1.112×10^{-2}	0.030	0.006	
Oil and Grease	6.5	2.6	1.112×10^{-2}	0.072	0.029	
T. Phenols	--	--	--	--	--	
T. Suspended Solids	23.5	6.8	1.112×10^{-2}	0.261	0.076	
T. Toxic Organics	--	--	--	--	--	

T/D = Tons per day

GPT = Gallons per ton

* = Treatment effectiveness concentrations (mg/l) using "EPA and Confirmed DMR Data" for NonFerrous Foundries (see February 15, 1985, Notice of Availability - Metal Molding and Castings Effluent Limitations Guidelines).

Secondary Effluent Limitations Calculation (Cont'd.)

Melting Furnace Scrubber

Feed Rate = 156,000 SCFM; Blowdown = 0.47 gal. per 1000 SCF

	<u>D. Max. *</u>	<u>Mo. Ave.</u>	<u>Result Multiplier</u>	<u>Effluent Limitations (lbs/day)</u>	
				<u>D. Max.</u>	<u>Mo. Ave.</u>
T. Copper	1.49	0.29	8.81×10^{-1}	1.312	0.255
T. Lead	0.24	0.2	8.81×10^{-1}	0.211	0.176
T. Zinc	2.67	0.53	8.81×10^{-1}	2.351	0.467
Oil and Grease	6.5	2.6	8.81×10^{-1}	5.723	2.289
T. Phenols	--	--	--	--	--
T. Suspended Solids	23.5	6.8	8.81×10^{-1}	20.692	5.988
T. Toxic Organics	--	--	--	--	--

Secondary Limitations Totals

	<u>Effluent Limitations (lbs/day)</u>	
	<u>D. Max.</u>	<u>Mo. Ave.</u>
T. Copper	1.661	0.322
T. Lead	0.267	0.222
T. Zinc	2.976	0.591
Oil and Grease	7.243	2.898
T. Phenols	--	--
T. Suspended Solids	26.19	7.597
T. Toxic Organics	--	--

T/D = Tons per day

GPT = Gallons per ton

* = Treatment effectiveness concentrations (mg/l) using "EPA and Confirmed DMR Data" for NonFerrous Foundries (see February 15, 1985, Notice of Availability - Metal Molding and Castings Effluent Limitations Guidelines).

**METAL MOLDING AND CASTING
FLOW RATES AND RECYCLE RATES**

Subcategory	Process Segment	Flows - GPT (1)		Recycle
		Applied	Blowdown	
Aluminum	Casting Cleaning	480	24	95
	Casting Quench	145	2.9	98
	Die Casting	106	5.3	95
	Dust Collection			
	Scrubber	1.78*	0.036*	98
	Grinding Scrubber	0.063*	0	100
	Investment Casting	20,800	3,120	85
	Melting Furnace			
	Scrubber	11.7*	0.47*	96
	Molding Cooling	506	25	95
Copper	Casting Quench	478	9.6	98
	Direct Chill Casting	3,130	157	95
	Dust Collection			
	Scrubber	4.29*	0.086*	98
	Grinding Scrubber	0.111*	0	100
	Investment Casting	764	115	85
	Melting Furnace			
	Scrubber	7.04*	0.28*	96
	Mold Cooling	5,530	277	95
Ferrous	Casting Cleaning	213	10.7	95
	Casting Quench	571	11.4	98
	Dust Collection			
	Scrubber	3.0*	0.09*	97
	Grinding Scrubber	3.17*	0	100
	Investment Casting	300	45(3)	85(3)
	Melting Furnace			
	Scrubber	13.7*	0.55*	96
	Mold Cooling	707	35.4	95
	Slag Quench	727	43.6	94
Magnesium	Wet Sand Reclamation	895(2)	179(2)	80
	Casting Quench	535	10.7	98
	Dust Collection			
	Scrubber	0.275*	0.0055*	98
	Grinding Scrubber	0.275*	0	100
Zinc	Casting Quench	533	10.7	98
	Die Casting	109	5.5	95
	Melting Furnace			
	Scrubber	0.385*	0.0154*	96
	Mold Cooling	4,000	200	95

*-gallons per 1000 SCF

(Obtained from February 15, 1985, Notice of Availability)

Post Public Notice Addendum - September 1985

As a result of comments received from the permittee during the 30-day public notice period, the following responses and/or changes are being made in the NPDES permit.

The appropriate section of the ISPCB has been informed of the request for the reclassification of a portion of Pleasant Run Creek and the Bailey Branch to limited use. If and when reclassification to limited use is approved by the appropriate agencies of the ISPCB and EPA, the permittee may at that time request a permit modification to consider the needed changes, if any, in effluent limitations and/or monitoring requirements of the permit. As you may or may not be aware of, limited use streams must still meet certain minimum water quality standard water quality standards (Refer to ISPCB Regulation 330 IAC 1-1-6) so that the point of application of these requirements would remain at the present outfall location(s) and not at some location downstream (point F in Appendix I of supporting data). Additional time for submittal of supplemental data supporting the permittee's request for the limited use classification is not being granted. Any supporting data should have been submitted within the 30-day comment period. However, all pertinent data will be evaluated by the appropriate agencies in determining whether or not the receiving stream meets the requirements for the limited use designation.

As a result of comments received concerning the designation of the new stormwater retention lagoon outfall as 001, it has been decided for accuracy and future reference that all references to outfall 001 be changed to refer instead to outfall 003 in the permit. Outfall 001 shall remain in the record as the discharge point from the original stormwater retention lagoon which is no longer utilized.

Monitoring frequency requirements for flow, TSS, Oil and Grease, pH and PCB's are not out of line with requirements for discharges (Industrial and Municipal) having similar characteristics and/or volume. No changes are proposed at this time for any of the monitoring frequencies in the permit. However, if after a period of time the permittee has shown that the requirements in the permit have been consistently met, a request for modification to alter specific conditions (i.e., relaxed monitoring frequency) may be submitted to the ISPCB.

Staff disagrees with your request to require only 3-month monitoring for the metals Zinc and Lead at outfall 002. Since the Proposed Metal Molding and Casting Point Source Effluent Limitations Guidelines include limitations for these two parameters, staff is required to place limitations in the permit based either on reported production quantities or water quality considerations, whichever is more stringent. As mentioned in the previous paragraph, permitted parameters and/or conditions may be modified (i.e., relaxed or deleted) if permit requirements and/or conditions have consistently been met. However, by the case of

allowing a relaxation of monitoring frequency but not total deletion of those regulated parameters and/or conditions. The parameter copper, contrary to your belief, is listed in the guidelines for the Aluminum Casting Subcategory and shall remain in the permit as proposed.

It must be emphasized again that all changes regarding requirements and/or conditions based upon the possible reclassification of the receiving stream will have to wait until the appropriate time (i.e., when reclassification is finalized) for consideration.

Several comments questioned the use of drinking water standards in establishing limitations. Especially since "the nearest potable water supply intake is north of Bedford, In., on Salt Creek." However, this staff is also charged with the responsibility to protect wildlife and livestock from toxic effects - the limitation of 0.05 mg/L for lead is probably the best we know for that purpose. Also, using EPA toxicity formulas based upon water hardness, an acute aquatic toxicity value of 0.058 mg/l is obtained after applying a safety factor of 1/10 as specified in ISPCB Regulation 330 IAC 1-1-6(b) for toxic substances. This figure is almost identical to the figure listed by the U.S.P.H.S..

No relaxation of the T. phenols limitations is proposed based on the possible reclassification to limited use. Even with the limited use designation no relaxation for toxic pollutants is permissible.

Comments concerning the TBOD₅ request for 3-months monitoring and changes in the wording of Toxic Organic Pollutant Monitoring is not possible without having had public noticed the permit with this language in it. As mentioned previously, permit modification is always an option after a period of time in which consistent compliance has been observed for those requirements and/or conditions requested to be changed.

As a result of comments received from EPA, effluent limitations for total residual chlorine (TRC) have been deleted and 6-month monitoring is required. As a result of these comments, staff felt it was appropriate to reduce the sampling frequency to twice (2) monthly. (See EPA comment section concerning TRC.)

The request for an increase in time from 90 days to 180 days for submittal of the Toxic Organic Management Plan is not being granted. Submittal of the Plan after 90 days from the issuance date of the permit does not necessarily need to follow TTO monitoring in order to meet the requirements of the Toxic Organic Pollutant Management Plan.

Since it was unavoidable that the permittee did not have an opportunity to review the draft permit and fact sheet for accuracy prior to the 30-day public notice period, several items requiring clarification and/or correction should be noted as follows:

1. Under the heading of Description of Existing Discharge, page 6 of the Fact Sheet (F.S.), the description of the industrial classification should be revised to reflect more accurately the plant operations. This paragraph should read:

"Operations from this facility are listed under SIC Code 3361 for an aluminum foundry for the production of various types of transportation castings, including transmission castings, pistons, intake manifolds, and engine blocks, utilizing aluminum die castings, permanent and semipermanent molding processes."

2. The leading two paragraphs under the heading Intake Water and Wastewater Treatment description, page 6 of the F.S., also requires clarification to describe accurately the plant's operations. Most significantly, an implication is made that all stormwater collected from the site is contaminated and that it originates from the entire site. The paragraphs should read:

"The City of Bedford provides the applicant with water which is used as process make-up and sanitary water. Stormwater runoff is collected from the improved plant properties and recycled as required for process make-up water. This stormwater comprises a significant share of make-up water for process operations. (See the attached 1983 water balance diagram for Central Foundry.)"

"Treated wastewater originating from aluminum die casting, permanent and semipermanent molding processes, and stormwater runoff are discharged through outfall 002. The process wastewater specifically arises from die casting, die lubing, cooling of dies and castings, air scrubbers, casting cleaning, and miscellaneous sources such as the cooling tower and boiler blow down. Sanitary wastewater discharges to the city sewer for treatment at the publicly owned treatment works (POTW)."

The last paragraph in this section, page 8 of the F.S., is also inaccurate. It should be completely replaced with:

"The existing wastewater treatment system has a design capacity of 3.0 mgd and a significant portion of its treated effluent is recycled to manufacturing as process water. Preliminary treatment consists of free oil separation and solids settling in one pair of units followed by flow equalization. The next stage of treatment consists of activated sludge treatment followed by sedimentation and rapid sand filtration. Excess sludges from the activated sludge units are aerobically digested in a pair of separate units. Solids and oil separated in preliminary treatment are processed to recover hydraulic fluid. The non-recoverable residue is either processed in the activated sludge-aerobic digestion units or directly dewatered in the filter press along with the aerobically digested sludge. The dewatered

approved landfill. Final treatment of the rapid sand filter effluent is accomplished by activated carbon sorption prior to discharge."

3. Under the Receiving Stream section of the F.S., page 9, it states that outfalls 001 and 002 (proposed 003 and 002) combine in an unnamed ditch prior to their confluence with Bailey Branch of Pleasant Run Creek. This is not the case. Outfall 002 joins Bailey Branch upstream of the point which outfall 001 (proposed 003) joins. The revised topographical map, page 5 of the F.S., is attached for the record.

Attached is also a revised diagram concerning the Biological Wastewater Treatment System which was submitted incompletely with the renewal application.

The diagram required the following flow connections to be complete:

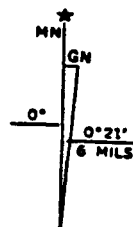
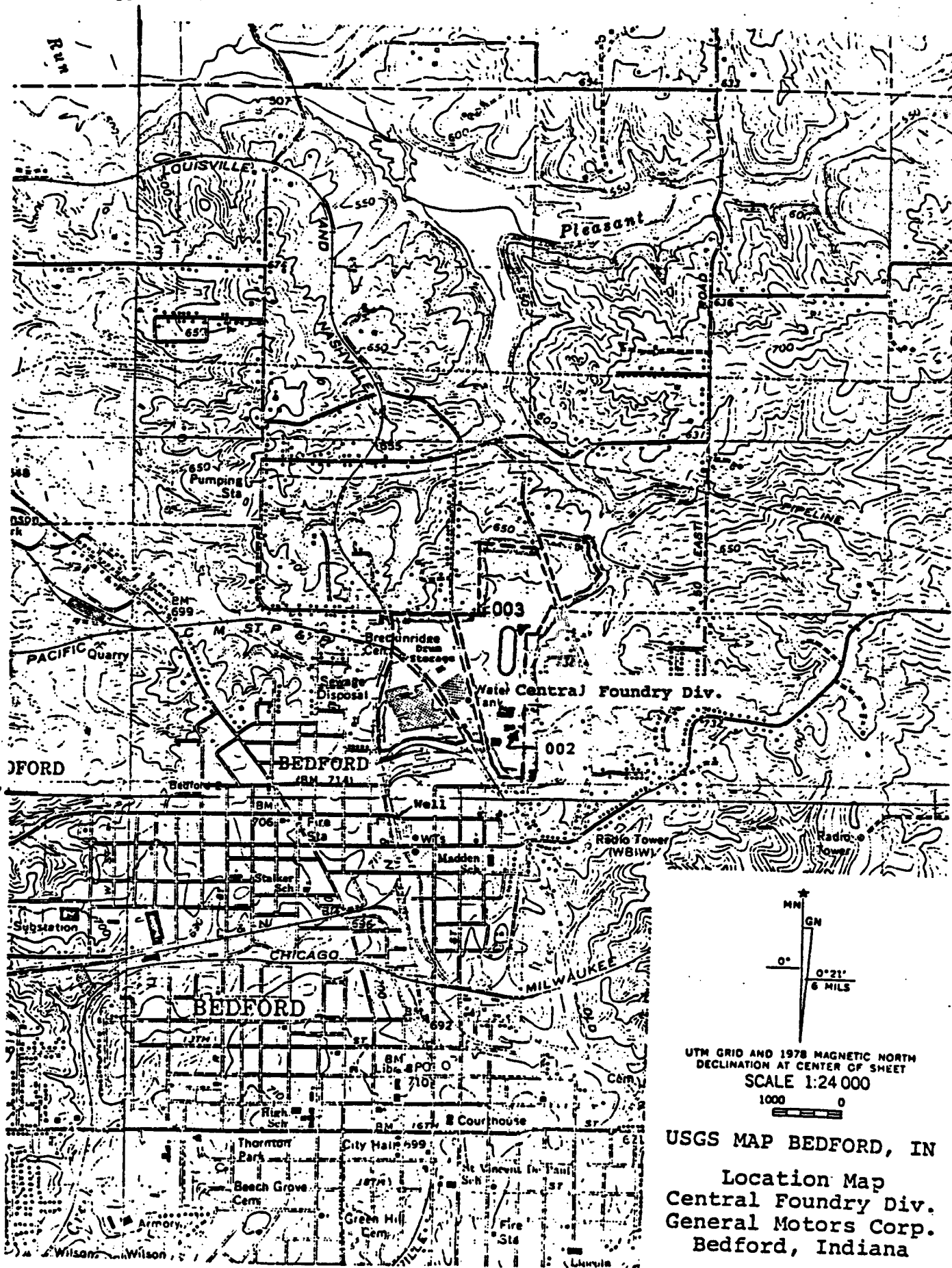
- (1) sludge from the hydraulic fluid separator may be pumped to the digesters, and
- (2) stormwater may be pumped directly from the retention lagoon directly to carbon adsorption.

As a result of comments received from EPA, Region V, on the draft permit, the two following requirements are being inserted into the permit for outfall 002.

1. The total residual chlorine (TRC) limitations are being deleted. Instead, monitoring for a period of six (6) months (which also includes a reduction in monitoring frequency to a twice monthly sample) is required since detectable levels of TRC should not be present in the effluent. If TRC is present in detectable amounts during this period then effluent limitations will be placed on the discharge at this time, if appropriate.
2. A daily average limitation is being required based on the chronic toxicity effects of zinc. Using the calculated mass limitations from the effluent guidelines, back calculation utilizing the permittee's average flow provides a concentration value of 0.2 mg/l for daily average. This value is also fairly representative of chronic toxicity values for those species typically found in the receiving stream and shall be inserted into the permit as the daily average limitation.

86°30'

38°52'30"

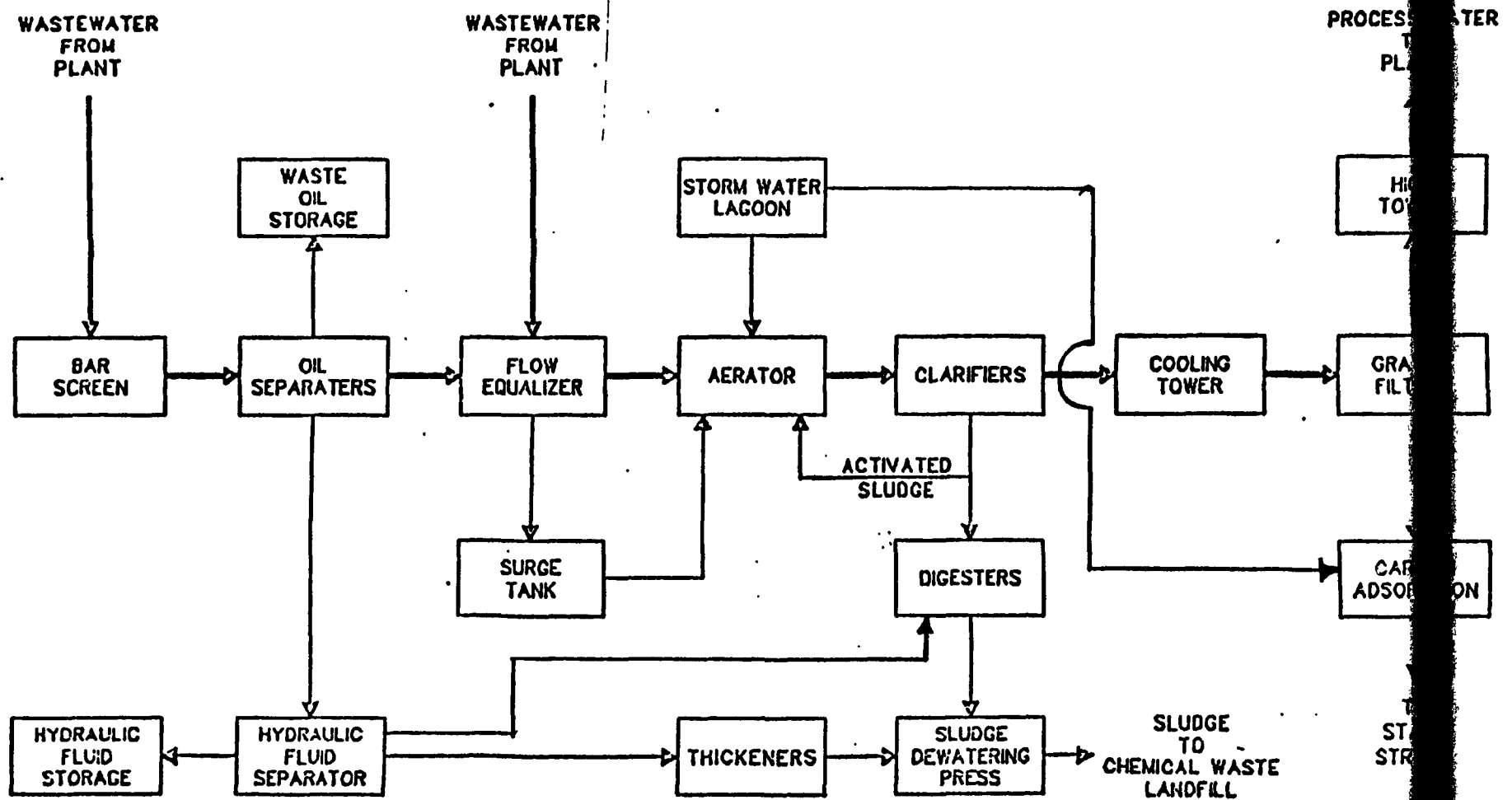


UTM GRID AND 1978 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET
SCALE 1:24 000



USGS MAP BEDFORD, IN
Location Map
Central Foundry Div.
General Motors Corp.
Bedford, Indiana

100



MAJOR

NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

PUBLIC NOTICE

Issuance of a NPDES Permit to Discharge into Waters of the State

Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206
317/633-0795

Public Notice Number: 5I-5056 RI

Public Notice Issued On: Oct. 2, 1985

Permit No.: IN 0003573

Name and Address of Permittee:

Name and Address of Facility
Where Discharge Occurs:

General Motors Corporation
Central Foundry Division
Bedford Plant
P.O. Box 271
Bedford, IN 47421

General Motors Corporation
Central Foundry Division
Bedford Plant
North Jackson Street
Bedford, IN 47421

I. Permit Information

You are hereby notified that the Technical Secretary of the Indiana Stream Pollution Control Board issued a NPDES permit on September 23, 1985 to the above-named applicant to discharge wastewaters into the Bailey Branch of Pleasant Run Creek in Lawrence County, Indiana. The permittee operates a facility that utilizes aluminum die casting and molding processes. Plant operations result in an average discharge of 0.353 million gallons per day of treated process and storm runoff water. The permit authorizes the discharge for the following pollutants/parameters: ammonia (as N), pH, oil and grease, TBOD₅, total toxic organics, TSS, T. Copper, T. Lead, T. Zinc, T. Phenols, T. Residual Chlorine and PCB's, pursuant to applicable State and Federal law. The above-named State waters, into which the discharge is made, are classified for partial-body contact recreation and aquatic life in accordance with State water quality standards.

II. Appeal Procedures

Within fifteen (15) days after the date of publication of this notice, any person aggrieved by the issuance of the above-referenced permit may appeal in writing to the Indiana Stream Pollution Control Board for an adjudicatory hearing on the question of whether the permit has been issued in accordance with applicable law.

- (1) state the name and address of the person making the request;
- (2) identify the interest of the person making the request;
- (3) identify any persons represented by the person making the request;
- (4) state with particularity the reasons for the request;
- (5) state with particularity the issues proposed for consideration at the hearing; and
- (6) identify the permit terms and conditions which, in the judgment of the person making the request, would be appropriate to satisfy the requirements of the law governing permits of the type granted or denied by the Technical Secretary's action.

Any such request shall be mailed or delivered to:

Mr. Earl A. Bohner, Technical Secretary
Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206

III. General Information

Copies of the issued NPDES permit, the permit application, and other related documents are on file and may be inspected in Room 334, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis, Indiana, at any time between 9:00 a.m., and 4:00 p.m., Monday through Friday. Copies of this Public Notice and the proposed permit are available at the Indiana State Board of Health. These documents may be copied at a cost of 15¢ per page. Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

MAY 25, 2001

APPENDIX B.6

NORTH MAKE AND SOUTH MAKE SERVICE TUNNELS

TUNNEL SYSTEM DIAGRAM
PROVIDED BY
GM POWERTRAIN BEDFORD
PLANT, 2000



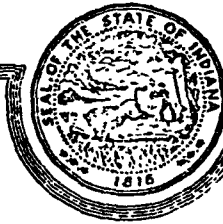
MAY 25, 2001

APPENDIX B.7

ISBH LETTER DATED JANUARY 16, 1973

CC: HERZ, TARRAZO, PEARSON, ESTEY, SCHUBERT, &
ILLUMINATI

STATE OF INDIANA



INDIANAPOLIS 46206

1330 West Michigan Street
633-4420

STREAM POLLUTION CONTROL BOARD

January 16, 1973

1-22-73
Rf.
Mr. R. V. Stumph, General Superintendent
General Motors Corporation
Central Foundries Division
Bedford, Indiana 47421

Dear Mr. Stumph:

Re: Wastewater Treatment
Central Foundries Division

You are hereby notified that the Stream Pollution Control Board of the State of Indiana has, this 16th day of January, 1973, approved plans for a waste treatment facility to be located at Central Foundries Division, Bedford.

The company proposes a complete separation of storm and process water flows from the manufacturing plant area. The storm sewer will flow directly to the fourth pond of the existing five pond system south of the plant while the process water will flow to a new treatment facility prior to discharge to the third pond of that system. Ponds one and two will be drained and filled.

The new wastewater treatment system will include a 280-gallon diversion chamber controlling the flow to either or both of two identical clarifiers of 40-foot diameter by 11-foot SWD, Eimco Corporation Type C2T (or equal) clarithickeners. Each clarithickener can take the total 450-gpm maximum flow and provide four hours of detention with a surface settling rate of 520 gallons per day per square foot or can be operated in parallel to provide twice the detention time. Each clarithickener has a sludge storage and thickening capacity of 2,100 gallons which will contain an anticipated three days of storage at a 700-gallon per day accumulation rate. The thickened sludge will be essentially hydraulic oil in combination with colloidal graphite. Blowdown from the sludge compartment of the clarithickeners will have density monitoring as it is transferred to a 19,700-gallon hydraulic oil storage tank that will provide an anticipated 28 days of storage capacity at a maximum blowdown rate of 700 gallons per day. Hydraulic oil will be heated and centrifuged to remove gross solids with oil fractions returned to the hydraulic storage tank.

The plans were approved with the following conditions:

- ✓ 1. That additional wastewater treatment facilities will be provided if the proposed facilities fail to provide adequate treatment.
2. That the Board will be notified of the completion of these facilities prior to the start of their operation.
3. That a certified wastewater treatment operator will be in responsible charge of the operation.

Mr. R. V. Stumph

January 16, 1973

- WP
4. That the company shall submit monthly reports of the effluent from these facilities covering daily determinations of flow and pH and once per week determinations of oil and suspended solids.
 5. That sludges shall be disposed of in a manner that is approved by the Board.

The plans were prepared by Environmental Consultants, Inc., Clarksville, and submitted for consideration on December 7, 1972.

Very truly yours,

Oral H. Hert

Oral H. Hert
Technical Secretary

I. W. Approval No. 825

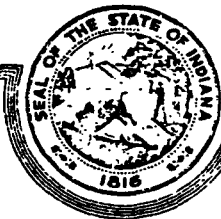
CLGough/lbw

cc: Lawrence County Health Department
Environmental Consultants, Inc.

MAY 25, 2001

APPENDIX B.8

ISBH LETTER DATED JANUARY 17, 1973



STATE BOARD OF HEALTH

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, IN 46206

January 17, 1973

Mr. R. V. Stumph, General Superintendent
General Motors Corporation
Central Foundries Division
Bedford, Indiana 47421

Dear Mr. Stumph:

Re: Wastewater Treatment
Central Foundries Division

You are hereby notified that the State Health Commissioner of the State of Indiana has, this 17th day of January, 1973, approved plans for a waste treatment facility to be located at Central Foundries Division, Bedford.

The company proposes a complete separation of storm and process water flows from the manufacturing plant area. The storm sewer will flow directly to the fourth pond of the existing five pond system south of the plant while the process water will flow to a new treatment facility prior to discharge to the third pond of that system. Ponds one and two will be drained and filled.

The new wastewater treatment system will include a 280-gallon diversion chamber controlling the flow to either or both of two identical clarifiers of 40-foot diameter by 11-foot SWD, Eimco Corporation Type C2T (or equal) clarithickeners. Each clarithickener can take the total 450-gpm maximum flow and provide four hours of detention with a surface settling rate of 520 gallons per day per square foot or can be operated in parallel to provide twice the detention time. Each clarithickener has a sludge storage and thickening capacity of 2,100 gallons which will contain an anticipated three days of storage at a 700-gallon per day accumulation rate. The thickened sludge will be essentially hydraulic oil in combination with colloidal graphite. Blowdown from the sludge compartment of the clarithickeners will have density monitoring as it is transferred to a 19,700-gallon hydraulic oil storage tank that will provide an anticipated 28 days of storage capacity at a maximum blowdown rate of 700 gallons per day. Hydraulic oil will be heated and centrifuged to remove gross solids with oil fractions returned to the hydraulic storage tank.

The plans were approved with the following conditions:

1. That additional wastewater treatment facilities will be provided if the proposed facilities fail to provide adequate treatment.
2. That the Board will be notified of the completion of these facilities prior to the start of their operation.

Mr. R. V. Stumph

January 16, 1973

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4. That the company shall submit monthly reports of the effluent from these facilities covering daily determinations of flow and pH and once per week determinations of oil and suspended solids.
5. That sludges shall be disposed of in a manner that is approved by the Board.

The plans were prepared by Environmental Consultants, Inc., Clarksville, and submitted for consideration on December 7, 1972.

Sincerely,



A. C. OFFUTT, M.D.
STATE HEALTH COMMISSIONER
INDIANA STATE BOARD OF HEALTH

I. W. Approval No. 825
cc: Lawrence County Health Department
Environmental Consultants, Inc.

MAY 25, 2001

APPENDIX C.1
IDNR WATER WELL LOGS

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220931	Driving directions to well EAST OOLITIC, 1 MILE EAST OF OOLITIC, LOT #30;	Date completed Thu, Jul 26, 1962
--	---	--

Owner-Contractor	Name	Address	Telephone
Well Owner	WILMA HUBBARD	RRT. #2, BEDFORD, IN.	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RRT. 6, BOX 13, BEDFORD, IN.	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 100.0	Pump setting depth:	Water quality:
Casing	Length: 20.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 3.0 gpm for hrs.
	Drawdown: ft.	Static water level: 40.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NW 1/4 of the SE 1/4 of the NW 1/4 of Section 3	Topo map: OOLITIC
	Field located by: U	on: Mon, Jul 01, 1963
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL:
	Ground elevation: 550.0	Ft E of WL: 1600
	UTM Easting: 542430.0	Ft S of NL: 2000
		Bedrock elevation:
		Aquifer elevation:
		UTM Northing: 4305503.0

Well Log

Top	Bottom	Formation
0.0	5.0	DIRT
5.0	13.0	BLUE LS-HARD
13.0	14.0	OPEN HOLE
14.0	23.0	BLUE LS-HARD
23.0	51.0	GRAY LS-SOFT
51.0	62.0	BLUE SH-SOFT
62.0	79.0	BLUE LS-SOFT
79.0	100.0	BLUE SH-SOFT

Comments

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220852

Driving directions to well

APP 1 MI N OF BEDFORD IN, 1 BLK W OF PEERLESS RD, KNOWN AS WALNUT HEIGHTS

Date completed

Fri, Nov 30, 1962

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
PULLAS CHILDERS CONST
Address
BEDFORD IN
ERNIE UMPHRESS & SONS
BEDFORD IN, RR6
EUGENE & CHARLES
License:
UMPHRESS

Telephone

Construction Details

Well

Use: HOME
Depth: 200 0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length:
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 135.0 ft.

BailTest rate: 0 05 gpm for hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: 1/4 of the NW 1/4 of the SW 1/4 of Section 2
Field located by:
Courthouse location by:
Location accepted w/o verification by: U
Subdivision name: WALNUT HEIGHT
Ft W of EL:
Ground elevation:
UTM Easting:

Township: SN **Range:** 1W
Topo map: BARTLETTSVILLE
on:
on:
on: Mon Jul 01, 1963
Lot number:
Ft E of WL: **Ft S of NL:**
Bedrock elevation: **Aquifer elevation:**
UTM Northing:

Well Log

Top	Bottom	Formation
0 0	100 0	BLANK
100 0	108 0	BLUE LS HARD
108 0	130 0	GRAY LS SOFT
130 0	200 0	BLUE SHALE

Comments

LAWRENCE

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220857

Driving directions to well
BRACKENRIDGE RD, 1 MI N BEDFORD CITY LIMITS.

Date completed
Thu, Jul 21, 1960

Owner-Contractor	Name	Address	Telephone
Well Owner	JESSIE STIGALL	BEDFORD RR4	
Building Contractor			
Drilling Contractor	PAUL SCOTT	RR4, BLOOMINGTON IN	
Equipment Operator	PAUL SCOTT	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 140.0	Pump setting depth:	Water quality:
Casing	Length: 6.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test

Type of test:	Test rate: gpm for hrs.	BailTest rate: 1.0 gpm for hrs.
Drawdown: ft.	Static water level: ft.	

Grouting Information

Material:	Depth: from to
Installation Method:	Number of bags used:

Well Abandonment

Sealing material:	Depth: from to
Installation Method:	Number of bags used:

Administrative

County: LAWRENCE	Township: 5N Range: 1W
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 2	Topo map: BARTLETTSVILLE
Field located by: HS	on: Fri, Nov 04, 1960
Courthouse location by:	on:
Location accepted w/o verification by:	on:
Subdivision name:	Lot number:
Ft W of EL:	Ft N of SL: 1000
Ground elevation: 670.0	Depth to bedrock:
UTM Easting: 543916.0	UTM Northing: 4304789.0

Well Log	Top	Bottom	Formation
	0.0	6.0	BLANK
	6.0	40.0	RUSTIC BUFF LIME MD
	40.0	130.0	BLUE LIME HARD
	130.0	140.0	BLUE LIME SOFT

Comments M

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220862	Driving directions to well 2 MI N BEDFORD IN, BRECKINRIDGE RD NEAR DIVE SCHOOL HOUSE. BAHR'S HILAND BLK D, LOT 1. N M ST.		Date completed Tue, Jan 26, 1960																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HOWARD ELKINS ERNIE UMPHRESS & SONS ERNIE UMPHRESS	Address RR4, BEDFORD IN RR6, BOX 13, BEDFORD IN License:	Telephone																		
Construction Details																					
Well	Use: HOME Depth: 150.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:																		
Casing	Length:	Material:	Diameter: 6.0																		
Screen	Length:	Material:	Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 50.0 ft.	BailTest rate: 3.0 gpm for 1.0 hrs.																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																			
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																			
Administrative	<table border="0"> <tr> <td>County: LAWRENCE</td> <td>Township: 5N Range: 1W</td> </tr> <tr> <td>Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 2</td> <td>Topo map: BARTLETTSVILLE</td> </tr> <tr> <td>Field located by: BRUNS</td> <td>on: Mon, Aug 01, 1960</td> </tr> <tr> <td>Courthouse location by:</td> <td>on:</td> </tr> <tr> <td>Location accepted w/o verification by:</td> <td>on:</td> </tr> <tr> <td>Subdivision name:</td> <td>Lot number:</td> </tr> <tr> <td>Ft W of EL:</td> <td>Ft N of SL: 50</td> </tr> <tr> <td>Ground elevation: 700.0</td> <td>Depth to bedrock:</td> </tr> <tr> <td>UTM Easting: 544039.0</td> <td>UTM Northing: 4304515.0</td> </tr> </table>			County: LAWRENCE	Township: 5N Range: 1W	Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 2	Topo map: BARTLETTSVILLE	Field located by: BRUNS	on: Mon, Aug 01, 1960	Courthouse location by:	on:	Location accepted w/o verification by:	on:	Subdivision name:	Lot number:	Ft W of EL:	Ft N of SL: 50	Ground elevation: 700.0	Depth to bedrock:	UTM Easting: 544039.0	UTM Northing: 4304515.0
County: LAWRENCE	Township: 5N Range: 1W																				
Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 2	Topo map: BARTLETTSVILLE																				
Field located by: BRUNS	on: Mon, Aug 01, 1960																				
Courthouse location by:	on:																				
Location accepted w/o verification by:	on:																				
Subdivision name:	Lot number:																				
Ft W of EL:	Ft N of SL: 50																				
Ground elevation: 700.0	Depth to bedrock:																				
UTM Easting: 544039.0	UTM Northing: 4304515.0																				
Well Log	<table border="0"> <tr> <td>Top</td> <td>Bottom</td> <td>Formation</td> </tr> <tr> <td>0.0</td> <td>109.0</td> <td>BLANK</td> </tr> <tr> <td>109.0</td> <td>150.0</td> <td>WHLS HARD</td> </tr> </table>			Top	Bottom	Formation	0.0	109.0	BLANK	109.0	150.0	WHLS HARD									
Top	Bottom	Formation																			
0.0	109.0	BLANK																			
109.0	150.0	WHLS HARD																			
Comments	MC:																				

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220867

Driving directions to well

1 MI N OF IN SR 58 ON MT PLEASANT RD, RR4 BEDFORD IN.

Date completed

Tue, Sep 10, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
GUY S. WEVER
Address
RR4, BEDFORD IN
ERNIE UMPHRESS & SONS BEDFORD IN, RR6
EUGENE & CHARLES UMPHRESS
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 250.0

Pump setting depth:

Water quality:

Casing

Length: 23.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.08 gpm for hrs.

Drawdown: ft.

Static water level: 170.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 1W

Section: SE 1/4 of the SE 1/4 of the NW 1/4 of Section 1

Topo map:

BARTLETTSVILLE

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 2500

Ft S of NL: 2600

Ground elevation: 630.0

Depth to bedrock: 5.0

Bedrock elevation:
625.0

Aquifer elevation:

UTM Easting: 545914.0

UTM Northing: 4305331.0

Well Log

Top	Bottom	Formation
0.0	4.0	CIRT
4.0	17.0	BROKEN LS
17.0	39.0	BLUE LS HARD
39.0	55.0	GRAY LS HARD
55.0	250.0	BLUE SHALE SOFT

Comments

MC 625;

8

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217404

Driving directions to well

APP. 3MI E OF BEDFORD, IND. ON US HIGHWAY 58

Date completed

Sat, Jan 08, 1966

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
NOEL GENE MITCHELL

Address
BEDFORD, IND. R.R. 3

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS

BEDFORD, IND. R.R. 6

License:

Telephone

Construction Details

Well

Use: HOME

Depth: 200.0

Drilling method: CABLE TOOL

Pump setting depth:

Pump type:

Water quality:

Casing
Screen

Length: 21.5

Length:

Material:

Material:

Diameter: 6.0

Diameter: Slot size:

Well Capacity Test

Type of test:

Drawdown: ft.

Test rate: gpm for hrs.

Static water level: 90.0 ft.

BailTest rate: 0.5 gpm for hrs.

Grouting Information

Material:

Installation Method:

Depth: from to

Number of bags used:

Well Abandonment

Sealing material:

Installation Method:

Depth: from to

Number of bags used:

Administrative

County: LAWRENCE

Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 8

Field located by: JGH

Courthouse location by:

Location accepted w/o verification by:

Subdivision name:

Township: 5N Range: 1E

Topo map:
BARTLETTSVILLE

on: Mon, Aug 01, 1966

on:

on:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 500

Ft S of NL: 300

Ground elevation: 650.0

Depth to bedrock: 20.0

Bedrock elevation:
630.0

Aquifer elevation:

UTM Easting: 548642.0

UTM Northing: 4304412.0

Well Log

Top	Bottom	Formation
0.0	6.0	DIRT
6.0	17.0	BOULDERS & MUD HOLES
17.0	27.0	GRAY LS HARD
27.0	61.0	BLUE LS HARD
61.0	82.0	GRAY LS SOFT
82.0	85.0	BLUE SH SOFT
85.0	103.0	BLUE LS SOFT
103.0	200.0	BLUE SH SOFT

Comments

MC 630.

9

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217409

Driving directions to well
3MI NE OF BEDFORD ON SR 58 IT AND FOR NEW HOUSE; TRAILER THERE NOW

Date completed
Tue, Nov 27, 1962

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
LAWRENCE RAY
ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS

Address
R.R. #3 BEDFORD IND
BEDFORD IND. R.R. 6
License:

Telephone

Construction Details
Well
Casing
Screen

Use: HOME
Depth: 100.0
Length: 31.5
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 45.0 ft.

Bail Test rate: 0.6 gpm for hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 8
Field located by: UHL
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 620.0
UTM Easting: 548953.0

Township: SN Range: 1E
Topo map:
BARTLETTSVILLE
on: Sat, Jun 01, 1963
on:
on:
Lot number:
Ft E of WL: 1500
Bedrock elevation: 616.0
UTM Northing: 4304465.0

Ft N of SL:
Depth to bedrock: 4.0
Ft S of NL: 150
Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	4.0	DIRT
	4.0	32.0	BLUE LS HARD
	32.0	32.2	MUD HOLE
	32.5	44.0	BLUE LS HARD
	44.0	51.0	GRAY LS SOFT
	51.0	70.0	BLUE LS HARD
	70.0	100.0	BLUE SH SOFT

Comments
MC 500

10

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217439	Driving directions to well NE OF BEDFORD BETWEEN THE MT. PLEASANT RD & PLEASANT RUN RD		Date completed Thu, Sep 15, 1960									
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name LOUIS FISH FLOYD STULTZ FLOYD STULTZ	Address R.R. 3 BEDFORD IND. R.R. 4 License:	Telephone									
Construction Details Well Casing Screen	Use: STOCK Depth: 125.0 Length: 19.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:									
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 30.0 ft.	BailTest rate: 0.33 gpm for 8.0 hrs.									
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:										
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:										
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 6 Field located by: H,S Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1800 Ft N of SL: 3100 Ground elevation: 735.0 Depth to bedrock: 19.0 UTM Easting: 547977.0		Township: 5N Range: 1E Topo map: BARTLETTSVILLE on: Fri, Nov 04, 1960 on: on: Lot number: Ft E of WL: Ft S of NL: Bedrock elevation: 716.0 Aquifer elevation: UTM Northing: 4305296.0									
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>19.0</td> <td>CLAY</td> </tr> <tr> <td>19 0</td> <td>125.0</td> <td>HARD LS</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	19.0	CLAY	19 0	125.0	HARD LS		
Top	Bottom	Formation										
0 0	19.0	CLAY										
19 0	125.0	HARD LS										
Comments	MC715:											

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217429

Driving directions to well

APPR. 3MI E OF BEDFORD, IND. ON US HIGHWAY #58 N/SIDE OF RD

Date completed

Thu, Aug 26, 1965

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
ROBERT WATSON

Address
BEDFORD, IND.

Telephone

ERNIE UMPHRESS & SONS BEDFORD, IND. R.R. 6
EUGENE & CHARLES
UMPHRESS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 200.0

Pump setting depth:

Water quality:

Casing

Length: 12.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.5 gpm for hrs.

Drawdown: ft.

Static water level: 40.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: SE 1/4 of the NE 1/4 of the NE 1/4 of Section 7

Topo map:

BARTLETTSVILLE

Field located by: JUH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 400

Ft N of SL:

Ft E of WL:

Ft S of NL: 700

Ground elevation: 630.0

Depth to bedrock: 5.0

Bedrock elevation:

625.0

Aquifer elevation:

UTM Easting: 548374.0

UTM Northing: 4304308.0

Well Log

Top	Bottom	Formation
0.0	7.0	DIRT
7.0	14.0	LS BOULDERS
14.0	31.0	GRAY LS HARD
31.0	50.0	BR LS SOFT
50.0	89.0	GRAY LS HARD
89.0	125.0	BLUE LS HARD
125.0	200.0	BLUE SH. SOFT

Comments

MC625:

12

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217424

Driving directions to well

3MI E OF BEDFORD ON SR 58

Date completed

Wed, Jul 17, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
JERRY NEALAddress
1321 5TH STREET, BEDFORD, IND.

Telephone

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS
License:

Construction Details

Well

Use: HOME
Depth: 200.0Drilling method: CABLE TOOL
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 16.0
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 50.0 ft.

BailTest rate: 1.0 gpm for hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the NE 1/4 of the NE 1/4 of Section 7Township: 5N Range: 1E
Topo map:
BARTLETTSVILLE

Field located by: JLH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 200

Ft N of SL:

Ft E of WL: Ft S of NL: 600

Ground elevation: 650.0

Depth to bedrock: 10.0

Bedrock elevation: 640.0
Aquifer elevation:

UTM Easting: 548420.0

UTM Northing: 4304326.0

Well Log

Top	Bottom	Formation
0.0	8.0	DIRT
8.0	12.0	LS BOULDERS HARD
12.0	34.0	WH LS SOFT
34.0	78.0	BLUE LS HARD
78.0	83.0	GRAY LS HARD
83.0	107.0	BLUE LS HARD
107.0	200.0	BLUE SH SOFT

Comments

MC640;

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217419

Driving directions to well
LOCATED NEAR SR58E OF BEDFORD ABOUT 1.5MI E OF CITY LIMITS BED-
BARTLETTSVILLE RD

Date completed
Thu, Jul 16, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
HARRY E.
ERNIE UMPHRESS & SONS
ERNIE UMPHRESS

Address
R.R. #3 BEDFORD IND.
R.R. 6 BOX 13 BEDFORD IND
License:

Telephone

Construction Details

Well
Use: HOME
Depth: 155.0
Drilling method: CABLE TOOL
Pump type:
Pump setting depth:
Water quality:

Casing
Screen
Length: 11.83
Material:
Material:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.
Test rate: gpm for hrs.
Static water level: 46.0 ft.
BailTest rate: 0.4 gpm for 1.0 hrs.

Grouting Information
Material:
Installation Method:
Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:
Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: SW 1/4 of the NE 1/4 of the NE 1/4 of Section 7
Field located by: BARNES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1100
Ground elevation: 680.0
UTM Easting: 548165.0

Township: 5N **Range:** 1E
Topo map:
BARTLETTSVILLE
on: Mon, Aug 01, 1960
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 674.0
UTM Northing: 4304180.0

Ft N of SL:
Depth to bedrock: 6.0
Ft S of NL: 1100
Aquifer elevation:

Top	Bottom	Formation
0.0	6.0	DIRT
6.0	8.0	HARD SHELLIE LIME WH
8.0	115.0	WH LIME HARD
115.0	137.0	BLUE LIME HARD
137.0	155.0	BLUE SH SOFT

Comments
MC675; LOC. ACCEPTED W/O VERIF. NO

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220872

Driving directions to well

3 MI NE OF BEDFORD IN, ON RR4.

Date completed

Thu, Dec 10, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DONALD FISH
FLOYD STULTZ
FLOYD STULTZ

Address
BEDFORD RR4
BEDFORD IN, RR4
License:

Telephone

Construction Details

Well

Use: STOCK
Depth: 70.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 14.0
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: ft.

BailTest rate: gpm for 8.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the NE 1/4 of the SE 1/4 of Section 1
Field located by: BRUNS
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 600
Ground elevation: 700.0
UTM Easting: 546567.0

Township: 5N Range: 1W
Topo map: BARTLETTSVILLE
on: Mon, Aug 01, 1960
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: Aquifer elevation:
UTM Northing: 4305114.0

Well Log

Top	Bottom	Formation
0.0	14.0	14' CLAY
14.0	70.0	56' LS

Comments

MC 690:

Record of Water Well

Indiana Department of Natural Resources

Reference Number **217905** **Driving directions to well** W OF BEDFORD 1 MI 1.25 MI S ON WILLIAMS RD, E SIDE. **Date completed** Sat, Sep 25, 1965

Owner-Contractor
Well Owner: GORDEN LEE HAMILTON
Building Contractor: ROY E ALFORD
Drilling Contractor: MITCHELL RR1
Equipment Operator: ROY E ALFORD
Address BEDFORD RR
License:
Telephone

Construction Details
Well: **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 150.0 **Pump setting depth:** **Water quality:**
Casing: **Length:** 39.5 **Material:** **Diameter:** 6.25
Screen: **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **Bail Test rate:** 1.0 gpm for hrs.
Drawdown: ft **Static water level:** 70.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** SN **Range:** 1W
Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 21 **Topo map:** BEDFORD WEST
Field located by: JCH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 2500 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 1900
Ground elevation: 650.0 **Depth to bedrock:** 39.0 **Bedrock elevation:** 611.0 **Aquifer elevation:**
UTM Easting: 541146.0 **UTM Northing:** 4300669.0

Well Log

Top	Bottom	Formation
0.0	39.0	SOIL & CLAY FEW BOULDERS
39.0	100.0	GREY LIME
100.0	150.0	WH LIME

Comments MC 610

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217900 **Driving directions to well** FROM BEDFORD GOING W ON 16TH ST TURN LEFT ON 450. GO APPROX. .5 MI TURN ELFT AT 2ND CURVE **Date completed** Mon, Dec 09, 1963

Owner-Contractor
Well Owner GENE BEX
Building Contractor
Drilling Contractor LOUIE O. SMITH
Equipment Operator LOUIE O. SMITH
Address R1 BEDFORD
License:

Construction Details
Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 170.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 48.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 5.0 gpm for 2.0 hrs.
Drawdown: ft. **Static water level:** 95.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 21 **Topo map:** BEDFORD WEST
Field located by: JVH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 2500 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 2100
Ground elevation: 660.0 **Depth to bedrock:** 25.0 **Bedrock elevation:** 635.0 **Aquifer elevation:**
UTM Easting: 541182.0 **UTM Northing:** 4300566.0

Well Log

Top	Bottom	Formation
0.0	20.0	RED CLAY
20.0	25.0	BROWN CLAY
25.0	27.0	SHELL
27.0	29.0	HARD LIME
29.0	30.0	BLANK
30.0	40.0	LIME
40.0	41.0	BROKEN
41.0	60.0	HARD LIME
60.0	125.0	MED LIME WHITE
125.0	130.0	HARD LIME
130.0	170.0	LS

Comments MC635

Record of Water Well

Indiana Department of Natural Resources

19

Reference Number 217895 **Driving directions to well** FROM BEDFORD GOING ABOUT 2 MI TURN L ON 450, GO ABOUT .5 MI TO BES LOTS. WILL BE 4TH HOUSE ON R. **Date completed** Wed, May 15, 1963

Owner-Contractor
Well Owner GLEN CRAIG **Address** BEDFORD **Telephone**
Building Contractor
Drilling Contractor LOUIE O. SMITH R#1, BEDFORD
Equipment Operator LOUIE O. SMITH License:

Construction Details
Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 175.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 52.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 2.0 gpm for 2.0 hrs.
Drawdown: ft. **Static water level:** 125.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 21 **Topo map:** BEDFORD WEST
Field located by: PW **on:** Tue, Aug 17, 1971
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 1800 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 2150
Ground elevation: 670.0 **Depth to bedrock:** 22.0 **Bedrock elevation:** 648.0 **Aquifer elevation:**
UTM Easting: 541371.0 **UTM Northing:** 4300572.0

Well Log	Top	Bottom	Formation
	0.0	20.0	CLAY
	20.0	22.0	BR CLAY
	22.0	30.0	SHELL
	30.0	47.0	HARD LIMF
	47.0	52.0	SOFT
	52.0	85.0	HARD LIM
	85.0	165.0	MD LIMF
	165.0	175.0	HARD LIMF

Comments MC 650; VERIFIED BY OWNER:

Record of Water Well

Indiana Department of Natural Resources

20

Reference Number 217885 **Driving directions to well** FROM BEDFORD GOING WEST ON 16TH TURN LEFT ON 450 GO APPROX. .25 MI 1ST RD LEFT (BEX EDITION) **Date completed** Fri, Jun 19, 1970

Owner-Contractor
Well Owner Name WARREN WILMAN Address R1 BEDFORD Telephone
Building Contractor
Drilling Contractor LOUIE SMITH R1 BEDFORD
Equipment Operator LOUIE SMITH License:

Construction Details

Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 135.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 42.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 15.0 gpm for 2.0 hrs.
Drawdown: ft. **Static water level:** 95.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** SN **Range:** 1W **Topo map:** BEDFORD WEST
Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 21
Field located by: PW **on:** Tue, Aug 17, 1971
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 2200 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 1650
Ground elevation: 630.0 **Depth to bedrock:** 16.0 **Bedrock elevation:** 614.0 **Aquifer elevation:**
UTM Easting: 541274.0 **UTM Northing:** 4300718.0

Well Log

Top	Bottom	Formation
0.0	16.0	CLAY
16.0	38.0	BROKEN LIME
38.0	75.0	LIME
75.0	81.0	HARD LIME
81.0	135.0	MED LIME

Comments MC615: VERIFIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

21

Reference Number
217880

Driving directions to well

FROM BEDFORD GOING W TURN LEFT ON 450 GO APPRX. .5 MI STONE HOUSE ON LEFT; THOMAS CHESTNUT PLACE

Date completed

Sun, Dec 15, 1968

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
THOMAS CHESTNUT

LOUIE SMITH
LOUIE SMITH

Address
R1 BEDFORD

R1 BEDFORD
License

Telephone

Construction Details

Well

Use: HOME
Depth: 179.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
Screen

Length: 60.0
Length:

Material:
Material:

Diameter: 6.25

Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 139.0 ft.

BailTest rate: 1.5 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 21
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 2450
Ground elevation: 665.0
UTM Easting: 541182 0

Township: 5N Range: 1W
Topo map: BEDFORD WEST
on: Tue, Aug 17, 1971
on:
on:
Lot number:
Ft E of WL: Ft S of NL: 2500
Bedrock elevation: 615 0
Aquifer elevation:
UTM Northing: 4300462 0

Well Log

Top	Bottom	Formation
0 0	50 0	CLAY
50 0	60 0	SOFT LIME
60 0	140 0	LIME
140 0	155 0	MED LIME
155 0	179 0	HARD LIME

Comments

MC 615, VERIFIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

22

Reference Number
217910

Driving directions to well

FROM BEDFORD GOING W TURN L ON SR450 GO ABOUT .5 MI TURN L AT BIXE'S HOMESITES 1ST HOUSE ON L.

Date completed

Fri, Nov 17, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
ROY BAKER

LOUIE O. SMITH
LOUIE O. SMITH

Address
R1, BEDFORD
R#1, BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 145.0
Length: 45.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:

Casing
Screen

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: ft.

BailTest rate: 8.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 21
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name.
Ft W of EL: 2200
Ground elevation 660 0
UTM Easting 541298 0

Township: 5N Range: 1W
Topo map: BEDFORD WEST
on: Mon, Aug 16, 1971
on:
on:
Lot number:
Ft E of WL: Ft S of NL: 1850
Bedrock elevation: 630 0
UTM Northing 4300663 0

Well Log

Top	Bottom	Formation
0 0	30 0	CLAY
30 0	34 0	BR
34 0	38 0	LIME
38 0	45 0	BROKEN
45 0	145 0	LIME

Comments

MC 670 VLB D BY OWNER

Record of Water Well

Indiana Department of Natural Resources

23

Reference Number
217875

Driving directions to well

Date completed

FROM BEDFORD GOING W TURN L ON 450 TO 1ST HOUSE ON L. DONALD T. RES. Mon, Nov 06, 1961

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
WAYNE TIREY
LOUIE O. SMITH
LOUIE O. SMITH

Address
R#1, BEDFORD
R#1, BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 150.0
Length: 32.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:

Casing
Screen

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 100.0 ft.

BailTest rate: 1.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 21
Field located by: U
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 2000
Ground elevation: 660.0
UTM Easting: 541310 0

Township: SN **Range:** 1W
Topo map: BEDFORD WEST
on: Tue, Oct 01, 1963
on:
on:
Lot number:
Ft E of WL: **Ft S of NL:** 1200
Bedrock elevation: **Aquifer elevation:**
UTM Northing: 4300864 0

Well Log

Top	Bottom	Formation
0 0	26 0	CLAY
26 0	28 0	LIME
28 0	31 0	CLAY
31 0	50 0	LS
51 0	65 0	WH LIME
65 0	66 0	BROKEN
66 0	150 0	WH LIME

Comments

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 220877	Driving directions to well 3 MI NE OF BEDFORD IN, ON MT PLEASANT RD.		Date completed Tue, Dec 22, 1959
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ELMER FISH FLOYD STULTZ FLOYD STULTZ	Address BEDFORD IN RR4 BEDFORD IN, RR4 License:	Telephone
Construction Details			
Well	Use:	Drilling method: CABLE TOOL	Pump type:
	Depth: 86.0	Pump setting depth:	Water quality:
Casing	Length: 11.0	Material:	Diameter:
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for hrs.
	Drawdown: ft.	Static water level: ft.	
Grouting Information	Material:		Depth: from to
	Installation Method:		Number of bags used:
Well Abandonment	Sealing material:		Depth: from to
	Installation Method:		Number of bags used:
Administrative	County: LAWRENCE		Township: SN Range: 1W
	Section: NW 1/4 of the NW 1/4 of the SE 1/4 of Section 1		Topo map: BARTLETTSVILLE
	Field located by: BRUNS		on: Mon, Aug 01, 1960
	Courthouse location by:		on:
	Location accepted w/o verification by:		on:
	Subdivision name:		Lot number:
	Ft W of EL: 2500	Ft N of SL: 2400	Ft E of WL: Ft S of NL:
	Ground elevation: 625.0	Depth to bedrock:	Bedrock elevation. Aquifer elevation:
	UTM Easting: 545970.0		UTM Northing: 4305216.0
Well Log	Top	Bottom	Formation
	0.0	11.0	CLAY
	11.0	86.0	LS
Comments	M 015		

Record of Water Well

Indiana Department of Natural Resources

28

Reference Number
220841

Driving directions to well
ON SR 58, 1 MI E OF BEDFORD, R3.

Date completed
Mon, Oct 05, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
MRS. JOSEPH A. MEYERS
FLOYD STULTZ
FLOYD STULTZ

Address
BEDFORD RR3
BEDFORD IN RR4
License:

Telephone

Construction Details

Well
Use: HOME
Depth: 144.0
Drilling method: CABLE TOOL
Pump type:
Pump setting depth:
Water quality:

Casing
Screen
Length: 40.0
Material:
Material:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.
Test rate: gpm for hrs.
Static water level: 60.0 ft.
BailTest rate: 0.06 gpm for 8.0 hrs.

Grouting Information
Material:
Installation Method:
Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:
Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SE 1/4 of Section 12
Field located by: JCH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1700
Ground elevation: 720.0
UTM Easting: 546244.0

Township: SN Range: 1W
Topo map:
BARTLETTSVILLE
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 680.0
UTM Northing: 4303186.0

Ft N of SL: 800
Depth to bedrock: 40.0
Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0.0	40.0	ROCK & CLAY
40.0	144.0	LS

Comments
MC 680:

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 220959	Driving directions to well SR 50E OF BEDFORD IN, .25 MI.		Date completed Mon, Dec 28, 1959	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name TRI-ANGLE CONSTR CO INC. ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address BEDFORD IN RR6, BOX 13, BEDFORD IN License:	Telephone	
Construction Details Well Casing Screen	Use: INDUSTRY Depth: 250.0 Length: 6.5 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs Static water level: 50.0 ft.	Bail Test rate: 0.92 gpm for 1.0 hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the SE 1/4 of the SE 1/4 of Section 13 Field located by: BAINES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1150 Ground elevation: 560.0 UTM Easting: 546396.0		Township: 5N Range: 1W Topo map: BEDFORD EAST on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4301330.0	
Well Log	Top	Bottom	Formation	
	0.0	2.0	CLAY DIRT	
	2.0	35.0	WH LIME SOFT	
	35.0	55.0	BLUE LIME HARD	
	55.0	70.0	WH LIME HARD	
	70.0	115.0	BLUE LIME HARD	
	115.0	142.0	GRAY LIME HARD	
	142.0	250.0	BLUE SHALE	
Comments	MC 560:			

Record of Water Well

Indiana Department of Natural Resources

30

Reference Number 220847 **Driving directions to well** E. OF OALITE, IN. LOT #68 WALNUT HEIGHTS ADDITION; **Date completed** Mon, Sep 23, 1963

Owner-Contractor
Well Owner ROSCOE ELKINS **Address** RRT. #8, BLOOMINGTON, IN. **Telephone**
Building Contractor
Drilling Contractor GEORGE SNOPP RRT. #4, BLOOMINGTON, IN.
Equipment Operator GEORGE SNOPP License:

Construction Details

Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 55.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 14.0 **Material:** **Diameter:** 6.0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 0.2 gpm for hrs.
Drawdown: ft. **Static water level:** 23.0 ft

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: SW 1/4 of the NW 1/4 of the SW 1/4 of Section 2 **Topo map:** BARTLETTSVILLE
Field located by: JCH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 1700 **Ft E of WL:** 650 **Ft S of NL:**
Ground elevation: 655.0 **Depth to bedrock:** 15.0 **Bedrock elevation:** 640.0 **Aquifer elevation:**
UTM Easting: 543648.0 **UTM Northing:** 4305014.0

Well Log

Top	Bottom	Formation
0.0	14.0	DIRT
14.0	55.0	WHITE HARDLS

Comments MC 640, WELL PUMPED DRY DURING TEST.

Record of Water Well

Indiana Department of Natural Resources

31

Reference Number
223305

Driving directions to well

4 MI N OF BEDFORD ON MT PLEASANT RD

Date completed

Mon, Oct 26, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JAMES GRAVES
FLOYD P. STULTZ
FLOYD STULTZ

Address
RR 4
BEDFORD IND. RR 4
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 115.0

Pump setting depth:

Water quality:

Casing

Length: 8.5

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.3 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 40.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 36

Topo map:

BARTLETTSVILLE

Field located by: BARNES

on: Mon, Aug 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by: NO

on:

Subdivision name:

Lot number:

Ft W of EL: 1700

Ft N of SL: 2700

Ft E of WL:

Ft S of NL:

Ground elevation: 730.0

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

615.0

UTM Easting: 546188.0

UTM Northing: 4306949.0

Well Log

Top	Bottom	Formation
0.0	8.5	CLAY
8.5	73.5	SOFT LS
73.5	115.5	HARD LS

Comments

MC725

Record of Water Well

Indiana Department of Natural Resources

32

Reference Number 223310	Driving directions to well PEERLESS RD 5 MIN. N OF BEDFORD RR 4		Date completed Fri, Oct 23, 1964	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HAROLD SMITH FLOYD STULTZ FLOYD STULTZ	Address BEDFORD RR 4 BEDFORD RR 4 IND. License:	Telephone	
Construction Details				
Well	Use: HOME Depth: 225.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:	
Casing	Length: 16.0	Material:	Diameter: 5.63	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 75.0 ft.	BailTest rate: gpm for hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 35 Field located by: JRD Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 2000 Ground elevation: 600.0 UTM Easting: 544524.0		Township: 6N Range: 1W Topo map: BARTLETTSVILLE on: Tue, Aug 08, 1978 on: on: Lot number: Ft E of WL: Bedrock elevation: 584.0 UTM Northing: 4307384.0	
		Ft N of SL: Depth to bedrock: 16.0	Ft S of NL: 1000 Aquifer elevation:	
Well Log	Top	Bottom	Formation	
	0.0	16.0	CLAY	
	16.0	90.0	LS	
	90.0	225.0	SOAPSTONE	
Comments	MC 584 WIFE OF WELL-DRILLER VERIFIED IN THE JUNK-YARD BY BUILDING			

33

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217307

Driving directions to well

5 MI N OF BEDFORD ON PEERLESS RD

Date completed

Fri, Oct 16, 1959

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

WM. MCKEE ANDERSON

Address

BEDFORD IND. RR 4

Telephone

FLOYD STULTZ

RR 4 BOX 72 BEDFORD INDIANA

FLOYD STULTZ

License:

Construction Details

Well

Use: STOCK

Drilling method: CABLE TOOL

Pump type:

Depth: 162.0

Pump setting depth:

Water quality:

Casing

Length: 11.0

Material:

Diameter: 6.5

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 1.0 gpm for 8.0 hrs.

Drawdown: ft.

Static water level: ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: SW 1/4 of the SE 1/4 of the SW 1/4 of Section 26

Topo map: BARTLETTSVILLE

Field located by: BARNES

on: Thu, Sep 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by: NO

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 50

Ft E of WL: 1900 Ft S of NL:

Ground elevation: 680.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 544086.0

UTM Northing: 4307713.0

Well Log

Top

Bottom

Formation

0.0

11.0

CLAY

11.0

130.0

HARD LS

130.0

166.0

SOAPSTONE

Comments

MC 670

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217312 **Driving directions to well** 5 MI N OF BEDFORD ON MT PLEASANT RD **Date completed** Fri, Nov 02, 1962

Owner-Contractor
Well Owner JOHN STULTZ
Building Contractor
Drilling Contractor FLOYD STULTZ
Equipment Operator FLOYD STULTZ
Address BEDFORD RR 4
RR 4 BOX 72 BEDFORD INDIANA
License:
Telephone

Construction Details
Well **Use:** STOCK **Drilling method:** CABLE TOOL **Pump type:**
Depth: 150.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 18.0 **Material:** **Diameter:** 6 0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 0.01 gpm for 8 0 hrs.
Drawdown: ft. **Static water level:** 90.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 6N **Range:** 1W
Section: NW 1/4 of the SE 1/4 of the SE 1/4 of Section 26 **Topo map:** BARTLETTSVILLE
Field located by: WHL **on:** Sat. Jun 01, 1963
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 1300 **Ft E of WL:** 1200 **Ft S of NL:**
Ground elevation: 680.0 **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: 544732 0 **UTM Northing:** 4308097 0

Well Log

Top	Bottom	Formation
0 0	18 0	CLAY
18 0	150 0	HARD LS

Comments MC665

35

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217347	Driving directions to well ON PEERLESS RD ASK OF JUDAH STORE		Date completed Sat, Jul 25, 1959	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HORACE MEADOWS FLOYD STULTZ FLOYD STULTZ	Address R #4 BEDFORD IND. R #4 BEDFORD IND. License:	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 115.0	Pump setting depth:	Water quality:	
Casing	Length: 33.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for 4.0 hrs.	
	Drawdown: ft.	Static water level: 60.0 ft.		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NW 1/4 of the NW 1/4 of the NE 1/4 of Section 27		Topo map: OOLITIC	
	Field located by: BARNES		on: Mon, Aug 01, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 2700	Ft S of NL: 200
	Ground elevation: 640.0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 542707.0		UTM Northing: 4309231.0	
Well Log	Top	Bottom	Formation	
	0.0	33.0	CLAY	
	33.0	115.0	LS	
Comments	MC61Page 9563			

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217352

Driving directions to well
PEERLESS

Date completed
Mon, Jun 08, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JOE HIGNITE
FLOYD STULTZ
FLOYD STULTZ

Address
BEDFORD RR 4
BEDFORD IND RR 4
License:

Telephone

Construction Details

Well
Use:
Depth: 240 0
Casing
Screen
Length: 23 0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter:
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for 8 0 hrs
Static water level: 80 0 ft

BailTest rate: 0.05 gpm for 8 0 hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 27
Field located by: JCH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 535 0
UTM Easting: 543008 0

Township: 6N **Range:** 1W
Topo map: OOLITIC
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: 3600
Bedrock elevation:
UTM Northing: 4308134 0

Ft N of SL: 1400
Depth to bedrock
Ft S of NL:
Aquifer elevation:

Well Log	Top	Bottom	Formation
	0 0	0 0	CONFLICTING DATA
	0 0	23 0	CLAY
	23 0	45 0	LS
	45 0	20 0	SOAPSTONE

Comments

Record of Water Well

Indiana Department of Natural Resources

37

Reference Number 217357	Driving directions to well PEERLESS IND. APP. 3 MI N OF BEDFORD IND.	Date completed Wed, Aug 12, 1964															
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CHARLES CLEMENTS ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IND. RR 4 BEDFORD IND. RR 6 License:															
		Telephone															
Construction Details																	
Well	Use: HOME Depth: 75.0	Drilling method: CABLE TOOL Pump setting depth:															
Casing	Length:	Material:															
Screen	Length:	Material:															
		Pump type: Water quality: Diameter: Diameter: Slot size:															
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: ft.															
		BailTest rate: gpm for hrs.															
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:															
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:															
Administrative	County: LAWRENCE Section: NW 1/4 of the NW 1/4 of the SE 1/4 of Section 27 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 520.0 UTM Easting: 542892.0	Township: 6N Range: 1W Topo map: OOLITIC on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: 3250 Bedrock elevation: UTM Northing: 4308323.0															
	Ft N of SL: 2000 Depth to bedrock:	Ft S of NL: Aquifier elevation:															
Well Log	<table border="0"> <tr> <td>Top</td> <td>Bottom</td> <td>Formation</td> </tr> <tr> <td>0.0</td> <td>0.0</td> <td>HOLE NO. 2</td> </tr> <tr> <td>0.0</td> <td>19.0</td> <td>DIRT</td> </tr> <tr> <td>19.0</td> <td>22.0</td> <td>GRAY LS HARD</td> </tr> <tr> <td>22.0</td> <td>75.0</td> <td>BLUE SH SOFT</td> </tr> </table>	Top	Bottom	Formation	0.0	0.0	HOLE NO. 2	0.0	19.0	DIRT	19.0	22.0	GRAY LS HARD	22.0	75.0	BLUE SH SOFT	
Top	Bottom	Formation															
0.0	0.0	HOLE NO. 2															
0.0	19.0	DIRT															
19.0	22.0	GRAY LS HARD															
22.0	75.0	BLUE SH SOFT															
Comments	MC505: BOTH HOLES WERE DRY																

Record of Water Well

38

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
5996	1 MI SE OF BEDFORD CITY LIMITS ON I STREET		Fri, Mar 27, 1992	
Owner-Contractor	Name	Address	Telephone	
Well Owner	LEWIS DITTON	R R 15 BOX 10 BEDFORD IN 47421	2194834875	
Building Contractor	REYNOLDS INC	P O BOX 186 HWY 37 S ORLEANS IN 47452	8128653232	
Drilling Contractor	PAUL SHELTON	License: 751		
Equipment Operator				
Construction Details	Use:	Drilling method: ROTARY	Pump type: SUBMERSIBLE	
Well	Depth: 345.0	Pump setting depth: 340.0	Water quality: CLEAR	
Casing	Length: 21.0	Material: S	Diameter: 6.6	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: AIR	Test rate: 2.0 gpm for 1.0 hrs.	BailTest rate: gpm for hrs.	
	Drawdown: 345.0 ft.	Static water level: 100.0 ft.		
Grouting Information	Material: CEMENT	Depth: from 0.0 to 20.0		
	Installation Method: TREMIE	Number of bags used: 1.0		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 5N Range: 1W		
	Section: 1/4 of the 1/4 of the NW 1/4 of Section 25	Topo map: BEDFORD EAST		
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0.0	15.0	CLAY	
	15.0	75.0	LIMESTONE	
	75.0	155.0	WATER FORMATION (LIME)	
	155.0	345.0	LIMESTON	
Comments				

39

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217845

Driving directions to well

SE FROM BEDFORD CITY LIMITS 2 MI ON I ST. TURN LEFT AT 1ST CROSSRDS.. 75 MI ON LEFT; WELL IS BURIED 50' NW OF NW CORNER OF HOUSE (S' N OF DRIVEWAY)

Date completed

Fri, Feb 21, 1986

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

CALVIN (LUKE) LAWSON

Address

2517 I ST., BEDFORD, IN 47421

Telephone

JOHN REYNOLDS & SONS, INC.

PO BOX 230, 816 W. MAIN PAOLI, IN 47454

License:

Construction Details

Well

Use: HOME

Drilling method: OTHER

Pump type:

Depth: 223 0

Pump setting depth:

Water quality:

Casing

Length: 21.0

Material:

Diameter: 6.62

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 6.0 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 75 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 1W

Section: NE 1/4 of the NE 1/4 of the SE 1/4 of Section 25

Topo map: BEDFORD EAST

Field located by: OH

on: Tue, May 23, 1989

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 600

Ft N of SL: 2500

Ft E of WL:

Ft S of NL:

Ground elevation: 690 0

Depth to bedrock: 17 0

Bedrock elevation: 673 0

Aquifer elevation

UTM Easting: 546570 0

UTM Northing: 4298895 0

Well Log

Top

Bottom

Formation

0 0

17 0

CLAY

17 0

140 0

LS

140 0

200 0

WATER FORMATION

200 0

210 0

LS

210 0

223 0

DARK SHALE

Comments

MC 673 VERIFIED BY NEIGHBOR

40

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217850	CORNER STORE ON WASHINGTON AVE IN TOWN OF BEDFORD IN.	Thu, Sep 05, 1968

Owner-Contractor	Name	Address	Telephone
Well Owner	LENAD CORNER	BEDFORD IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR6, BOX 13, BEDFORD IN	
Equipment Operator	CHARLES UMPHRESS	License:	

Construction Details

Well	Use:	Drilling method: CABLE TOOL	Pump type:
	Depth: 170.0	Pump setting depth:	Water quality:
Casing	Length: 37.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.81 gpm for 1.0 hrs.
	Drawdown: ft.	Static water level: 69.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NW 1/4 of the NW 1/4 of the SW 1/4 of Section 23	Topo map: BEDFORD EAST
	Field located by: PW	on: Mon, Aug 16, 1971
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft E of WL: 50
	Ft N of SL: 2050	Ft S of NL:
	Ground elevation: 680.0	Bedrock elevation: 646.0
	Depth to bedrock: 34.0	Aquifer elevation:
	UTM Easting: 543580 0	UTM Northing: 4300298 0

Well Log	Top	Bottom	Formation
	0 0	34.0	DIRT
	34.0	55.0	BLUE LS HARD
	55.0	70.0	BRAY LS HARD
	70.0	75.0	BR LS SOFT
	75.0	95.0	WH LS HARD
	95.0	130.0	WH LS SOFT
	130.0	145.0	BLUE LS HARD
	145.0	170.0	WH LS HARD

Comments	MGT 611 VERIFIED BY MANAGER:
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Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217860 FROM BEDFORD TURN LEFT ON 450. APROX. .5 MI TURN LEFT BEX ADDITION Sat, Jul 27, 1968

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner LAUELLA RI BEDFORD
 Building Contractor
 Drilling Contractor LOUIE O. SMITH RI BEDFORD
 Equipment Operator LOUIE O. SMITH License:

Construction Details

Well **Use:** **Drilling method:** **Pump type:**
Depth: 160.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 42.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 5.0 gpm for 3.0 hrs.
Drawdown: ft. **Static water level:** 110.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: NE 1/4 of the SE 1/4 of the NE 1/4 of Section 21 **Topo map:** BEDFORD WEST
Field located by: PW **on:** Tue, Aug 17, 1971
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 1750 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 1600
Ground elevation: 670.0 **Depth to bedrock:** 37.0 **Bedrock elevation:** 633.0 **Aquifer elevation:**
UTM Easting: 541457.0 **UTM Northing:** 4300748.0

Well Log

Top	Bottom	Formation
0.0	37.0	CLAY
37.0	45.0	SOFT LIME
45.0	46.0	LIME
46.0	52.0	MED LIME
52.0	62.0	LIME
62.0	66.0	BROWN SHELI
66.0	75.0	LIME
75.0	80.0	KNOB STONE
80.0	150.0	LIME
150.0	160.0	BLUE

Comments NO GAS, VERIFIED BY OWNER

42

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217865	Driving directions to well 1.5 MI SW OF BEDFORD ON SR 158, WILLIAMS RD.	Date completed Thu, Sep 29, 1960																								
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name RAS W. COX ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address BEDFORD IN, RR1 RR#6, BOX 13, BEDFORD IN License:																								
Telephone																										
Construction Details																										
Well	Use: HOME Depth: 198.0	Drilling method: CABLE TOOL Pump setting depth:																								
Casing	Length: 61.6	Pump type: Water quality:																								
Screen	Length:	Diameter: 6.0 Diameter: Slot size:																								
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 148.0 ft.																								
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																								
Administrative	County: LAWRENCE Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 21 Field located by: HS Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 605.0 UTM Easting: 540810.0	Township: 5N Range: 1W Topo map: BEDFORD WEST on: Thu, Oct 02, 1969 on: on: Lot number: Ft E of WL: 1500 Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4300047.0																								
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>30.0</td> <td>DIRT</td> </tr> <tr> <td>30.0</td> <td>58.0</td> <td>BLUE LS & MUD HOLES</td> </tr> <tr> <td>58.0</td> <td>80.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>80.0</td> <td>144.0</td> <td>BR LS SOFT</td> </tr> <tr> <td>144.0</td> <td>160.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>160.0</td> <td>173.0</td> <td>GREY LS SOFT</td> </tr> <tr> <td>173.0</td> <td>198.0</td> <td>BLUE LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	30.0	DIRT	30.0	58.0	BLUE LS & MUD HOLES	58.0	80.0	BLUE LS HARD	80.0	144.0	BR LS SOFT	144.0	160.0	BLUE LS HARD	160.0	173.0	GREY LS SOFT	173.0	198.0	BLUE LS HARD	
Top	Bottom	Formation																								
0.0	30.0	DIRT																								
30.0	58.0	BLUE LS & MUD HOLES																								
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80.0	144.0	BR LS SOFT																								
144.0	160.0	BLUE LS HARD																								
160.0	173.0	GREY LS SOFT																								
173.0	198.0	BLUE LS HARD																								
Comments	CHEM TEST: FE: 0.3 PPM, HARDNESS 440 PPM, PH 7.5, CHLORIDE 10 PPM:																									

Record of Water Well

Indiana Department of Natural Resources

43

Reference Number

217870

Driving directions to well

APPROX 500' N FROM WILLIAMS RD & 200' E OF W PROPERTY LINE.

Date completed

Mon, Jul 28, 1958

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

LOREN E. HENDERSON

Address

233 N M RD, BEDFORD IN

Telephone

ERNIE UMPHRESS & SONS

RR#6, BOX 13, BEDFORD IN

BUAYRUS ERIE

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 151.0

Pump setting depth:

Water quality:

Casing

Length: 35.75

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 1.0 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 96.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: NW 1/4 of the SW 1/4 of the SW 1/4 of Section 21

Topo map: BEDFORD WEST

Field located by: BAINES

on: Fri, Jul 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 900

Ft E of WL: 400

Ft S of NL:

Ground elevation: 630.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 540475.0

UTM Northing: 4299889.0

Well Log

Top

Bottom

Formation

0.0

30.0

DIRT & FLINT ROCK

30.0

80.0

WH HARD LIME

80.0

90.0

GRAY OR BLUE LIME

90.0

151.0

WH HARD LIME

Comments

MC:

Record of Water Well

Indiana Department of Natural Resources

44

Reference Number
217915

Driving directions to well

FROM BEDFORD GOING WEST ON 16TH TURN ON E450 GO APPROX 1 MI TO BLOCK
BASEMENT ON RD SIDE OF ROAD

Date completed

Fri, Jan 10, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DWIGHT PROW
LOUIE O. SMITH
LOUIE O. SMITH

Address
R1 BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 175.0
Length: 42.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:

Casing
Screen

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 115.0 ft.

BailTest rate: 2.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 21
Field located by: JVH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation:
UTM Easting:

Township: 5N Range: 1W
Topo map: BEDFORD WEST
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: Aquifer elevation:
UTM Northing:

Well Log

Top	Bottom	Formation
0.0	35.0	CLAY
35.0	41.0	WHITE LIME
41.0	44.0	SHELL
44.0	120.0	LIME
120.0	123.0	BLANK
123.0	125.0	SOFT SHELL
125.0	175.0	HARD LIME

Comments

45

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217949	Driving directions to well RIVER BLUFF ADDT ABOUT 2 MI SW OF BEDFORD IN ON RIVER BLUFF RD.		Date completed Sat, Aug 01, 1959									
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ROBERT D. BRUCE ERNIE UMPHRESS & SONS BUAYRUS ERIE	Address RR1, BEDFORD IN RR6, BOX 13, BEDFORD IN License:	Telephone									
Construction Details Well Casing Screen	Use: HOME Depth: 175.0 Length: Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:									
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 105.0 ft.	BailTest rate: 1.0 gpm for 1.0 hrs.									
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:										
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:										
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the SW 1/4 of Section 27 Field located by: HS Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 580.0 UTM Easting: 542206.0		Township: 5N Range: 1W Topo map: BEDFORD WEST on: Fri, Nov 04, 1960 on: on: Lot number: Ft E of WL: 700 Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4298072.0									
Well Log	<table border="0"> <tr> <td>Top</td> <td>Bottom</td> <td>Formation</td> </tr> <tr> <td>0.0</td> <td>145.0</td> <td>BLANK</td> </tr> <tr> <td>145.0</td> <td>175.0</td> <td>BLUE SHALE</td> </tr> </table>	Top	Bottom	Formation	0.0	145.0	BLANK	145.0	175.0	BLUE SHALE		
Top	Bottom	Formation										
0.0	145.0	BLANK										
145.0	175.0	BLUE SHALE										
Comments	MC: SULPHUR WATER:											

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217954

Driving directions to well
S OUT OF BEDFORD ON WASHINGTON AVE TO RIVER BLUFFS RD. W APP .25 MI, S
SIDE OF RIVER BLUFF RD.

Date completed
Wed, Apr 06, 1966

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
LARRY EVANS BLDR
ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS

Address
RR6, BOX 13, BEDFORD IN
License:

Telephone

Construction Details

Well
Use: HOME
Depth: 190.0
Drilling method: CABLE TOOL
Pump type:
Pump setting depth:
Water quality:

Casing
Screen
Length:
Material:
Material:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.
Test rate: gpm for hrs.
Static water level: 40.0 ft.
BailTest rate: 0.5 gpm for hrs.

Grouting Information
Material:
Installation Method:
Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:
Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: NE 1/4 of the SE 1/4 of the SW 1/4 of Section 27
Field located by: PW
Courthouse location by: JCH
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 630.0
UTM Easting: 542712.0

Township: 5N **Range:** 1W
Topo map: BEDFORD WEST
on: Tue, Aug 17, 1971
on: Mon, Aug 01, 1966
on:
Lot number:
Ft E of WL: 2400
Bedrock elevation: 616.0
UTM Northing: 4298304.0

Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0.0	6.0	DIRT
6.0	14.0	BOULDERS & HOLES
14.0	32.0	BLUE LS HARD
32.0	40.0	BLUE LS SOFT
40.0	56.0	GRAY LS SOFT
56.0	62.0	WH LS SOFT
62.0	98.0	GRAY LS SOFT
98.0	115.0	WH LS HARD
115.0	137.0	BLUE LS HARD
137.0	154.0	GRAY LS HARD
154.0	165.0	BLUE LS HARD
165.0	171.0	WH LS HARD
171.0	184.0	BLUE SHALE SOFT

Record of Water Well

Indiana Department of Natural Resources

47

Reference Number 217959	Driving directions to well 3 MI SE OF BEDFORD, 300' N OF POOR FARM RD, 6' E OF BARN	Date completed Wed, Oct 30, 1963
--	---	--

Owner-Contractor	Name	Address	Telephone
Well Owner	JOE WELLS	R5 BEDFORD, IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR6 BEDFORD, IN	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 91.0	Pump setting depth:	Water quality:
Casing	Length: 23.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 3.0 gpm for hrs.
	Drawdown: ft.	Static water level: 61 0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: SW 1/4 of the SE 1/4 of the SE 1/4 of Section 25	Topo map: BEDFORD EAST
	Field located by: JVH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1000	Ft N of SL: 150
	Ground elevation: 680.0	Depth to bedrock: 15 0
	UTM Easting: 546459 0	UTM Northing: 4298178.0
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation: 665 0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0 0	5.0	DIRT
	5 0	17 0	BRKN STONE & BOULDERS LIME
	17.0	41 0	BLUE LS HARD
	41 0	77.0	GREY LS SOFT
	77 0	91.0	BROWN LS SOFT

Comments	MC665
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48

Record of Water Well

Indiana Department of Natural Resources

Reference Number 235518	Driving directions to well SR37 TO BEDFORD, IN TURN E ON 5TH STREET TO L ST. TURN S ON L ST. GO 0.5MI TO BIGFOOT STATION ON W/SIDE OF STREET	Date completed Wed, Jan 08, 1992
--	--	--

Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JOHNSON OIL AMERICAN ENV RON MATHES	Address PO BOX 347 COLUMBUS, IN 47202 8765 GUTON RD SUITE G 46268 License: 294	Telephone (812)379-9227 (317)871-4090
---	--	--	--

Construction Details Well Casing Screen	Use: TEST Depth: 15.5 Length: 50.0 Length: 10.0	Drilling method: OTHER Pump setting depth: Material: PVC Material: PVC	Pump type: Water quality: CLOUDY Diameter: 4.0 Diameter: 4.0 Slot size: .010
---	--	---	--

Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: ft.	BailTest rate: gpm for hrs.
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Grouting Information	Material: BENTONITE Installation Method:	Depth: from 0.0 to 1.0 Number of bags used:
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Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:
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Administrative	County: LAWRENCE Section: 1/4 of the 1/4 of the 1/4 of Section 23 Field located by: Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: UTM Easting:	Township: 5N Range: 1W Topo map: BEDFORD EAST on: on: on: Lot number: Ft E of WL: Bedrock elevation: UTM Northing:	Ft S of NL: Aquifer elevation:
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Well Log	<table border="0"> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> <tr> <td>0.0</td> <td>12.0</td> <td>CONCRETE</td> </tr> <tr> <td>1.0</td> <td>6.0</td> <td>CRUSHED STONE, WET SAND</td> </tr> <tr> <td>6.0</td> <td>15.5</td> <td>RED MOIST CLAY</td> </tr> </table>	Top	Bottom	Formation	0.0	12.0	CONCRETE	1.0	6.0	CRUSHED STONE, WET SAND	6.0	15.5	RED MOIST CLAY
Top	Bottom	Formation											
0.0	12.0	CONCRETE											
1.0	6.0	CRUSHED STONE, WET SAND											
6.0	15.5	RED MOIST CLAY											

Comments

49

Record of Water Well

Indiana Department of Natural Resources

Reference Number
273065

Driving directions to well
FROM WILLIAMS GOING E ON 450 .5 MI W OF CREEK BRIDGE. LANE ON RD SIDE OF
RD; BACK ACRES BROCK & SONS

Date completed
Fri, Apr 10, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	MERTON BROCK	R1 BEDFORD	
Building Contractor			
Drilling Contractor	LOUIE O. SMITH	R1 BEDFORD	
Equipment Operator	LOUIE O. SMITH	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 125.0	Pump setting depth:	Water quality:
Casing	Length: 14.0	Material:	Diameter: 6.25
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 3 0 gpm for 3 0 hrs.
	Drawdown: ft.	Static water level: 85.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NW 1/4 of the SW 1/4 of the NW 1/4 of Section 27	Topo map: BEDFORD WEST
	Field located by: JVH	on: Mon, Aug 01, 1966
	Courthouse location by: JVH	on: Mon, Aug 01, 1966
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft E of WL: 250
	Ft N of SL:	Ft S of NL: 1800
	Ground elevation: 650 0	Bedrock elevation: 640 0
	Depth to bedrock: 10.0	Aquifer elevation:
	UTM Easting: 542024 0	UTM Northing: 4299103 0

Well Log	Top	Bottom	Formation
	0 0	12 0	CLAY
	12 0	28 0	LIME
	28 0	30 0	BROWN LIME
	30 0	33 0	HARD LIME
	33 0	45 0	WHITE LIME
	45 0	50 0	SOFT LIME
	50.0	75 0	LIME
	75 0	92 0	SHELL
	92 0	96 0	LIME
	106 0	108 0	BLUE SHIF L

Comments MC640

Record of Water Well

50

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
336969	1507 18TH ST, BEDFORD, IN		Thu, Jul 29, 1999	
Owner-Contractor	Name	Address	Telephone	
Well Owner	DANIEL L. HALL	1318 16TH ST., BEDFORD, IN 47421	(812)279-8101	
Building Contractor				
Drilling Contractor	PHILLIPS WELL DRLNG & PUMP SVC	RR12 BOX 444, BEDFORD, IN 47421	(812)279-4843	
Equipment Operator	LLOYD PHILLIPS	License: 208		
Construction Details				
Well	Use: HOME	Drilling method: ROTARY	Pump type: SUBMERSIBLE	
	Depth: 200.0	Pump setting depth: 185.0	Water quality: CLEAR GOOD	
Casing	Length: 36.0	Material: PVC	Diameter: 6.0	
Screen	Length: 40.0	Material: PVC	Diameter: 4.0 Slot size: 1.25	
Well Capacity Test	Type of test: BAILING	Test rate: 11.0 gpm for 1.0 hrs.	BailTest rate: gpm for hrs.	
	Drawdown: ft.	Static water level: 185.0 ft.		
Grouting Information	Material: BENONITE		Depth: from 0.0 to 36.0	
	Installation Method: PUMP		Number of bags used: 3.5	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: 1/4 of the SE 1/4 of the NE 1/4 of Section 23		Topo map: BEDFORD EAST	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:		UTM Northing:	
Well Log	Top	Bottom	Formation	
	0 0	2.0	TOPSOIL	
	2 0	6.0	CLAY	
	6 0	12 0	SHALE	
	12 0	139.0	LS	
	190 0	200 0	WHITE LS	
Comments	SEE MAP			

Record of Water Well

Indiana Department of Natural Resources

51

Reference Number 220949	Driving directions to well NW BEDFORD IN, .5 MI ON LANE KNOWN AS BILL BARK QUARY N OF GRAVEY LANE. THE 3RD HOUSE ON L SIDE OF BILL BARK LANE.		Date completed Mon, Mar 27, 1961																			
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WINFRED WEVER ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address 503 ST, BEDFORD IN BEDFORD IN, R6 License:	Telephone																			
Construction Details																						
Well	Use: HOME Depth: 123.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:																			
Casing	Length: 29.25	Material:	Diameter: 6 0																			
Screen	Length:	Material:	Diameter: Slot size:																			
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 60.0 ft.	BailTest rate: 0.05 gpm for hrs																			
Grouting Information	Material: Installation Method:		Depth: from to Number of bags used:																			
Well Abandonment	Sealing material: Installation Method:		Depth: from to Number of bags used:																			
Administrative	County: LAWRENCE Section: SE 1/4 of the SE 1/4 of the NE 1/4 of Section 16 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 610 0 UTM Easting: 541896 0		Township: 5N Range: 1W Topo map: BEDFORD WEST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 585 0 UTM Northing: 4302187 0																			
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>28 0</td> <td>DIRT</td> </tr> <tr> <td>28 0</td> <td>35.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>35 0</td> <td>55.0</td> <td>BLUE LS SOFT</td> </tr> <tr> <td>55 0</td> <td>61 0</td> <td>BR LS SOFT</td> </tr> <tr> <td>61 0</td> <td>123 0</td> <td>WH LS SOFT</td> </tr> </tbody> </table>				Top	Bottom	Formation	0 0	28 0	DIRT	28 0	35.0	BLUE LS HARD	35 0	55.0	BLUE LS SOFT	55 0	61 0	BR LS SOFT	61 0	123 0	WH LS SOFT
Top	Bottom	Formation																				
0 0	28 0	DIRT																				
28 0	35.0	BLUE LS HARD																				
35 0	55.0	BLUE LS SOFT																				
55 0	61 0	BR LS SOFT																				
61 0	123 0	WH LS SOFT																				
Comments	MC 555.																					

53

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220926

Driving directions to well
E OOLITIC, RR4.

Date completed
Mon, May 01, 1961

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
FELIX CHENAULT JR
FLOYD STULTZ
FLOYD STULTZ

Address
E OOLITIC, RR4
BEDFORD IN, RR4
License:

Telephone

Construction Details

Well
Use: HOME
Depth: 88 0
Length: 14 0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 30 0 ft.

BailTest rate: 2.0 gpm for 8.0 hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: NW 1/4 of the SE 1/4 of the NW 1/4 of Section 3
Field located by: U
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation:
UTM Easting: 542461.0

Township: 5N **Range:** 1W
Topo map: OOLITIC
on: Thu, Aug 01, 1963
on:
on:
Lot number:
Ft E of WL: 1700
Bedrock elevation:
UTM Northing: 4305521 0

Ft N of SL:
Depth to bedrock:
Ft S of NL: 1900
Aquifer elevation:

Well Log

Top	Bottom	Formation
0 0	14 0	CLAY
14 0	50 0	LS
50 0	84 0	SHALE

Comments

54

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220936	Driving directions to well E OOLITIC, LOT 65.	Date completed Mon, Jun 15, 1964
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Owner-Contractor	Name	Address	Telephone
Well Owner	DENNY MAY	BEDFORD, RR4	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	BEDFORD IN, RR4	
Equipment Operator	FLOYD STULTZ	License:	

Construction Details

Well	Use:	Drilling method: CABLE TOOL	Pump type:
	Depth: 85.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter:
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test: PUMPING	Test rate: 1.0 gpm for 8 0 hrs.	BailTest rate: gpm for hrs.
	Drawdown: ft.	Static water level: 30.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: 1/4 of the 1/4 of the 1/4 of Section 3	Topo map: OOLITIC
	Field located by:	on:
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL:
	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:
	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:

Well Log	Top	Bottom	Formation
	0 0	13.0	CLAY
	13.0	45.0	SANDY L
	45.0	85.0	SOAPS L

Comments

55

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
220941 E OOLTIC IN, LOT 31. Thu, Jul 25, 1963

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner LARRY RANDOLPH BEDFORD IN, RR2
 Building Contractor ERNIE UMPHRESS & SONS BEDFORD IN, RR6
 Drilling Contractor EUGENE & CHARLES UMPHRESS License:
 Equipment Operator UMPHRESS

Construction Details
Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 127.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 14.0 **Material:** **Diameter:** 6.0
Screen **Length:** **Material:** **Diameter:** Slot size:
Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **Bail Test rate:** 5.0 gpm for hrs.
Drawdown: ft. **Static water level:** 40.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: 1/4 of the 1/4 of the 1/4 of Section 3 **Topo map:** OOLITIC
Field located by: **on:**
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** **Ft E of WL:** **Ft S of NL:**
Ground elevation: **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: **UTM Northing:**

Well Log	Top	Bottom	Formation
	0.0	10.0	DIRT
	10.0	31.0	GRAY LS SOFT
	31.0	46.0	BLUE LS HARD
	46.0	127.0	BLUE SHALE SOFT

Comments

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220956

Driving directions to well

TOWN OF EAST OOLITIC, LOT #22

Date completed

Wed, Sep 27, 1961

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
VOLLIE STAGGS
Address
EAST OOLITIC, IN.
ERNIE UMPHRESS & SONS RRT. 6, BOX 13, BEDFORD, IN.
ERNIE UMPHRESS & SONS License:

Telephone

Construction Details

Well

Use: HOME
Depth: 101.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 27.0
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 71.0 ft.

BailTest rate: 6.0 gpm for 10 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the SW 1/4 of the NW 1/4 of Section 3
Field located by: U
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 540.0
UTM Easting: 541955.0

Township: 5N Range: 1W
Topo map: OOLITIC
on: Mon, Jul 01, 1963
on:
on:
Lot number:
Ft E of WL: 50
Ft S of NL: 1900
Bedrock elevation:
Aquifer elevation
UTM Northing: 4305516.0

Well Log

Top	Bottom	Formation
0.0	25.0	DIRT
25.0	30.0	BLUE LS-HARD
30.0	36.0	BLUE SH-SOFT
36.0	74.0	BLUE LS-HARD
74.0	101.0	BLUE SH-SOFT

Comments

Record of Water Well

Indiana Department of Natural Resources

52

Reference Number
220921

Driving directions to well
E OOLITIC RD.

Date completed
Sat, May 07, 1960

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
IRA CHENAULT
FLOYD STULTZ
FLOYD STULTZ

Address
E OOLITIC RD
BEDFORD IN, RR4
License:

Telephone

Construction Details
Well

Use: HOME
Depth: 60.0
Length: 12.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 30.0 ft.

BailTest rate: 1.3 gpm for 8.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 3
Field located by: BRINES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 520.0
UTM Easting: 542070.0

Township: SN Range: 1W
Topo map: OOLITIC
on: Mon, Aug 01, 1960
on:
on:
Lot number:
Ft E of WL: 400
Bedrock elevation:
UTM Northing: 4305314.0

Ft S of NL:

Aquifer elevation:

Well Log

Top	Bottom	Formation
0 0	12.0	CLAY
12 0	60.0	LS

Comments

MC 510:

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 221531 **Driving directions to well** 5MI SE OF BEDFORD ON POOR FARM RD **Date completed** Sat, Apr 06, 1963

Owner-Contractor	Name	Address	Telephone
Well Owner	RUSSELL CROUCHER	CEMENT PLANT RD	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	BEDFORD IND. R.R.#4	
Equipment Operator	FLOYD STULTZ	License:	

Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 80.0	Pump setting depth:	Water quality:
Casing	Length: 18.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 80.0 gpm for 8.0 hrs.
	Drawdown: ft.	Static water level: 40.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: SE 1/4 of the SW 1/4 of the SE 1/4 of Section 30	Topo map: BEDFORD EAST
	Field located by: HUH	on: Mon. Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2800	Ft N of SL: 500
	Ground elevation: 700.0	Depth to bedrock: 20.0
	UTM Easting: 547791.0	UTM Northing: 4298253.0
		Ft E of WL: Ft S of NL:
		Bedrock elevation: 680.0 Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	18.0	CLAY
	18.0	80.0	HARD LS

Comments MC680:

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 221536	Driving directions to well APPR. 2.5MI SE OF BEDFORD IND ON POOR FARM RD	Date completed Tue, May 17, 1966															
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WILLIAM C. TARR ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IND. R.R. 5 BEDFORD IND. R.R. 6 License:															
		Telephone															
Construction Details																	
Well	Use: HOME Depth: 107.0	Drilling method: CABLE TOOL Pump setting depth:															
Casing	Length: 33.5	Pump type: Water quality:															
Screen	Length:	Diameter: 6.0 Diameter: Slot size:															
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 30.0 ft. Bail Test rate: 8.0 gpm for hrs.															
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:															
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:															
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 30 Field located by: PW Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 700.0 UTM Easting: 547073.0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: on: on: Lot number: Ft E of WL: 1050 Bedrock elevation: 673.0 UTM Northing: 4298167 0 Ft S of NL: Aquifer elevation:															
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>27.0</td> <td>DIRT</td> </tr> <tr> <td>27.0</td> <td>65.0</td> <td>BR LS SOFT</td> </tr> <tr> <td>65.0</td> <td>92.0</td> <td>GRAY LS SOFT</td> </tr> <tr> <td>92.0</td> <td>107.0</td> <td>BLUE LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	27.0	DIRT	27.0	65.0	BR LS SOFT	65.0	92.0	GRAY LS SOFT	92.0	107.0	BLUE LS HARD	
Top	Bottom	Formation															
0.0	27.0	DIRT															
27.0	65.0	BR LS SOFT															
65.0	92.0	GRAY LS SOFT															
92.0	107.0	BLUE LS HARD															
Comments	MC675: VERIFIED BY OWNER MC																

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217994	APP 3.5 MI E OF BEDFORD IND ON S LEATHERWOOD RD S/SIDE OF RD		Thu, Jul 11, 1963
Owner-Contractor	Name	Address	Telephone
Well Owner	CLAUDE E. CADE	R R. #6, BEDFORD, IND.	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 154.0	Pump setting depth:	Water quality:
Casing	Length: 27.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 1.0 gpm for hrs
	Drawdown: ft	Static water level: 40.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 5N Range: 1E	
	Section: NE 1/4 of the NW 1/4 of the SE 1/4 of Section 20	Topo map: BEDFORD EAST	
	Field located by: JCH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 1600	Ft N of SL: 2400	Ft E of WL: Ft S of NL:
	Ground elevation: 720.0	Depth to bedrock: 20.0	Bedrock elevation: 700.0 Aquifer elevation:
	UTM Easting: 549688.0		UTM Northing: 4300462.0
Well Log	Top	Bottom	Formation
	0.0	8.0	DIRT
	8.0	22.0	BOULDERS
	22.0	56.0	BLUE LS HARD
	56.0	67.0	GRAY LS HARD
	67.0	74.0	WH LS SOFT
	74.0	97.0	GRAY LS SOFT
	97.0	136.0	WH LS SOFT
	136.0	154.0	BLUE LS HARD
Comments	MC700.		

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217999

Driving directions to well

APPR. 2MI S, E OF BEDFORD, IND. ON S LEATHERWOOD RD

Date completed

Mon, Jun 29, 1964

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

ROBERT & MARIE FOX

Address

BEDFORD, IND. R.R. 6

Telephone

ERNIE UMPHRESS & SONS

BEDFORD, IND. R.R. 6

EUGENE & CHARLES

License:

UMPHRESS

Construction Details

Well

Use: STOCK

Drilling method: CABLE TOOL

Pump type:

Depth: 38.0

Pump setting depth:

Water quality:

Casing

Length: 7.83

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 7.0 gpm for hrs.

Drawdown: ft.

Static water level: 8.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NW 1/4 of the NW 1/4 of the SW 1/4 of Section 20

Topo map: BEDFORD EAST

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 2500

Ft E of WL: 700

Ft S of NL:

Ground elevation: 640.0

Depth to bedrock: 5.0

Bedrock elevation:
635.0

Aquifer elevation:

UTM Easting: 548770.0

UTM Northing: 4300465.0

Well Log

Top

Bottom

Formation

0.0

2.5

DIRT

2.5

18.0

BLUE LS HARD

18.0

25.0

GRAY LS HARD

25.0

29.0

BR LS SOFT

29.0

38.0

GRAY LS HARD

Comments

MC 635

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
218004 3-1/2 MILES SOUTHEAST OF BEDFORD ON SOUTH LEATHERWOOD ROAD Fri, Aug 28, 1959

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner LOVELL & MARY PIERCE RR 6, BEDFORD IN
 Building Contractor
 Drilling Contractor ERNIE UMPHRESS & SONS RR 6, BOX 13, BEDFORD IN
 Equipment Operator EUGENE UMPHRESS License:

Construction Details
Well **Use:** STOCK **Drilling method:** CABLE TOOL **Pump type:**
Depth: 141.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 26.92 **Material:** **Diameter:** 6.0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 1.6 gpm for 1.0 hrs.
Drawdown: 85.0 ft. **Static water level:** 56.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1E
Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 20 **Topo map:** BEDFORD EAST
Field located by: BARNES **on:** Fri, Jul 01, 1960
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 2000 **Ft N of SL:** 2700 **Ft E of WL:** **Ft S of NL:**
Ground elevation: 750.0 **Depth to bedrock:** 24.0 **Bedrock elevation:** **Aquifer elevation:**
 726.0 **UTM Northing:** 4300530.0
UTM Easting: 549570.0

Well Log **Top** **Bottom** **Formation**
 0.0 0.0 BLANK

Comments MC725 OWNER NOT HOME

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 218009	Driving directions to well LOT 5A E OF BEDFORD, IND. BROOK KNOLL ADD.		Date completed Thu, Sep 30, 1965	
Owner-Contractor	Name	Address	Telephone	
Well Owner	JOHN W. REUTER	BEDFORD, IND.		
Building Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R.6		
Drilling Contractor	EUGENE & CHARLES UMPHRESS	License:		
Equipment Operator				
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 150.0	Pump setting depth:	Water quality:	
Casing	Length: 17.5	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.75 gpm for hrs.	
	Drawdown: ft.	Static water level: 40.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 19		Topo map: BEDFORD EAST	
	Field located by: JUH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1600	Ft S of NL: 2600
	Ground elevation: 580.0	Depth to bedrock: 5.0	Bedrock elevation: 575.0	Aquifer elevation:
	UTM Easting: 547245.0		UTM Northing: 4300514.0	
Well Log	Top	Bottom	Formation	
	0.0	6.0	DIRT	
	6.0	10.0	GRAY LS SOFT	
	10.0	42.0	GRAY LS HARD	
	42.0	70.0	BLUE LS HARD	
	70.0	89.0	GRAY LS HARD	
	89.0	150.0	BLUE SH SOFT	
Comments	MC575:			

Record of Water Well

Indiana Department of Natural Resources

Reference Number
218014

Driving directions to well

APP. 1.5 E OF BEDFORD, IND. ON TUNNELTON RD

Date completed

Sat, Aug 29, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
AUDRIE BEAVERS

Address
BEDFORD, IND. R.R.5

Telephone

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS
License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 34.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 10.0

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 20.0 gpm for hrs.

Drawdown: ft.

Static water level: 12.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 19

Topo map: BEDFORD EAST

Field located by: JUH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 2700

Ft N of SL:

Ft E of WL:

Ft S of NL: 2200

Ground elevation: 530.0

Depth to bedrock: 7.0

Bedrock elevation:
523.0

Aquifer elevation:

UTM Easting: 547745.0

UTM Northing: 4300632.0

Well Log

Top	Bottom	Formation
0.0	3.0	DIRT
3.0	7.0	BROKEN LS
7.0	22.0	GRAY LS HARD
22.0	34.0	BLUE LS HARD

Comments

MC575;

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
218019

Driving directions to well

TUNNELTON RD ABOUT 2MI E FROM CITY OF BEDFORD

Date completed

Thu, Jun 04, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
ROBERT HERTHELAddress
BEDFORD, IND.

Telephone

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS
License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 224.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 27.0

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: 0.42 gpm for hrs.

Drawdown: ft

Static water level: 84.0 ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NW 1/4 of the NW 1/4 of the SE 1/4 of Section 19

Topo map: BEDFORD EAST

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 2300

Ft N of SL: 2300

Ft E of WL:

Ft S of NL:

Ground elevation: 570.0

Depth to bedrock: 20.0

Bedrock elevation:
550.0

Aquifer elevation:

UTM Easting: 547885.0

UTM Northing: 4300403.0

Well Log

Top	Bottom	Formation
0.0	7.0	DIRT
7.0	20.0	BOULDERS & MUD HOLES
20.0	54.0	BLUE LS HARD
54.0	57.0	BLUE SH SOFT
57.0	75.0	GRAY LS HARD
75.0	92.0	BLUE LS HARD
92.0	101.0	GRAY LS HARD
101.0	229.0	BLUE SH SOFT

Comments

MC550

65

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218024	Driving directions to well APP. 1 MI SE OF BEDFORD IND. ON TUNNELTON RD. LOT 35 & 35A IN BROOK KNOLL ADDATION		Date completed Fri, May 28, 1965
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HERBERT ROSS ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD, IND. R.R. 5 BEDFORD, IND. R.R. 6 License:	Telephone
Construction Details Well Casing Screen	Use: HOME Depth: 177.0 Length: 21.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 75.0 ft.	Bail Test rate: 0.15 gpm for hrs.
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 19 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 600 Ground elevation: 575.0 UTM Easting: 547012.0		Township: SN Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 560.0 UTM Northing: 4300844.0 Ft S of NL: 2100 Aquifer elevation:
Well Log	Top	Bottom	Formation
	0.0	1.0	DIRT
	1.0	15.0	BROKEN LS
	15.0	23.0	BLUE LS HARD
	23.0	44.0	GRAY LS HARD
	44.0	57.0	WH LS HARD
	57.0	86.0	BLUE LS HARD
	86.0	104.0	BLUE LS SOFT
	104.0	110.0	GRAY LS HARD
	110.0	177.0	BLUE SH SOFT
Comments	MC 560		

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217384Driving directions to well
SR 58 3MI E OF BEDFORD IND.Date completed
Thu, Jul 10, 1958Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
RAYMOND A STIPP
Address
BEDFORD IND. R.R. 5
ERNIE UMPHRESS & SONS R.R. 6 BOX 13 BEDFORD IND
License:
BUAYRUS ERSI

Telephone

Construction Details

Well

Use: HOME
Depth: 115.0Drilling method:
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 21.3
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 80.0 ft.

BailTest rate: gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the NW 1/4 of the NE 1/4 of Section 8
Field located by: BARNES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 640.0
UTM Easting:Township: 5N Range: 1E
Topo map: BARTLETTSVILLE
on: Mon, Aug 01, 1960
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: Aquifer elevation:
UTM Northing:

Well Log

Top	Bottom	Formation
0 0	9.0	DIRT
9 0	20 0	SHELLIE WH IME
20 0	94.0	HARD WH IME
94 0	115.0	BLUE SH

Comments

LOC ACCEPTED W/O VERIF., YES; OWNER NOT HOME

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

217389

Driving directions to well

APPR. 3MI E OF BEDFORD, IND. ON US HIGHWAY 58

Date completed

Tue, Feb 26, 1963

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

OSCAR LOVEALL

Address

1707 P ST. BEDFORD

Telephone

ERNIE UMPHRESS & SONS BEDFORD, IND. R.R. 6

EUGENE & CHARLES
UMPHRESS

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 150.0

Pump setting depth:

Water quality:

Casing

Length: 25.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.5 gpm for hrs.

Drawdown: ft.

Static water level: 110 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NE 1/4 of the NW 1/4 of the NW 1/4 of Section 8

Topo map:

BARTLETTSVILLE

Field located by: N

on: Thu, Aug 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 900

Ft S of NL: 50

Ground elevation: 670.0

Depth to bedrock: 24.0

Bedrock elevation:
646.0

Aquifer elevation:

UTM Easting: 548796.0

UTM Northing: 4304490.0

Well Log

Top	Bottom	Formation
0.0	4.0	DIRT
4.0	13.0	BOULDERS
13.0	14.0	MUD HOLE
14.0	23.0	BLUE LS HARD
23.0	24.0	MUD LOLE
24.0	35.0	BLUE LS HARD
35.0	52.0	WH LS SOFT
52.0	96.0	BLUE LS HARD
96.0	98.0	BLUE SH SOFT
98.0	112.0	BLUE LS HARD
112.0	115.0	BLUE SH SOFT
115.0	121.0	BLUE LS HARD
121.0	150.0	BLUE SH SOFT

68

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217394	Driving directions to well APPR. 2MI E OF BEDFORD ON US 50 N/SIDE OF HIGHWAY	Date completed Thu, May 05, 1966
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Owner-Contractor	Name	Address	Telephone
Well Owner	HAROLD HEWITT	BEDFORD, IND. R.R. 6	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 150.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0.5 gpm for hrs.
	Drawdown: ft.	Static water level: 20.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1E
	Section: NE 1/4 of the NE 1/4 of the SE 1/4 of Section 8	Topo map: BARTLETTSVILLE
	Field located by: JUH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 100	Ft N of SL: 2100
	Ground elevation: 660.0	Ft E of WL:
	UTM Easting: 550084.0	Ft S of NL:
		Bedrock elevation: 655.0
		Aquifer elevation:
		UTM Northing: 4303557.0

Well Log

Top	Bottom	Formation
0.0	5.0	DIRT
5.0	8.0	LS BOULDERS
8.0	45.0	BR LS HARD
45.0	51.0	GRAY LS HARD
51.0	89.0	BLUE LS HARD
89.0	105.0	GRAY LS HARD
105.0	108.0	BLUE LS SOFT
108.0	115.0	BLUE LS HARD
115.0	150.0	BLUE SH SOFT

Comments

MC655

69

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217399	APPR. 3MI E OF BEDFORD, IND. ON US 58	Wed, Oct 14, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	RAYMOND STIPP	BEDFORD, IND. R.R. 3	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: STOCK	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 150.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 3.0 gpm for hrs.
	Drawdown: ft.	Static water level: 45.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1E
	Section: NE 1/4 of the NW 1/4 of the NE 1/4 of Section 8	Topo map: BARTLETTSVILLE
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1300	Ft N of SL:
	Ground elevation: 640.0	Depth to bedrock: 5.0
	UTM Easting: 549679.0	UTM Northing: 4304419.0
		Ft E of WL:
		Ft S of NL: 300
		Bedrock elevation: 635.0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	8.0	DIRT
	8.0	12.0	LS BOULDERS
	12.0	53.0	BLUE LS HARD
	53.0	79.0	GRAY LS HARD
	79.0	150.0	BLUE SH SOFT

Comments	MC635:
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70

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217414	Driving directions to well APPR 2.5MI E OF BEDFORD ON US HY 58 S/SIDE OF RD	Date completed Thu, Apr 21, 1966
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Owner-Contractor	Name	Address	Telephone
Well Owner	WARREN D. RAINEY	R.R. #3 BEDFORD	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 150.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 1.0 gpm for hrs.
	Drawdown: ft.	Static water level: 30.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1E
	Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 7	Topo map: BARTLETTSVILLE
	Field located by:	on:
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1900	Ft N of SL:
	Ground elevation: 670.0	Depth to bedrock: 10.0
	UTM Easting: 547922.0	UTM Northing: 4303905.0
		Ft E of WL:
		Ft S of NL: 2000
		Bedrock elevation: 660.0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	7.0	DIRT
	7.0	15.0	BLUE L.S. HARD
	15.0	30.0	WH L.S. SOFT
	30.0	51.0	BLUE L.S. HARD
	51.0	66.0	BLUE SH SOFT
	66.0	89.0	BLUE L.S. HARD
	89.0	102.0	WH L.S. SOFT
	102.0	125.0	BLUE L.S. HARD
	125.0	150.0	BLUE SH SOFT

Comments	MC660;
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Record of Water Well

Indiana Department of Natural Resources

Reference Number

217444

Driving directions to well

E OF BEDFORD, IND. ON US 58 TO PLEASANT RUN RD, TURN N, APPR. 1 MI. WELL ON E/SIDE OF RD

Date completed

Thu, Mar 30, 1967

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

DAN MATTHEWS

Address

BEDFORD, IND

Telephone

ERNIE UMPHRESS & SONS BEDFORD, IND. R.R. 6

EUGENE UMPHRESS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 100.0

Pump setting depth:

Water quality:

Casing

Length: 16.5

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 8.0 gpm for hrs.

Drawdown: ft.

Static water level: 20.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 1E

Section: SW 1/4 of the NW 1/4 of the SW 1/4 of Section 5

Topo map:

BARTLETTSVILLE

Field located by: JRD

on: Tue, Aug 08, 1978

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1900

Ft E of WL: 100

Ft S of NL:

Ground elevation: 690.0

Depth to bedrock: 9.0

Bedrock elevation: 681.0

Aquifer elevation:

UTM Easting: 548537.0

UTM Northing: 4305110.0

Well Log

Top	Bottom	Formation
0.0	9.0	DIRT
9.0	45.0	GRAY LS HARD
45.0	62.0	WH LS HARD
62.0	70.0	BLUE LS SOFT
70.0	83.0	GRAY LS HARD
83.0	100.0	BLUE LS HARD

Comments

MC681, OWNER VERIFIED/20' SW OF HOUSE; MC:

72

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217449

Driving directions to well

APPR 3MI E OF BEDFORD, IND. ON US HIGHWAY 58

Date completed

Tue, Apr 20, 1965

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
JEFFERSON RAGSDALE
Address
BEDFORD, IND R R 3
ERDIE UMPHRESS & SONS
BEDFORD, IND R.R. 6
EUGENE & CHARLES
License:
UMPHRESS

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 200 0

Pump setting depth:

Water quality:

Casing
Screen

Length: 6 0

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0 5 gpm for hrs.

Drawdown: ft.

Static water level: 60 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NW 1/4 of the SE 1/4 of the SW 1/4 of Section 5

Topo map:
BARTLETTSVILLE

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name.

Lot number:

Ft W of E.L.

Ft N of S.L: 1100

Ft E of W.L: 1800

Ft S of N.L:

Ground elevation: 630 0

Depth to bedrock: 5 0

Bedrock elevation:
625 0

Aquifer elevation:

UTM Easting. 549031 0

UTM Northing. 4304821 0

Well Log

Top	Bottom	Formation
0 0	3 0	DIRT
3 0	38 0	BLUE LS HARD
38 0	53 0	GRAY LS SOFT
53 0	200 0	BLUE SH SOFT

Comments

MC625

73

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217454

Driving directions to well

APPR. 150' E OF BEDFORD & BARTLETTSVILLE RD IN TAVEN

Date completed

Wed, May 25, 1960

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

DELBERT BAKER

Address

1027 O ST.

Telephone

ERNIE UMPHRESS & SONS R.R. 6 BOX 13 BEDFORD IND

ERNIE UMPHRESS & SONS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 98.0

Pump setting depth:

Water quality:

Casing

Length: 40.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 1.8 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 48.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 5

Topo map:

BARTLETTSVILLE

Field located by: BARNES

on: Mon, Aug 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 450

Ft E of WL: 50

Ft S of NL:

Ground elevation: 700.0

Depth to bedrock: 6.0

Bedrock elevation:

694.0

Aquifer elevation:

UTM Easting: 548522.0

UTM Northing: 4304677.0

Well Log

Top	Bottom	Formation
0.0	6.0	DIRT
6.0	35.0	LS BOULDERS
35.0	70.0	LS WH SOFT
70.0	80.0	LS BLUE HARD
80.0	98.0	LS WH HARD

Comments

MC695. LOC. ACCEPTED W/O VERIF., NO:

74

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217459	ON SR 58, 3MI E OF BEDFORD	Mon, Apr 20, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	WAYNE HAMMOND	BEDFORD R.R. 3	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	BEDFORD IND. R.R. 4	
Equipment Operator		License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 200 0	Pump setting depth:	Water quality:
Casing	Length: 9 0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for 8 0 hrs.	Bail Test rate: 0.25 gpm for hrs.
	Drawdown: ft.	Static water level: 70.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: SE 1/4 of the SW 1/4 of the SE 1/4 of Section 5	Topo map: BARTLETTSVILLE
	Field located by: JUH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1800	Ft N of SL: 100
	Ground elevation: 670 0	Depth to bedrock: 10 0
	UTM Easting: 549533 0	UTM Northing: 4304538 0
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation: 660 0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0 0	9 0	CLAY
	9 0	95 0	LS
	95 0	200.0	SOAPSTONE

Comments	MC660;
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75

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217464

Driving directions to well

ON BEDFORD & BARTLETTSVILLE RD ABOUT 3MI E OF BEDFORD IND. 5MI N OF SR 58

Date completed

Mon, Jul 20, 1959

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

PAT MURPHEY

Address

R.R. 5 BEDFORD IND

Telephone

ERNIE UMPHRESS & SONS

R.R. 6 BOX 13 BEDFORD IND

ERNIE UMPHRESS

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 80.0

Pump setting depth:

Water quality:

Casing

Length: 27.92

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.16 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 21.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NW 1/4 of the NW 1/4 of the SW 1/4 of Section 5

Topo map:

BARTLETTSVILLE

Field located by: BARNES

on: Mon, Aug 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1950

Ft E of WL: 300

Ft S of NL:

Ground elevation: 680.0

Depth to bedrock: 26.0

Bedrock elevation: 654.0

Aquifer elevation:

UTM Easting: 548576.0

UTM Northing: 4305120.0

Well Log

Top

Bottom

Formation

0.0

26.0

DIRT

26.0

60.0

WH LIME HARD

60.0

80.0

BLUE LIME HARD

Comments

MC655: LOC. ACCEPTED W/O VERIF. NO.

76

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217469 A PART OF THE SW QUARTER OF SECTION 5, TOWNSHIP 5N RANGE 1E ON BARTLETTSVILLE RD Thu, Oct 24, 1963

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner JAMES D. DECKARD 816 P. ST. BEDFORD, IND.
 Building Contractor
 Drilling Contractor ERNIE UMPHRESS & SONS BEDFORD, IND. R R. 6
 Equipment Operator EUGENE & CHARLES UMPHRESS License:

Construction Details
 Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 200 0 **Pump setting depth:** **Water quality:**
 Casing **Length:** 24 5 **Material:** **Diameter:** 6.0
 Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 0.33 gpm for hrs.
Drawdown: ft. **Static water level:** 60 0 ft

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N Range: 1E
Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 5 **Topo map:** BARTLETTSVILLE
Field located by: JUH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 600 **Ft E of WL:** 100 **Ft S of NL:**
Ground elevation: 710 0 **Depth to bedrock:** 5 0 **Bedrock elevation:** 705 0 **Aquifer elevation:**
UTM Easting: 548533 0 **UTM Northing:** 4304733 0

Well Log	Top	Bottom	Formation
	0 0	4 0	DIRT
	4 0	17 0	BROKEN LS
	17 0	30 0	GRAY LS SOFT
	30 0	55 0	WH LS SOFT
	55 0	97 0	BLUE LS HARD
	97 0	125 0	GRAY LS HARD
	125 0	134 0	BLUE LS HARD
	134 0	140 0	BLUE SH SOFT
	140 0	158 0	BLUE LS HARD
	158 0	20 0	BLUE SH SOFT

Comments MC705

77

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217474

Driving directions to well

3MI N E OF BEDFORD IND ON BEDFORD & BARTHERSVILLE RD

Date completed

Thu, Jul 16, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
RICHARD ALLENAddress
67E. 17TH ST. BEDFORD, IND

Telephone

ERNIE UMPHRESS & SONS R.R. 6 BOX 13 BEDFORD IND
BUAYRNS ERE License:

Construction Details

Well

Use: HOME
Depth: 69.0Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
ScreenLength: 14.0
Length:Material:
Material:

Diameter: 6.0

Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.

Static water level: 48.0 ft.

BailTest rate: 1.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 5

Township: 5N Range: 1E

Topo map:
BARTLETTSVILLE

Field located by: BARNES

on: Mon, Aug 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 400

Ft E of WL: 50

Ft S of NL:

Ground elevation: 690.0

Depth to bedrock: 4.0

Bedrock elevation:
686.0

Aquifer elevation:

UTM Easting: 548538.0

UTM Northing: 4304645.0

Well Log

Top	Bottom	Formation
0.0	4.0	DIRT
4.0	10.0	SHELLIE LIME
10.0	69.0	WH LIME .NOT TO HARD

Comments

MC685 LOC. ACETED W/O VERIF., NO:

Record of Water Well

Indiana Department of Natural Resources

78

Reference Number

217676

Driving directions to well

4 MILES NE OF BEDFORD IN - 1 MI E OF MT. PLEASANT CHRISTIAN CHURCH NW
CORNER OF SEC. 31, TWP. 6

Date completed

Tue, Dec 01, 1964

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

VIRN STULTZ

Address

RR 4, BEDFORD IN

Telephone

ERNIE UMPHRESS & SONS

RR 6, BEDFORD IN

E. & C. UMPHRESS

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 200.0

Pump setting depth:

Water quality:

Casing

Length: 28.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.3 gpm for hrs.

Drawdown: ft.

Static water level: 90.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1E

Section: NW 1/4 of the SE 1/4 of the SW 1/4 of Section 31

Topo map:

BARTLETTSVILLE

Field located by: JVH

on: Mon. Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 700

Ft E of WL: 2200

Ft S of NL:

Ground elevation: 630.0

Depth to bedrock: 5 0

Bedrock elevation:

625 0

Aquifer elevation:

UTM Easting: 547401.0

UTM Northing: 4306326 0

Well Log

Top

Bottom

Formation

0 0

5 0

DIRT

5 0

23 0

BLUE LIMESTONE BOULDERS MUDHOL

23 0

56.0

BLUE LIMESTONE HARD

56 0

81.0

GRAY LIMESTONE HARD

81 0

200.0

BLUE SHALE SOFT

Comments

MC 625

79

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217681Driving directions to well
SIX MILES NE OF BEDFORDDate completed
Mon, Oct 05, 1959Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
PAUL FISH
FLOYD STULTZ
FLOYD STULTZAddress
RR 4 BEDFORD IN
RR 4, BEDFORD IN
License:

Telephone

Construction Details

Well

Use:
Depth: 125.0Drilling method: CABLE TOOL
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 7.0
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 40.0 ft

Bail Test rate: 1.0 gpm for 8.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the NW 1/4 of the SW 1/4 of Section 31
Field located by: BARNES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:Township: 6N Range: 1E
Topo map:
BARTLETTSVILLE

on: Mon, Aug 01, 1960

on:

on:

Lot number:

Ft W of EL:

Ft N of SL: 1600

Ft E of WL: 300

Ft S of NL:

Ground elevation: 680.0

Depth to bedrock: 7.0

Bedrock elevation:
673.0

Aquifer elevation:

UTM Easting: 546658.0

UTM Northing: 4306524.0

Well Log

Top	Bottom	Formation
0.0	7.0	CLAY
7.0	11.0	SANDSTONE
11.0	31.0	SOAPSTONE
31.0	90.0	HARD LIMESTONE
90.0	125.0	SOAPSTONE

Comments

MC675

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217686

Driving directions to well

ABOUT 6 MILES NE OF BEDFORD AND ABOUT 1-1/2 MI NW OF PLEASANT RUN CHURCH WHICH IS ON BEDFORD & BARTLETTSVILLE ROAD

Date completed

Tue, Aug 11, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
EARL BARTLET

Address
RR 4, BEDFORD

Telephone

ERNIE UMPHRESS & SONS RR 6 BEDFORD IN
B. ERIE License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 280.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 11.3
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 145.0 ft.

BailTest rate: 0.13 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the NW 1/4 of the NW 1/4 of Section 30
Field located by: BARNES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 750.0
UTM Easting: 547183 0

Township: 6N Range: 1E
Topo map:
BARTLETTSVILLE
on: Mon, Aug 01, 1960
on:
on:
Lot number:
Ft E of WL: 1500 Ft S of NL: 1100
Bedrock elevation: 741.0
Aquifer elevation:
UTM Northing: 4308956 0

Well Log

Top	Bottom	Formation
0.0	9.0	DIRT
9.0	80.0	LIME SOFT
30.0	35.0	BLUE SHALE
35.0	80.0	WHITE LIME
80.0	85.0	BLUE SHALE
85.0	132.0	BLUE SHALE HARD
132.0	280.0	BLUE SHALE

Comments

MC745

Record of Water Well

Indiana Department of Natural Resources

81

Reference Number
217691

Driving directions to well

Date completed

DRILLED AT BIG BARN FARM CORNERING AT BARTLETTSVILLE AND PLEASANT RUN ROADS, 7 MILES NE OF BEDFORD

Mon, Jul 22, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
CLAUDE HARRELL

Address
RR 3, BOX 154, BEDFORD IN

Telephone

ERNIE UMPHRESS & SONS RR 6 BEDFORD IN
E. & C. UMPHRESS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 142.0

Pump setting depth:

Water quality:

Casing

Length:

Material:

Diameter:

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: gpm for hrs.

Drawdown: ft.

Static water level: ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N **Range:** 1E

Section: NW 1/4 of the SE 1/4 of the SE 1/4 of Section 30

Topo map:
BARTLETTSVILLE

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 1000

Ft N of SL: 1050

Ft E of WL:

Ft S of NL:

Ground elevation: 680.0

Depth to bedrock: 13.0

Bedrock elevation:
667.0

Aquifer elevation:

UTM Easting: 548073.0

UTM Northing: 4308029.0

Well Log

Top	Bottom	Formation
0.0	13.0	DIRT
13.0	31.0	BLUE LIMESTONE HARD
31.0	46.0	GRAY LIMESTONE SOFT
46.0	61.0	BLUE LIMESTONE HARD
61.0	73.0	GRAY LIMESTONE HARD
73.0	131.0	BLUE LIMESTONE HARD
131.0	142.0	BLUE SHALE SOFT

Comments

NO GROUNDWATER HOLE

Record of Water Well

Indiana Department of Natural Resources

82

Reference Number 217696 **Driving directions to well** NORTH EAST OF BEDFORD IND ON MOUNT PLEASANT ROAD **Date completed** Fri, Sep 23, 1960

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name LAWRENCE HARRELL
Address ERNIE UMPHRESS & SONS BEDFORD IND. RR6 BOX 13
ERNIE UMPHRESS & SONS License:

Telephone

Construction Details

Well **Use:** STOCK **Drilling method:** CABLE TOOL **Pump type:**
Depth: 250 0 **Pump setting depth:** **Water quality:**
Casing **Length:** 16 25 **Material:** **Diameter:** 6 0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** gpm for hrs
Drawdown: ft **Static water level:** 125 0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 6N **Range:** 1E
Section: SW 1/4 of the SW 1/4 of the SE 1/4 of Section 30 **Topo map:** BARTLETTSVILLE
Field located by: S&H **on:** Fri, Nov 04, 1960
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 400 **Ft E of WL:** 2700 **Ft S of NL:**
Ground elevation: 720 0 **Depth to bedrock:** 6 0 **Bedrock elevation:** 714 0 **Aquifer elevation:**
UTM Easting: 547565 0 **UTM Northing:** 4307844 0

Well Log	Top	Bottom	Formation
	0 0	6 0	DIRT
	6 0	36 0	WHITE LS HARD
	36 0	48 0	BLUE LS SOFT
	48 0	54 0	WHITE LS HARD
	54 0	102 0	BLUE LS HARD
	102 0	108 0	WHITE LS SOFT
	108 0	121 0	BLUE LS HARD
	121 0	250 0	BLUE SHALE SOFT

Comments NR 715 CHEMICAL ANALYSIS

83

Record of Water Well

Indiana Department of Natural Resources

Reference Number
219663

Driving directions to well

Date completed

Sat, Feb 13, 1954

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
STEPHEN BUCK
HOMER ALFORD

Address
AT CEMETERY TARRY PARK
RR #2 MITCHELL
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 100.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 16.0
Length:

Material:
Material:

Diameter: 5.63
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: ft.

Bail Test rate: 0.35 gpm for 0.5 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: 1/4 of the 1/4 of the 1/4 of Section 3

Township: 4N Range: 1W

Topo map: BEDFORD WEST

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL:

Ft S of NL:

Ground elevation:

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

UTM Easting:

UTM Northing:

Well Log

Top	Bottom	Formation
0.0	16.0	OVRBRDN CLAY BLDR'S BRKN LS
16.0	100.0	LS

Comments

APPROX LOC: WELL HAS RESERVE CAP 80 GAL

84

Record of Water Well

Indiana Department of Natural Resources

Reference Number
219668

Driving directions to well

Date completed

APPROX. 3MI S BEDFORD ON OLD RD 37 ACROSS FROM CRESTHAVEN CEMETRY Mon, May 11, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
APPLACRES, INC.
Address
R. #1 BEDFORD, IND.
ERNIE UMPHRESS & SONS BEDFORD, IND. R.R., 6
EUGENE & CHARLES
UMPHRESS License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 258.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 35.5

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.75 gpm for hrs.

Drawdown: ft.

Static water level: 50.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 4N Range: 1W

Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 3

Topo map: BEDFORD
WEST

Field located by: DW

on: Tue, Aug 17, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 1550

Ft S of NL: 1800

Ground elevation: 610.0

Depth to bedrock: 29.0

Bedrock elevation:
581.0

Aquifer elevation:

UTM Easting: 542436.0

UTM Northing: 4295420.0

Well Log

Top	Bottom	Formation
0.0	7.0	DIRT
7.0	29.0	BOULDERS & MUD HOLE
24.0	38.0	WELLS HARD
38.0	60.0	BR L S SOFT
60.0	94.0	WELLS HARD
94.0	103.0	GRAY L S HARD
103.0	108.0	BL L L S HARD
108.0	114.0	BL L L S SOFT
114.0	131.0	BL L L S HARD
131.0	136.0	GRAY L S SOFT
136.0	158.0	BL L L S HARD
158.0	187.0	GRAY L S HARD
187.0	200.0	BL L L S SOFT

Record of Water Well

Indiana Department of Natural Resources

86

Reference Number 219678	Driving directions to well JUNCTION 50 & 37 WEST ON RD. 50 TO FIRST RD NORTH 1000 FT ON RIGHT		Date completed Fri, Oct 04, 1963	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WILLIAM LEWIS WILLARD ENGLISH & SON LEON ENGLISH	Address 11 MURRAY, BEDFORD RR 1, CLAYTON IN License:	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 280.0 Length: 44.0 Length:	Drilling method: ROTARY Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 5.5 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 50.0 ft.	Bail Test rate: 0.67 gpm for hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the NW 1/4 of the NW 1/4 of Section 3 Field located by: JVH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 610.0 UTM Easting: 542088.0		Township: 4N Range: 1W Topo map: BEDFORD WEST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: 400 Bedrock elevation: 605.0 UTM Northing: 4296145.0	
Well Log	Top 0.0	Bottom 0.0	Formation BLANK	
Comments	MC605			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
219683	3MI S OF BEDFORD, IND. ON SAND PIT RD		Thu, May 02, 1968
Owner-Contractor	Name	Address	Telephone
Well Owner	JOHN TINCHER	BEDFORD, IND.	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	
Construction Details			
Well	Use: STOCK	Drilling method: CABLE TOOL	Pump type:
	Depth: 148.0	Pump setting depth:	Water quality:
Casing	Length: 22.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test			
	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.25 gpm for hrs.
	Drawdown: ft.	Static water level: 40.0 ft.	
Grouting Information			
	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment			
	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative			
	County: LAWRENCE	Township: 4N Range: 1W	
	Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 2	Topo map: BEDFORD EAST	
	Field located by: PW	on: Mon, Aug 16, 1971	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 450 Ft S of NL: 100
	Ground elevation: 590.0	Depth to bedrock: 12.0	Bedrock elevation: 578.0
	UTM Easting: 543661.0		Aquifer elevation:
			UTM Northing: 4296439.0
Well Log			
	Top	Bottom	Formation
	0.0	12.0	DIRT
	12.0	33.0	BR LS SOFT
	33.0	60.0	WH LS SOFT
	60.0	92.0	BLUE LS HARD
	92.0	127.0	WH LS HARD
	127.0	148.0	BLUE LS HARD
Comments			
	MC580, VERIFIED BY OWNER, MC;		

Record of Water Well

Indiana Department of Natural Resources

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Reference Number	Driving directions to well		Date completed	
219688	4 MILES S BEDFORD OVERLOOKING WHITE RIVER		Mon, Nov 02, 1964	
Owner-Contractor	Name	Address	Telephone	
Well Owner	BEDFORD CHRISTIAN CAMP	BEDFORD IN		
Building Contractor	GEORGE SNAPP	RR 4, BLOOMINGTON IN		
Drilling Contractor	GEORGE SNAPP	License:		
Equipment Operator				
Construction Details	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 100.0	Pump setting depth:	Water quality:	
Casing	Length: 39.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 4.0 gpm for hrs.	
	Drawdown: ft.	Static water level: 30.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 4N Range: 1W		
	Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 2	Topo map: BEDFORD EAST		
	Field located by: JVH	on: Mon, Aug 01, 1966		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL: 2200	Ft N of SL:	Ft E of WL:	Ft S of NL: 1200
	Ground elevation: 550.0	Depth to bedrock: 35.0	Bedrock elevation: 515.0	Aquifer elevation:
	UTM Easting: 544420.0		UTM Northing: 4296129.0	
Well Log	Top	Bottom	Formation	
	0.0	0.0	BLANK	
Comments	NO 515: SMALL SULPHUR CONTENT			

Record of Water Well

Indiana Department of Natural Resources

89

Reference Number
219734

Driving directions to well

FROM FAYETTEVILLE GO SOUTH APPROX. 3 MILES TO COXTON, GO SOUTH 1/2 MILE, CROSS CATTLE GUARD, GO TO LAST FARM HOUSE

Date completed

Sun, Mar 20, 1960

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
FRANK SCHERSCHEL

LOUIE O. SMITH
L. O. SMITH

Address
RFD 1, BEDFORD

R #1, BEDFORD
License:

Telephone

Construction Details

Well

Use: STOCK
Depth: 200.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
Screen

Length:
Length:

Material:
Material:

Diameter:

Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs
Static water level: 20 0 ft.

BailTest rate: 1.5 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 5
Field located by: BARNES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 520 0
UTM Easting: 538869 0

Township: 4N **Range:** 1W
Topo map: BEDFORD WEST
on: Fri, Jul 01, 1960
on:
on:
Lot number:
Ft E of WL: 400 **Ft S of NL:** 100
Bedrock elevation: **Aquifer elevation:**
UTM Northing: 4296348 0

Well Log

Top	Bottom	Formation
0 0	0.0	BLANK

Comments

MC

90

Record of Water Well

Indiana Department of Natural Resources

Reference Number 219739	Driving directions to well NEAR BEDFORD	Date completed Sat, Jul 03, 1954															
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JOHN WAGNER HOMER ALFORD	Address WOODS TERRY RD RR #3 MITCHELL License:															
Telephone																	
Construction Details																	
Well	Use: HOME Depth: 150.0	Drilling method: CABLE TOOL Pump setting depth:															
Casing	Length: 28.0	Pump type: Water quality:															
Screen	Length:	Diameter: 6.0 Diameter: Slot size:															
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 67.0 ft. Bail Test rate: 0.33 gpm for hrs.															
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:															
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:															
Administrative	County: LAWRENCE Section: 1/4 of the NE 1/4 of the NW 1/4 of Section 4 Field located by: Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: UTM Easting: 540985.0	Township: 4N Range: 1W Topo map: BEDFORD WEST on: on: on: Lot number: Ft E of WL: Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4296357.0															
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>0.0</td> <td>WATER @120'</td> </tr> <tr> <td>0.0</td> <td>25.0</td> <td>OVERBRN CLY ROCKS BRKN LS</td> </tr> <tr> <td>25.0</td> <td>28.0</td> <td>SOLID ROCK</td> </tr> <tr> <td>28.0</td> <td>150.0</td> <td>LS *</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	0.0	WATER @120'	0.0	25.0	OVERBRN CLY ROCKS BRKN LS	25.0	28.0	SOLID ROCK	28.0	150.0	LS *	
Top	Bottom	Formation															
0.0	0.0	WATER @120'															
0.0	25.0	OVERBRN CLY ROCKS BRKN LS															
25.0	28.0	SOLID ROCK															
28.0	150.0	LS *															
Comments	WELL HAS 110 GAL RESERVE CAP WATER @ 120'																

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
219744 BETWEEN MITCHELL & BEDFORD ON SR 37 AT STOP LIGHT WELL #3 Thu, Oct 03, 1968

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner MARATHON OIL SERVICE STATION
 Building Contractor JOHN REYNOLDS & SONS, INC. WEST BADEN, IND. R.R. #1
 Drilling Contractor DON CALLAHAN, HOWE WALKER License:
 Equipment Operator

Construction Details
Well **Use:** INDUSTRY **Drilling method:** ROTARY **Pump type:**
Depth: 303.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 58.0 **Material:** **Diameter:** 6.63
Screen **Length:** **Material:** **Diameter:** Slot size:
Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 2.0 gpm for hrs.
Drawdown: ft. **Static water level:** 60.67 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 4N Range: 1W
Section: SE 1/4 of the SE 1/4 of the NE 1/4 of Section 4 **Topo map:** BEDFORD WEST
Field located by: PW **on:** Sun, Jan 17, 1971
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 100 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 2050
Ground elevation: 610.0 **Depth to bedrock:** 3.0 **Bedrock elevation:** 607.0 **Aquifer elevation:**
UTM Easting: 541952.0 **UTM Northing:** 4295829.0

Well Log	Top	Bottom	Formation
	0.0	3.0	CLAY
	3.0	11.0	LS
	11.0	14.0	BROKEN STONE & MUD
	14.0	20.0	LS
	20.0	30.0	SS
	30.0	58.0	LIME
	58.0	303.0	LS

Comments MC605 VERIFIED BY MANAGER MC LAW 503;

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

219749

Driving directions to well

Date completed

.25MI N OF JCT SR 37&50 S OF BEDFORD ON WOODS FERRY RD .25MI FROM SR 50 Wed, Jan 17, 1968

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

CHARLES WOOD

Address

BEDFORD, R.R. 1

Telephone

RAY E. ALFORD

MITCHELL R.R. 2

RAY E. ALFORD

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 175.0

Pump setting depth:

Water quality:

Casing

Length: 49.0

Material:

Diameter: 6.63

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.5 gpm for hrs.

Drawdown: ft.

Static water level: 70.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 4N Range: 1W

Section: NW 1/4 of the SE 1/4 of the NE 1/4 of Section 4

Topo map: BEDFORD
WEST

Field located by: PW

on: Tue, Aug 17, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 1200

Ft N of SL:

Ft E of WL:

Ft S of NL: 1500

Ground elevation: 615.0

Depth to bedrock: 49.0

Bedrock elevation:
566.0

Aquifer elevation:

UTM Easting: 541589.0

UTM Northing: 4295980.0

Well Log

Top

Bottom

Formation

0.0

49.0

SOIL & CLAY

49.0

67.0

GRAY LIME

67.0

72.0

BR LIME

72.0

108.0

WH LIME

108.0

175.0

GRAY LIME

Comments

MC 565:

93

Record of Water Well

Indiana Department of Natural Resources

Reference Number 219754	Driving directions to well SW OF BEDFORD IND ON SR 50 ABOUT 2MI AFTER TURNING W OF 37&50	Date completed Tue, Sep 01, 1959
--	--	--

Owner-Contractor	Name	Address	Telephone
Well Owner	EARVIN AND THELMA W MEADOWS	RR 1 BOX 234 BEDFORD, IND.	
Building Contractor	ERNIE UMPHRESS & SONS	R.R. 6 BOX 13 BEDFORD IND.	
Drilling Contractor	ERIC BUCYRUS	License:	
Equipment Operator			

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 210.0	Pump setting depth:	Water quality:
Casing	Length: 63.3	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 2.0 gpm for 1.0 hrs.
	Drawdown: ft.	Static water level: 90.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 4N Range: 1W
	Section: SW 1/4 of the NW 1/4 of the SE 1/4 of Section 4	Topo map: BEDFORD WEST
	Field located by: BARNES	on: Fri. Jul 01, 1960
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2250	Ft N of SL: 1600
	Ground elevation: 595.0	Depth to bedrock:
	UTM Easting: 541272.0	Bedrock elevation. Aquifier elevation:
		UTM Northing: 4295345.0

Well Log	Top	Bottom	Formation
	0.0	20.0	DIRT
	20.0	60.0	SOFT LIME & SHALE F.F. 11.0 FM UD HOLE
	60.0	155.0	HARD WH LIME
	155.0	165.0	SOFT BLUE LIME
	165.0	190.0	HARD BLUE LIME
	190.0	195.0	SOFT BLUE LIME
	195.0	210.0	HARD BLUE

Comments: NO LOC. ACCEPTED W/O VERIF. NO:

Record of Water Well

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Indiana Department of Natural Resources

Reference Number 219759	Driving directions to well GOING NORTH ON HIGHWAY 37 & 50 AT JUNCTION, SOUTH OF WHITE RIVER TURN LEFT 1ST ROAD APPROX. 1/4 MI		Date completed Wed, Sep 21, 1966	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name BILL BUCK LOUIE O. SMITH L. O. SMITH	Address R #1, BEDFORD License:	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 150.0 Length: 54.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.25 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 75.0 ft.	BailTest rate: 2.0 gpm for 3.0 hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: NW 1/4 of the NE 1/4 of the NE 1/4 of Section 4 Field located by: PW Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 850 Ground elevation: 600.0 UTM Easting: 541728.0		Township: 4N Range: 1W Topo map: BEDFORD WEST on: Mon, Aug 17, 1970 on: on: Lot number: Ft E of WL: Bedrock elevation: 585.0 UTM Northing: 4296419.0	
Well Log	Top 0.0	Bottom 0.0	Formation BLANK	
Comments	MC585; VERIFIED BY BUILDER, MC			

Record of Water Well

Indiana Department of Natural Resources

95

Reference Number 320179 **Driving directions to well** .5 MI S OF JCT 50 & 37 ON HWY37, LT ON WESLYN CHURCH, GO .5 MI E ACROSS RR TRACKS, 3RD HOUSE ON RT **Date completed** Fri, Nov 06, 1992

Owner-Contractor	Name	Address	Telephone
Well Owner	BEN GRIMES	904 BROOK ST., MITCHELL, IN 47446	
Building Contractor			
Drilling Contractor	S&S DRILLING INC.	R1 MONTGOMERY, IN 47558	
Equipment Operator	DEXTER SWARTZENTRUBER	License: 302	

Construction Details	Use: HOME	Drilling method: ROTARY	Pump type:
Well	Depth: 180.0	Pump setting depth:	Water quality:
Casing	Length: 55.0	Material: PVC	Diameter: 6.0
Screen	Length: 140.0	Material: PVC	Diameter: 4.5 Slot size:

Well Capacity Test	Type of test:	Test rate: 7.0 gpm for hrs.	Bail Test rate: gpm for hrs.
	Drawdown: ft.	Static water level: ft	

Grouting Information	Material: BNSL	Depth: from 55.0 to 0.0
	Installation Method: PUMP	Number of bags used: 2.0

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 4N Range: 1W
	Section: 1/4 of the 1/4 of the 1/4 of Section 3	Topo map: BEDFORD EAST
	Field located by:	on:
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL:
	Ground elevation:	Depth to bedrock:
	UTM Easting:	UTM Northing:
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation:
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	15.0	CLAY
	15.0	16.0	LS
	16.0	23.0	GREEN SH
	23.0	34.0	LS
	34.0	38.0	SOFT GRAY SH
	38.0	44.0	LS
	44.0	47.0	FRACTURED LIME/MUDDY CLAY
	57.0	91.0	L AN LIME
	91.0	93	FRACTURED LIME
	93.0	110.0	BRN LIME
	110.0	115.0	DOLOMITE LIME
	115.0		AN LIME

Comments

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220473

Driving directions to well

Date completed

APP T MI SE OF BEDFORD IN ON WHITE RIVER KNOWN AS DUNCAN BEND

Sat, Jan 21, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
GENERAL J HALE

Address
BEDFORD RR 5
BEDFORD IN RR6
License:

Telephone

Construction Details

Well

Use: OTHER

Drilling method:

Pump type:

Depth: 150.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 33.5

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.1 gpm for hrs.

Drawdown: ft.

Static water level: 75.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 4N Range: 1E

Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 6

Topo map: BEDFORD EAST

Field located by: PJ

on: Mon, Aug 16, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 2200

Ft N of SL:

Ft E of WL:

Ft S of NL: 1550

Ground elevation: 540.0

Depth to bedrock: 8.0

Bedrock elevation:
532.0

Aquifer elevation:

UTM Easting: 548019.0

UTM Northing: 4296047.0

Well Log

Top	Bottom	Formation
0.0	8.0	DIRT
8.0	12.0	GRAY LS HARD
12.0	28.0	BROKEN LS SOFT
28.0	33.0	BLUE LS HARD
33.0	150.0	BLUE SH SOFT

Comments

MC 530: VERIFIED BY NEIGHBOR

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220478	Driving directions to well WELL IS 5-1/2 MILES SE OF BEDFORD AND 1/4 MI W OF TUNNELTON ROAD, 33 FT. NW OF BARN		Date completed Thu, Oct 12, 1961
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WM. DUNCAN ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R 5, BEDFORD IN RR 6, BEDFORD IN License:	Telephone
Construction Details Well	Use: HOME Depth: 112.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type:
Casing	Length: 51.0	Material:	Water quality:
Screen	Length:	Material:	Diameter: 6.0 Diameter: Slot size:
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 32.0 ft.	Bail Test rate: 0.02 gpm for 1.0 hrs.
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: NE 1/4 of the SE 1/4 of the NE 1/4 of Section 6 Field located by: JVH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 100 Ground elevation: 520.0 UTM Easting: 548642.0		Township: 4N Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Ft S of NL: 1800 Bedrock elevation: Aquifer elevation: UTM Northing: 4293972.0
Well Log	Top 0.0	Bottom 0.0	Formation BLANK
Comments	MC470		

Record of Water Well

Indiana Department of Natural Resources

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Reference Number	Driving directions to well		Date completed
217373	FROM FAYETTEVILLE ON 58 E, 1ST RD TO R. TURN R ON NEXT RD, 1ST FARM HOUSE.		Sat, Jul 01, 1950
Owner-Contractor	Name	Address	Telephone
Well Owner	HALE HALL	R#2, BEDFORD	
Building Contractor			
Drilling Contractor	LOUIE O. SMITH	R#1, BEDFORD	
Equipment Operator	LOUIE O. SMITH	License:	
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 179.0	Pump setting depth:	Water quality:
Casing	Length: 24.5	Material:	Diameter: 6.25
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 30 gpm for hrs.
	Drawdown: ft.	Static water level: 117.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 2W
	Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 24		Topo map: BEDFORD WEST
	Field located by: BAINES		on: Fri, Jul 01, 1960
	Courthouse location by:		on:
	Location accepted w/o verification by:		on:
	Subdivision name:		Lot number:
	Ft W of EL: 2400	Ft N of SL:	Ft E of WL: Ft S of NL: 800
	Ground elevation: 600.0	Depth to bedrock:	Bedrock elevation: Aquifer elevation:
	UTM Easting:		UTM Northing:
Well Log	Top	Bottom	Formation
	0 0	22.0	RED CLAY
	22 0	65 0	WH LIME
	65 0	85.0	WH HARD LIME
	85.0	105.0	GRAY SOFT LIME
	105 0	110.0	WH LIME
	110 0	125.0	GRAY SOFT LIME
	125 0	179.0	WH AGR LIME
Comments	MC:		

99

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217523	3 MI E OF FAYETTEVILLE ON BUTTERFLY LANE, E SIDE.	Wed, Jun 05, 1963

Owner-Contractor	Name	Address	Telephone
Well Owner	MARVEL MAY	RR#2, BEDFORD IN	
Building Contractor			
Drilling Contractor	PAUL STULTZ	1420 W 14TH ST, BLOOMINGTON IN	
Equipment Operator	OREN LAKE	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 149.0	Pump setting depth:	Water quality:
Casing	Length: 72.3	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 60.0 gpm for hrs.
	Drawdown: ft.	Static water level: 80.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 2W
	Section: SE 1/4 of the SW 1/4 of the SE 1/4 of Section 13	Topo map: BEDFORD WEST
	Field located by: U	on: Tue, Oct 01, 1963
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1400	Ft N of SL: 330
	Ground elevation: 635.0	Depth to bedrock:
	UTM Easting: 536624.0	Bedrock elevation: Aquifer elevation:
		UTM Northing: 4301260.0

Well Log	Top	Bottom	Formation
	0.0	72.0	DIRT & BROKEN STONE
	72.0	149.0	MD GREY STONE

Comments

100

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217528

Driving directions to well

Date completed

3 MI E OF FAYETTEVILLE IN, ON THE BUTLER FLY LANE. 1ST R, W SIDE ON STILTS. Sat, May 25, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
KELSO FROST
PAUL STULTZ
OREN LAKEAddress
RR#2, BEDFORD
1420 W 14TH ST, BLOOMINGTON IN
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 156.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 40.0

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: 240.0 gpm for hrs.

Drawdown: ft.

Static water level: 91.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 2W

Section: SE 1/4 of the SW 1/4 of the SE 1/4 of Section 13

Topo map: BEDFORD WEST

Field located by: U

on: Tue, Oct 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 1500

Ft N of SL: 100

Ft E of WL:

Ft S of NL:

Ground elevation: 635.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 536599.0

UTM Northing: 4301199.0

Well Log

Top

Bottom

Formation

0.0

40.0

BROKEN STONE RED CLAY

40.0

156.0

GREY STONE

Comments

40" RED CLAY & BROKEN STONE TO GREY STONE MID STONE FOR HARDNESS.

Record of Water Well

101

Indiana Department of Natural Resources

Reference Number
217533

Driving directions to well
 FROM FAYETTEVILLE CHURCH OF CHRIST 1ST HOUSE SOUTH ON EAST SIDE OF
 RD, 2 NEW HOUSE, SO RD

Date completed
 Sat, May 18, 1963

Owner-Contractor
 Well Owner
 Building Contractor
 Drilling Contractor
 Equipment Operator

Name
 ROSE ROBERTSON
 LOUIE SMITH
 LOUIE SMITH

Address
 RR WILLIAMS, IN
 R1 BEDFORD
 License:

Telephone

Construction Details

Well
Use: HOME
Depth: 105.0
Drilling method: CABLE TOOL
Pump setting depth:
Pump type:
Water quality:

Casing
Length: 83.0
Material:
Diameter: 6.0

Screen
Length:
Material:
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: 5.0 ft.

Test rate: gpm for hrs.
Static water level: 75.0 ft.

BailTest rate: 2.0 gpm for 2.0 hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: SE 1/4 of the SW 1/4 of the SW 1/4 of Section 13
Field located by:
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Township: SN Range: 2W
Topo map: BEDFORD WEST
on: Tue, Oct 01, 1963
on:
on:
Lot number:
Ft W of EL:
Ground elevation: 635.0
UTM Easting: 535703.0
Ft N of SL: 330
Depth to bedrock:
Ft E of WL: 1000
Bedrock elevation:
UTM Northing: 4301249.0
Ft S of NL:
Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	10.0	RED CLAY
	10.0	20.0	BROKEN LS
	20.0	40.0	LS
	40.0	50.0	HARD LS
	50.0	55.0	SOFT STONE
	55.0	69.0	LS
	69.0	75.0	SOFT SHELL
	75.0	93.0	SOFT LIME
	93.0	95.0	BLANK
	95.0	103.0	LS
	103.0	105.0	SHELL

Comments

NE CHURCH

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217538

Driving directions to well

ABOUT .25MI W OF FAYETTEVILLE IN.

Date completed

Wed, May 15, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
JOHN WAYAddress
RR2, BEDFORD

Telephone

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS
License:Construction Details
WellUse: HOME
Depth: 118.0Drilling method: CABLE TOOL
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 68.0
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 78.0 ft.

BailTest rate: 2.5 gpm for hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the SE 1/4 of the SW 1/4 of Section 13

Township: 5N Range: 2W

Topo map: BEDFORD
WEST

Field located by: PW

on: Thu, Aug 01, 1968

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 800

Ft E of WL: 1600

Ft S of NL:

Ground elevation: 600.0

Depth to bedrock: 65.0

Bedrock elevation:
535.0

Aquifer elevation:

UTM Easting: 535886.0

UTM Northing: 4301402.0

Well Log

Top	Bottom	Formation
0.0	5.0	DIRT
5.0	65.0	BOULDERS MUD HOLES & STONE
65.0	79.0	GRAY LS SOFT
79.0	97.0	BLUE LS SOFT
97.0	101.0	BROKEN STONE SOFT
101.0	115.0	GRAY LS SOFT
115.0	118.0	BROKEN STONE SOFT

Comments

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217543

Driving directions to well

FROM FAYETTEVILLE GOING EAST .5 MI BEHIND CHURCH OF CHRIST CHURCH

Date completed

Fri, Jun 03, 1966

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
ALVAN ROLLINS
LOUIE SMITH
LOUIE SMITHAddress
R2 BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 125.0

Pump setting depth:

Water quality:

Casing

Length: 13.0

Material:

Diameter: 6.25

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 20.0 gpm for 2.0 hrs.

Drawdown: ft.

Static water level: 90.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 2W

Section: NW 1/4 of the SE 1/4 of the SW 1/4 of Section 13

Topo map: BEDFORD
WEST

Field located by: MJ

on: Wed, Aug 18, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 900

Ft E of WL: 1400

Ft S of NL:

Ground elevation: 610.0

Depth to bedrock: 10.0

Bedrock elevation:
600.0

Aquifer elevation:

UTM Easting: 535820.0

UTM Northing: 4301463.0

Well Log

Top	Bottom	Formation
0.0	10.0	CLAY
10.0	35.0	HARD LIME
35.0	92.0	LIME
92.0	125.0	SOFT LIME

Comments

MC600; VERIFIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217548 FROM FAYETTEVILLE, GO EAST TO 1ST RD TO RIGHT. 2ND HOUSE ON RIGHT Wed, Aug 10, 1960

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner MRS. OPAL EMPSON R1 WILLIAMS, IN
 Building Contractor
 Drilling Contractor LOUIE SMITH R1 BEDFORD
 Equipment Operator LOUIE SMITH License:

Construction Details

Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 90.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 26.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 3.0 gpm for 1.0 hrs.
Drawdown: ft. **Static water level:** 40.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** SN **Range:** 2W
Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 13 **Topo map:** BEDFORD WEST
Field located by: S&H **on:** Wed, Nov 02, 1960
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 1900 **Ft N of SL:** 1600 **Ft E of WL:** **Ft S of NL:**
Ground elevation: 615.0 **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: 536466.0 **UTM Northing:** 4301669.0

Well Log	Top	Bottom	Formation
	0.0	24.0	CLAY
	24.0	28.0	LIME
	28.0	32.0	SHELL
	32.0	35.0	LIME
	35.0	49.0	LIME
	49.0	50.0	SEAM
	50.0	51.0	LIME
	51.0	52.0	SEAM
	52.0	55.0	LIME
	55.0	60.0	SHELL
	60.0	65.0	LIME
	65.0	70.0	SHELL
	70.0	90.0	LIME

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217553	ABOUT 5 MI W ON SR158 AT 537 W & 50N & 15 RODS W. FAYETTEVILLE AREA.		Thu, Apr 25, 1968
Owner-Contractor	Name	Address	Telephone
Well Owner	MR. JAMES M. CANADA	RR1, WILLIAMS IN	
Building Contractor			
Drilling Contractor	MUMMA DRLG INC.	WASHINGTON & LYONS IN	
Equipment Operator	DEAN K. MUMMA	License:	
Construction Details			
Well	Use: HOME	Drilling method: OTHER	Pump type:
	Depth: 130.0	Pump setting depth:	Water quality:
Casing	Length: 35.0	Material:	Diameter: 6.62
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 5.0 gpm for 1.5 hrs.
	Drawdown: ft.	Static water level: 60.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 2W
	Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 13		Topo map: BEDFORD WEST
	Field located by: PW	on: Wed, Aug 18, 1971	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 2300	Ft N of SL: 2700	Ft E of WL: Ft S of NL:
	Ground elevation: 620.0	Depth to bedrock: 34.0	Bedrock elevation: 586.0 Aquifer elevation:
	UTM Easting: 536345.0	UTM Northing: 4302010.0	
Well Log	Top	Bottom	Formation
	0.0	34.0	CLAY & BOULDERS
	34.0	105.0	LIME & BREAKS & SHALE
	105.0	130.0	SANDY LIME WATER
Comments	MC 585; VERIFIED BY OWNER. PH 7.5, IRON 0.5, HARDNESS 23 GRAINS; SEE MAP;		

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217558

Driving directions to well
TAKE 16TH ST RD W OF BEDFORD, 1.5MI W EUREKA TO T RD .5 MI N OF T RD.

Date completed
Thu, Apr 17, 1969

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
CHARLES H. EAGAN
JOHN REYNOLDS & SONS
INC.
WENDELL NEWLIN&DON
CALLAHAN

Address
SPRINGVILLE IN
816 W MAIN ST, PAOLI IN
License:

Telephone

Construction Details
Well
Casing
Screen

Use: HOME
Depth: 140.0
Length: 65.0
Length:

Drilling method: OTHER
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.62
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 60.0 ft.

BailTest rate: 4.0 gpm for hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: SW 1/4 of the SE 1/4 of the NW 1/4 of Section 12
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 700.0
UTM Easting: 535911.0

Township: 5N **Range:** 2W
Topo map: OOLITIC
on: Wed, Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1700
Bedrock elevation: 693.0
UTM Northing: 4303673.0

Ft N of SL:
Depth to bedrock: 7.0
Ft S of NL: 2500
Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	7.0	CLAY
	7.0	15.0	LS
	15.0	25.0	SOFT STONE
	25.0	45.0	BROKEN STONE & MUD
	45.0	55.0	LIME
	55.0	115.0	BUFF COLORED LIME
	115.0	120.0	HARD LIME
	120.0	140.0	WATER BEARING SHALE & PORUS LI

Comments
MC 695, VERIFIED BY OWNER

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217563	W OUT OF BEDFORD, 16TH ST TOWARD FAYETTEVILLE TURN R GO N 2.5 MI, TURN R 1ST HOUSE ON R.	Mon, Dec 03, 1973

Owner-Contractor	Name	Address	Telephone
Well Owner	DOUG KELLY	RR2, BEDFORD IN	
Building Contractor	FORREST LAKE	RR2, BEDFOR IN	
Drilling Contractor	JOHN REYNOLDS & SONS INC.	816 W MAIN ST, PAOLI IN	
Equipment Operator	GORDON BURTON	License:	

Construction Details	Use: HOME	Drilling method: OTHER	Pump type:
Well	Depth: 130.0	Pump setting depth:	Water quality:
Casing	Length: 114.0	Material:	Diameter: 6.62
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test: PUMPING	Test rate: 15.0 gpm for hrs.	BailTest rate: gpm for hrs
	Drawdown: 40.0 ft.	Static water level: 70.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 2W	Topo map: OOLITIC
	Section: NW 1/4 of the NE 1/4 of the NW 1/4 of Section 12		
	Field located by: JRD	on: Tue, Aug 08, 1978	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1750 Ft S of NL: 100
	Ground elevation: 685.0	Depth to bedrock: 10 0	Bedrock elevation: 675 0 Aquifer elevation:
	UTM Easting: 535961 0		UTM Northing: 4304386 0

Well Log	Top	Bottom	Formation
	0 0	10 0	CLAY
	10 0	25 0	LS & BROKEN ROCK
	25 0	30 0	SHELL
	30 0	35 0	LIME
	35 0	45 0	CAVE
	45 0	75 0	LS
	75 0	80 0	BROKEN ROCK & MUD
	80 0	100 0	LS
	100 0	103 0	BROKEN ROCK
	103 0	107 0	CAVE
	107 0	125 0	LS
	125 0	127 0	SHELL
	127 0	130 0	LIME

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217568	GO W TO CROSSRDS AT FAYETTEVILLE-TURN R(N) THEN GOTO NEXT CROSSRDS. TURN L(W). HOUSE TRAILER IN THE FIELD.		Fri, Mar 08, 1974	
Owner-Contractor	Name	Address	Telephone	
Well Owner	RICHARD PIERCE	RR#2, BEDFORD IN		
Building Contractor	JOHN REYNOLDS & SONS	816 W MAIN ST, PAOLI IN		
Drilling Contractor	INC.			
Equipment Operator	GORDON BURTON	License:		
Construction Details	Use: HOME	Drilling method: OTHER	Pump type:	
Well	Depth: 143.0	Pump setting depth:	Water quality:	
Casing	Length: 61.0	Material:	Diameter: 6.62	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: PUMPING	Test rate: 11.0 gpm for hrs.	Bail Test rate: gpm for hrs.	
	Drawdown: 73.0 ft.	Static water level: 70.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 5N	Range: 2W	Topo map: OOLITIC
	Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 12	on: Tue, Aug 08, 1978		
	Field located by: JRD	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL: 400	Ft S of NL: 300
	Ground elevation: 690.0	Depth to bedrock: 10.0	Bedrock elevation: 680.0	Aquifer elevation:
	UTM Easting: 535534.0		UTM Northing: 4304338.0	
Well Log	Top	Bottom	Formation	
	0.0	10.0	CLAY	
	10.0	15.0	LS	
	15.0	20.0	SHELL	
	20.0	25.0	LIME	
	25.0	47.0	BROKEN ROCK & MUD	
	47.0	50.0	LIME	
	50.0	55.0	MUD	
	55.0	100.0	LIME	
	100.0	105.0	SHELL	
	105.0	143.0	MUD	
Comments:	MC 680; OWNER VERIFIED/50 W OF TRAIL			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217573 FROM FAYETTEVILLE GOING EAST, TURN 1ST RD NORTH 4TH HOUSE ON LEFT Tue, Sep 17, 1963

Owner-Contractor	Name	Address	Telephone
Well Owner	JAMES CHASTAIN	R2 BEDFORD	
Building Contractor			
Drilling Contractor	LOUIE SMITH	R1 BEDFORD	
Equipment Operator	LOUIE SMITH	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 175.0	Pump setting depth:	Water quality:
Casing	Length: 40.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 2.0 gpm for 2.0 hrs.
	Drawdown: ft.	Static water level: 140.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 2W	Topo map: OOLITIC
	Section: NE 1/4 of the SW 1/4 of the NW 1/4 of Section 12		
	Field located by: JVH	on: Mon. Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1000 Ft S of NL: 1800
	Ground elevation: 730.0	Depth to bedrock:	Bedrock elevation: 690.0 Aquifer elevation:
	UTM Easting: 535746.0		UTM Northing: 4303862.0

Well Log	Top	Bottom	Formation
	0.0	40.0	CLAY
	40.0	58.0	LIME
	58.0	89.0	HARD LIME
	89.0	90.0	SOFT SEAM
	90.0	119.0	LIME
	119.0	121.0	BROKEN
	121.0	175.0	LIME

Comments MC69Page 9577

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217578	GO TO BEDFORD- GO OUT TOWARD FAYETTEVILLE	Mon, Jun 11, 1973

Owner-Contractor	Name	Address	Telephone
Well Owner	WILLIAM WALKER	RR2 BEDFORD, IN	
Building Contractor			
Drilling Contractor			
Equipment Operator	GORDON BURTON	License:	

Construction Details

Well	Use: HOME	Drilling method: OTHER	Pump type:
	Depth: 123 0	Pump setting depth:	Water quality:
Casing	Length: 95 0	Material:	Diameter: 6.62
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 10 0 gpm for hrs
	Drawdown: ft	Static water level: 80.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 2W	Topo map: OOLITIC
	Section: NW 1/4 of the NW 1/4 of the NE 1/4 of Section 12		
	Field located by: JRD	on: Wed, Aug 09, 1978	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 2600	Ft N of SL:	Ft E of WL: Ft S of NL: 50
	Ground elevation: 660 0	Depth to bedrock: 20 0	Bedrock elevation: 640 0 Aquifer elevation:
	UTM Easting: 536217 0		UTM Northing: 4304398 0

Well Log	Top	Bottom	Formation
	0 0	20 0	CLAY
	20 0	26 0	SS
	26 0	31 0	MUD
	31 0	43 0	LS
	43 0	48 0	MUD
	48 0	68 0	LS
	68 0	71 0	SHALE
	71 0	74 0	LS
	74 0	78 0	MUD
	78 0	90 0	BROKEN ROCK & MUD
	90 0	105 0	LS
	105 0	109 0	SHALE
	109 0	-	LS

Record of Water Well

Indiana Department of Natural Resources

Reference Number 317714	Driving directions to well 9 MI ON 158W RIGHT OLD CRAGE MILL RD, FIRST HOUSE ON LT, R12 BOX 442, WILLIAMS, IN		Date completed Sat, Apr 15, 1995	
Owner-Contractor	Name	Address	Telephone	
Well Owner	KIM & JAY PHILLIPS	RR1 BOX 442, WILLIAMS, IN 47470	(812)279-6415	
Building Contractor	PHILLIPS WELL DRILLING	RR12 BOX 624, BEDFORD, IN 47421	(812)279-4843	
Drilling Contractor	JUNIOR PHILLIPS	License: 208		
Equipment Operator				
Construction Details				
Well	Use: HOME	Drilling method: ROTARY	Pump type:	
	Depth: 140.0	Pump setting depth:	Water quality: CLEAR, ODOR	
Casing	Length: 30.0	Material: PVC	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test				
	Type of test: AIR	Test rate: 6.0 gpm for 120.0 hrs.	BailTest rate: gpm for hrs.	
	Drawdown: ft.	Static water level: ft.		
Grouting Information				
	Material: BENT	Depth: from 0.0 to 30.0		
	Installation Method: PUMP	Number of bags used: 2.0		
Well Abandonment				
	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative				
	County: LAWRENCE	Township: 5N Range: 2W		
	Section: 1/4 of the 1/4 of the SE 1/4 of Section 13	Topo map: BEDFORD WEST		
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log				
	Top	Bottom	Formation	
	0.0	2.0	TOPSOIL	
	2.0	8.0	CLAY	
	8.0	140.0	BEDROCK	
Comments				

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217377	Driving directions to well ABOUT 2.5 MI OFF SR54 ON MILLRIDGE RD, W OF BEDFORD.	Date completed Fri, Jan 18, 1974
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Owner-Contractor	Name	Address	Telephone
Well Owner	DICK JONES	BEDFORD IN	
Building Contractor			
Drilling Contractor	JOHN REYNOLDS & SONS INC.	816 W MAIN, PAOLI IN	
Equipment Operator	RALPH BURTON & GORDON BURTON	License:	

Construction Details

Well	Use: HOME	Drilling method: OTHER	Pump type:
	Depth: 123.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6.62
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test: PUMPING	Test rate: -15.0 gpm for hrs.	Bail Test rate: gpm for hrs.
	Drawdown: ft.	Static water level: 70.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 2W	Topo map: OOLITIC
	Section: SW 1/4 of the SW 1/4 of the SE 1/4 of Section 1		
	Field located by: JRD	on: Tue, Aug 08, 1978	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 900	Ft N of SL: 100	Ft E of WL:
	Ground elevation: 670.0	Depth to bedrock: 30.0	Ft S of NL:
	UTM Easting: 536326.0		Bedrock elevation: 640.0
			Aquifer elevation:
			UTM Northing: 4304446.0

Well Log

Top	Bottom	Formation
0.0	30.0	CLAY & MUD
30.0	35.0	LIME
35.0	40.0	BROKEN ROCK & MUD
40.0	45.0	LIME
45.0	50.0	SHELL
50.0	55.0	LIME
55.0	65.0	BROKEN ROCK & MUD
65.0	70.0	LIME
70.0	75.0	SHELL
75.0	80.0	LIME
80.0	90.0	SOFT FORM BROKEN ROCK & MUD
90.0	105.0	LS
105.0	107.0	SHELL

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217365	FROM BEDFORD GO S ON OLD RD 37 TURN ON SANDPIT RD GO E 1/2 MI WELL IS LOCATED JUST BEFORE YOU GET TO RR TRACKS ON THE R DRILLED WELL FOR JIM GILBERT		Tue, Jan 01, 1980	
Owner-Contractor	Name	Address	Telephone	
Well Owner	TINA SCHALER	BEDFORD IN 47421		
Building Contractor				
Drilling Contractor	PHILLIPS WELL DRILLING	R#12 BOX 323A BEDFFORD IN 47421		
Equipment Operator	PHILLIPS WELL DRILLING	License:		
Construction Details				
Well	Use: HOME	Drilling method: ROTARY	Pump type: SUBMERSIBLE	
	Depth: 97.0	Pump setting depth: 90.0	Water quality: ODOR	
Casing	Length: 30.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test				
	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for hrs.	
	Drawdown: ft.	Static water level: 35.0 ft.		
Grouting Information				
	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment				
	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative				
	County: LAWRENCE		Township: 5N Range: 1W	
	Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 34		Topo map: BEDFORD WEST	
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by: LW 3/20/86	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL: 1750	Ft E of WL: 3300	Ft S of NL:
	Ground elevation: 535.0	Depth to bedrock: 25.0	Bedrock elevation: 510.0	Aquifer elevation:
	UTM Easting: 542926.0	UTM Northing: 4297103.0		
Well Log				
	Top	Bottom	Formation	
	0.0	25.0	RED CLAY	
	25.0	97.0	BEDROCK	
Comments				
	SEE COUTNY FILE FOR LOCATION INFO Page 9564			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217370	Driving directions to well S ON OLD 37 S TO TURN ON LEATHERWOOD RD GO 1/4 MI S OF THE US 50 & SR 37 JUNCTION ON JIM GILBERTS OLD PLACE.		Date completed Wed, Jan 01, 1986	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name TINA SCHALER PHILLIPS WELL DRILLING PHILLIPS WELL DRILLING	Address BEDFORD IN 47421 R #12 BOX 323A BEDFORD IN 47421 License:	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 170.0 Length: 170.0 Length:	Drilling method: ROTARY Pump setting depth: Material: Material:	Pump type: Water quality: MUDDY & MUD Diameter: 5.63 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 130.0 ft.	Bail Test rate: gpm for hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: NE 1/4 of the NW 1/4 of the SE 1/4 of Section 34 Field located by: Courthouse location by: Location accepted w/o verification by: L.W 3/20/86 Subdivision name: Ft W of EL: Ground elevation: 542.0 UTM Easting: 543151.0		Township: SN Range: 1W Topo map: BEDFORD WEST on: on: on: Lot number: Ft E of WL: 3900 Bedrock elevation: 437.0 UTM Northing: 4297133.0 Ft S of NL: Aquifer elevation:	
Well Log	Top 0.0 30.0 105.0	Bottom 30.0 105.0 170.0	Formation SAND BLUE CLAY BEDROCK	
Comments	LOCATION INFO IN COUNTY FILE			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217375 GOTO 4 LANE SR ON 37 ACROSS NEW BRIDGE & TURN R. TRAILER COURT ON R. Thu, Nov 02, 1972

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner LEROY RAGSDALE BEDFORD IN
 Building Contractor
 Drilling Contractor JOHN REYNOLDS & SONS 816 W MAIN, PAOLI IN 47454
 INC.
 Equipment Operator GORDON BURTON License:

Construction Details
Well **Use:** PUBLIC SUPPLY **Drilling method:** OTHER **Pump type:**
Depth: 63.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 36.0 **Material:** **Diameter:** 6.62
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **Bail Test rate:** 30.0 gpm for hrs
Drawdown: ft. **Static water level:** 15.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** SN **Range:** 1W
Section: NE 1/4 of the NE 1/4 of the SE 1/4 of Section 34 **Topo map:** BEDFORD WEST
Field located by: JRD **on:** Fri, Aug 11, 1978
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 500 **Ft N of SL:** 2300 **Ft E of WL:** 4700 **Ft S of NL:**
Ground elevation: 525.0 **Depth to bedrock:** 30.0 **Bedrock elevation:** 495.0 **Aquifer elevation:**
UTM Easting: 543389.0 **UTM Northing:** 4297194.0

Well Log	Top	Bottom	Formation
	0 0	4 0	CLAY
	4 0	30 0	SAND
	30 0	41 0	LS
	41 0	48 0	SHALE
	48 0	63 0	LS

Comments MC 495 OWNER VERIFIED 100' S OF RD 150' SE OF BENCH MARK;

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

217434

Driving directions to well

2MI NE OF BEDFORD IND 1MI N ON MT PLESANT RD & 1MI E WELL IN BACK OF TRAILER

Date completed

Sat, Jul 27, 1963

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

ELMER ARNALD
RAY E. ALFORD
RAY E. ALFORD

Address

BEDFORD R.R.
MITCHELL IND. R.R. 2
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 121.5

Drilling method: CABLE TOOL

Pump type:

Pump setting depth:

Water quality:

Casing

Length: 6.0

Material:

Diameter: 6.25

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.05 gpm for hrs.

Drawdown: ft.

Static water level: ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1E

Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 6

Topo map:

BARTLETTSVILLE

Field located by: N

on: Tue, Oct 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 2000

Ft S of NL: 2600

Ground elevation: 735 0

Depth to bedrock: 6 0

Bedrock elevation:
729 0

Aquifer elevation:

UTM Easting: 547358 0

UTM Northing: 4305321 0

Well Log

Top

Bottom

Formation

0 0

6 0

CLAY

0 0

105 0

GRAY & WH LS

125 0

121 5

NAB STONE SH, WATER VERY LITE

Comments

NO 730 Page 9569

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Record of Water Well

Indiana Department of Natural Resources

Reference Number **217385** **Driving directions to well** 300' W OF EAST FORK OF WHITE RIVER 200' S OF OLD SR37 BRIDGE ABUTMENT APPROX. 3 MI S OF BEDFORD, IN ON LOT 14 OF RIVER HEIGHTS ADD. TO LAWRENCE COUNTY **Date completed** Wed, Apr 27, 1960

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner JERRY D. BECHNER 1622 18TH ST., BEDFORD
 Building Contractor
 Drilling Contractor ERNIE UMPHRESS & SONS RR6 BOX 13, BEDFORD, IN
 Equipment Operator ERNIE UMPHRESS & SONS License:

Construction Details

Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 67.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 30.0 **Material:** **Diameter:** 6.0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 10.0 gpm for 1.0 hrs.
Drawdown: ft. **Static water level:** 27.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 34 **Topo map:** BEDFORD WEST
Field located by: BARNES **on:** Fri, Jul 01, 1960
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 1300 **Ft E of WL:** 1200 **Ft S of NL:**
Ground elevation: 490.0 **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: 542341.0 **UTM Northing:** 4296865.0

Well Log	Top	Bottom	Formation
	0 0	14.0	SANDY DIRT
	14 0	20.0	SHELL LS
	20 0	50.0	WHITE LIME HARD
	50 0	55.0	SS BROWN
	55 0	67 0	BLUE LS HARD

Comments MC

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217390

Driving directions to well

WELL #1 S LAWRENCE WATER UTLS NEAR WHITE RIVER BRIDGE ON SR37, S IF BEDFORD IN.

Date completed

Fri, Jan 30, 1970

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
S LAWRENCE UTLS. INC.
Address
HURON IN
Address
816 W MAIN ST, PAOLI IN 47454
License:

Telephone

Construction Details

Well

Use: PUBLIC SUPPLY

Drilling method: CABLE TOOL

Pump type:

Depth: 63.0

Pump setting depth:

Water quality:

Casing

Length: 46.0

Material:

Diameter: 12.0

Screen

Length: 15.0

Material:

Diameter: 12.0 **Slot size:** 25-30

Well Capacity Test

Type of test: PUMPING

Test rate: 20.0 gpm for 0.0 hrs.

BailTest rate: gpm for hrs.

Drawdown: ft.

Static water level: 8.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN **Range:** 1W

Section: 1/4 of the 1/4 of the 1/4 of Section 34

Topo map: BEDFORD WEST

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL:

Ft S of NL:

Ground elevation:

Depth to bedrock:

Bedrock elevation: **Aquifer elevation:**

UTM Easting: 542214.0

UTM Northing: 4297273.0

Well Log

Top	Bottom	Formation
0.0	20.0	CLAY
20.0	26.0	BR SAND
26.0	30.0	MD SAND
30.0	34.0	S&G
34.0	38.0	GOOD S&G
38.0	47.0	FN S&G
47.0	56.0	FN S & SM MD G
56.0	58.0	GRAY & BROKEN STONE
58.0	60.0	BROKEN IS
60.0	63.0	SHALE GRAY

Comments

WELL PUMPED DRY DURING TEST. LAYNE NORTHERN 25-45 GPM SCREEN 45-62 100% SCREEN

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217395	NEAR WHITE RIVER BRIDGE ON SR37, S OF BEDFORD IN	Tue, Mar 24, 1970

Owner-Contractor	Name	Address	Telephone
Well Owner	S LAWRENCE WATER	HURON IN.	
Building Contractor	UTLS. INC.		
Drilling Contractor	JOHN REYNOLDS & SONS	816 W MAIN ST, PAOLI IN 47454	
Equipment Operator	DON CALLAHAN	License:	

Construction Details	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 68.0	Pump setting depth:	Water quality:
Casing	Length: 54.0	Material:	Diameter: 12.0
Screen	Length: 15.0	Material:	Diameter: 12.0 Slot size: 25-30

Well Capacity Test	Type of test: PUMPING	Test rate: 40.0 gpm for 24.0 hrs.	BailTest rate: gpm for hrs.
	Drawdown: 40.0 ft.	Static water level: 8.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 34	Topo map: BEDFORD WEST
	Field located by: STEEN	on: Mon, Jun 01, 1970
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 2700
	Ground elevation: 490.0	Depth to bedrock:
	UTM Easting: 542031 0	Bedrock elevation: Aquifer elevation: 420 0
		UTM Northing: 4297798.0

Well Log	Top	Bottom	Formation
	0 0	20.0	CLAY
	20 0	25.0	FN SAND BR IN COLOR
	25 0	28.0	SAND & CLAY MIXED
	28 0	32.0	GRAV
	32 0	35.0	SAND
	35 0	38.0	CLAY & SAND MIXED
	38 0	45.0	SAND
	45 0	68.0	GOOD

Comments	CHEM TEST, WELL #1:
-----------------	---------------------

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217844	NEAR WHITE RIVER BRIDGE ON SR37 S OF BEDFORD IN.		Tue, May 05, 1970
Owner-Contractor	Name	Address	Telephone
Well Owner	S LAWRENCE WATER UTLS. INC.	HURON IN	
Building Contractor	JOHN REYNOLDS & SONS INC.	816 W MAIN ST, PAOLI IN	
Drilling Contractor	DON CALLAHAN	License:	
Equipment Operator			
Construction Details	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 72.0	Pump setting depth:	Water quality:
Casing	Length: 57.0	Material:	Diameter: 12.0
Screen	Length: 15.0	Material:	Diameter: 12.0 Slot size: 25-30
Well Capacity Test	Type of test: PUMPING	Test rate: 140.0 gpm for 24.0 hrs.	BailTest rate: gpm for hrs.
	Drawdown: 40.0 ft.	Static water level: 8.0 ft	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 5N Range: 1W	
	Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 34	Topo map: BEDFORD WEST	
	Field located by: STEEN	on: Mon, Jun 01, 1970	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL: 2850	Ft E of WL: 350 Ft S of NL:
	Ground elevation: 490.0	Depth to bedrock:	Bedrock elevation: Aquifer elevation: 420.0
	UTM Easting: 542075.0		UTM Northing: 4297306.0
Well Log	Top	Bottom	Formation
	0.0	20.0	CLAY
	20.0	25.0	FN SAND & BR IN COLOR
	25.0	28.0	SAND & CLAY MIXED
	28.0	32.0	GRAV
	32.0	35.0	SAND
	35.0	38.0	CLAY & SAND MIXED
	38.0	45.0	SAND
	45.0	72.0	GOOD SAND
Comments	CHEM TEST; WELL #2.		

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217849	Driving directions to well SR 37 S OF BEDFORD ON R AFTER CROSSING WHITE RIVER. NEXT TO RIVER IN VICINITY OF 1980 REYNOLDS TEST WELLS, TMB 8/17/83.		Date completed Mon, Jun 27, 1983																																							
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name S LAWRENCE WATER UTLS. INC. REYNOLDS SUPPLY INC. RALPH BURTON	Address R2, MITCHELL IN 47446 PO BOX 230, 816 W MAIN ST. PAOLI IN 47454 License:	Telephone																																							
Construction Details Well Casing Screen	Use: OTHER Depth: 88.0 Length: 68.0 Length: 20.0	Drilling method: REVERSE ROTARY Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 20.0 Diameter: 18.0 Slot size: 60																																							
Well Capacity Test	Type of test: PUMPING Drawdown: 7.25 ft.	Test rate: 250.0 gpm for 24.0 hrs. Static water level: 16.1 ft.	BailTest rate: gpm for hrs.																																							
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																																								
Administrative	County: LAWRENCE Section: NW 1/4 of the SW 1/4 of the NW 1/4 of Section 34 Field located by: BRUNS Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 490.0 UTM Easting: 542139.0		Township: SN Range: 1W Topo map: BEDFORD WEST on: Wed, Aug 17, 1983 on: on: Lot number: Ft E of WL: 550 Ft S of NL: 1700 Bedrock elevation: Aquifer elevation: 405.0 UTM Northing: 4297530.0																																							
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>35.0</td><td>CLAY & SAND MIXED</td></tr> <tr><td>35.0</td><td>40.0</td><td>FN SAND</td></tr> <tr><td>40.0</td><td>45.0</td><td>CRS GRAV & SAND</td></tr> <tr><td>45.0</td><td>50.0</td><td>CRS GRAV & SAND</td></tr> <tr><td>50.0</td><td>55.0</td><td>CRS GRAV & SAND</td></tr> <tr><td>55.0</td><td>60.0</td><td>CRS GRAV & SAND</td></tr> <tr><td>60.0</td><td>65.0</td><td>CRS GRAV & SAND</td></tr> <tr><td>65.0</td><td>70.0</td><td>CRS S&G</td></tr> <tr><td>70.0</td><td>75.0</td><td>MD S&G</td></tr> <tr><td>75.0</td><td>80.0</td><td>MD S&G</td></tr> <tr><td>80.0</td><td>85.0</td><td>FN SAND</td></tr> <tr><td>85.0</td><td>87.0</td><td>FN SAND & CLAY BOTTOM</td></tr> </tbody> </table>	Top	Bottom	Formation	0.0	35.0	CLAY & SAND MIXED	35.0	40.0	FN SAND	40.0	45.0	CRS GRAV & SAND	45.0	50.0	CRS GRAV & SAND	50.0	55.0	CRS GRAV & SAND	55.0	60.0	CRS GRAV & SAND	60.0	65.0	CRS GRAV & SAND	65.0	70.0	CRS S&G	70.0	75.0	MD S&G	75.0	80.0	MD S&G	80.0	85.0	FN SAND	85.0	87.0	FN SAND & CLAY BOTTOM		
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55.0	60.0	CRS GRAV & SAND																																								
60.0	65.0	CRS GRAV & SAND																																								
65.0	70.0	CRS S&G																																								
70.0	75.0	MD S&G																																								
75.0	80.0	MD S&G																																								
80.0	85.0	FN SAND																																								
85.0	87.0	FN SAND & CLAY BOTTOM																																								
Comments	MC 405; WELL #4 NPage 9500																																									

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

217854

Driving directions to well

SR37 S OF BEDFORD ON R AFTER CROSSING WHITE RIVER. NEXT TO RIVER IN AREA OF 1980 REYNOLDS TEST HOLES, TMB 8/17/83.

Date completed

Fri, Jul 01, 1983

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

S LAWRENCE WATER
UTLS. INC.

REYNOLDS SUPPLY INC.

RALPH BURTON

Address

R2, MITCHELL IN 47446

PO BOX 230, 816 W MAIN ST, PAOLI IN 47454

License:

Telephone

Construction Details

Well

Use: PUBLIC SUPPLY

Depth: 87.0

Casing

Length: 67.0

Screen

Length: 20.0

Drilling method: REVERSE ROTARY

Pump setting depth:

Material:

Material:

Pump type:

Water quality:

Diameter: 20.0

Diameter: 18.0 Slot size: 60

Well Capacity Test

Type of test: PUMPING

Drawdown: 7.7 ft.

Test rate: 250.0 gpm for 24.0 hrs.

Static water level: 23.4 ft.

BailTest rate: gpm for hrs.

Grouting Information

Material:

Installation Method:

Depth: from to

Number of bags used:

Well Abandonment

Sealing material:

Installation Method:

Depth: from to

Number of bags used:

Administrative

County: LAWRENCE

Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 34

Field located by: BRUNS

Courthouse location by:

Location accepted w/o verification by:

Subdivision name:

Ft W of EL:

Ground elevation: 490.0

UTM Easting: 542188.0

Ft N of SL:

Depth to bedrock:

Township: 5N Range: 1W

Topo map: BEDFORD WEST

on: Wed, Aug 17, 1983

on:

on:

Lot number:

Ft E of WL: 700 Ft S of NL: 2150

Bedrock elevation: Aquifer elevation: 405.0

UTM Northing: 4297371.0

Well Log

Top	Bottom	Formation
0 0	35.0	CLAY & SAND MIXED
35 0	40.0	FN SAND
40.0	45 0	CRS GRAV & SAND
45 0	50.0	CRS GRAV & SAND
50 0	55.0	CRS GRAV & SAND
55 0	60.0	CRS GRAV & SAND
60 0	65.0	CRS GRAV & SAND
65.0	70 0	CRS S&G
70 0	75 0	MD S&G
75 0	80 0	MD S&G
80 0	85 0	FN SAND
85 0	88 0	FN SAND & CLAY BOTTOM

Comments

NO 405 LOCATION DESCRIBED BY JOHN SCHMIDT FROM REYNOLDS CO

123

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
217859 Tue, Oct 21, 1980

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner SOUTH LAWRENCE UTILITIES
 Building Contractor
 Drilling Contractor
 Equipment Operator GENE WILLIAMS License:

Construction Details

Well **Use:** **Drilling method:** **Pump type:**
Depth: 82.0 **Pump setting depth:** **Water quality:**
Casing **Length:** **Material:** **Diameter:**
Screen **Length:** **Material:** **Diameter:** **Slot size:**

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** gpm for hrs.
Drawdown: ft. **Static water level:** 15 35 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** SN **Range:** 1W
Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 34 **Topo map:** BEDFORD WEST
Field located by: **on:**
Courthouse location by: **on:**
Location accepted w/o verification by: BRUNS **on:** Tue, Jun 02, 1981
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** **Ft E of WL:** 675 **Ft S of NL:** 2075
Ground elevation: 490 0 **Depth to bedrock:** 82 0 **Bedrock elevation:** 408 0 **Aquifer elevation:**
UTM Easting: 542193.0 **UTM Northing:** 4297431 0

Well Log	Top	Bottom	Formation
	0 0	3 0	DK BRN. SILTY SANDY CLAY
	3 0	13 0	M BRN SILTY CLAY
	13 0	18.0	M BRN SILTY SANDY CLAY
	18 0	23.0	SAND
	23 0	28.0	M SAND
	28 0	38 0	M SAND
	38 0	53.0	M SAND W/PEA GRAVEL
	53 0	63.0	M SAND
	63 0	78 0	M TOC SAND W/ GRAVEL
	78 0	82 0	M TOC SAND W/PEA GRAVEL

Comments SAND ANALYSIS ATTACHED. CHEM TEST. OW

Record of Water Well

Indiana Department of Natural Resources

124

Reference Number

217864

Driving directions to well

Date completed

Tue, Oct 21, 1980

Owner-Contractor

Name

Address

Telephone

Well Owner

SOUTH LAWRENCE
UTILITIES

Building Contractor

Drilling Contractor

Equipment Operator

REYNOLDS SUPPLY
GENE WILLIAMS

License:

Construction Details

Well

Use:

Drilling method:

Pump type:

Depth: 82.5

Pump setting depth:

Water quality:

Casing

Length:

Material:

Diameter:

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: gpm for hrs.

Drawdown: ft.

Static water level: 15.58 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 34

Topo map: BEDFORD
WEST

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by: BRUNS

on: Tue, Jun 02, 1981

Subdivision name: REYNOLDS

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 700

Ft S of NL: 2125

Ground elevation: 490.0

Depth to bedrock: 83.0

Bedrock elevation:
407.0

Aquifer elevation:

UTM Easting: 542198.0

UTM Northing: 4297380.0

Well Log

Top	Bottom	Formation
0.0	3.0	DK BRN, SILTY FN SANDY TOP SOI
3.0	13.0	M. BRN SILTY CLAY
13.0	18.0	M. BRN. SANDY SILTY. CLAY
18.0	23.0	NO RETURN PROBABLY SAND
23.0	28.0	BLANK
28.0	82.5	MED. SAND

Comments

CHEM. TEST: OW-3; SAND ANALYSIS ATTACHED.

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217869Driving directions to well
50N OF OW-1 (80)

Date completed

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
SOUTH LAWRENCE
UTILITIES

Address

Telephone

GENE WILLIAMS

License: 102080

Construction Details

Well

Use:

Drilling method:

Pump type:

Depth: 84.0

Pump setting depth:

Water quality:

Casing
ScreenLength:
Length:Material:
Material:Diameter:
Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

Bail/Test rate: gpm for hrs.

Drawdown: ft.

Static water level: 15.24 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 34

Topo map: BEDFORD
WEST

Field located by:

on:

Courthouse location by:

on:

Location accepted w/o verification by: BRUNS

on: Tue, Jun 02, 1981

Subdivision name: REYNOLDS

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 700

Ft S of NL: 2175

Ground elevation: 490.0

Depth to bedrock: 84.0

Bedrock elevation:
406.0

Aquifer elevation:

UTM Easting: 542198.0

UTM Northing: 4297333.0

Well Log

Top

Bottom

Formation

0 0

0.5

BRN SANDY TOPSOIL

0.5

8.0

M BRN SAND/ SILT CLAY

8.0

18 0

M BRN, SILTY CLAY

18.0

23.0

SAND

23.0

84.0

M.C SAND

Comments

CHEM TEST; OW-2; ATTACHED SAND ANALYSIS GRAPHS;

Record of Water Well

126

Indiana Department of Natural Resources

Reference Number 217909		Driving directions to well W OF WHITE RIVER BRIDGE, NEAR SR37 & 50 2 MI S OF BEDFORD, IN AT CATTLE FARM W OF TOOL SHED ON HILL		Date completed Fri, Oct 19, 1962	
Owner-Contractor		Name	Address	Telephone	
Well Owner		BEN A. HITCHCOCK	1625 N ST., BEDFORD, IN		
Building Contractor					
Drilling Contractor		ERNIE UMPHRESS & SONS	RR6 BEDFORD, IN		
Equipment Operator		EUGENE & CHARLES UMPHRESS	License:		
Construction Details					
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:		
	Depth: 170.0	Pump setting depth:	Water quality:		
Casing	Length: 22.75	Material:	Diameter: 6.0		
Screen	Length:	Material:	Diameter: Slot size:		
Well Capacity Test		Type of test:	Test rate: gpm for hrs.	BailTest rate: 15.0 gpm for hrs.	
		Drawdown: ft.	Static water level: 94.0 ft.		
Grouting Information		Material:	Depth: from to	Number of bags used:	
		Installation Method:			
Well Abandonment		Sealing material:	Depth: from to	Number of bags used:	
		Installation Method:			
Administrative		County: LAWRENCE	Township: 5N Range: 1W		
		Section: NE 1/4 of the NW 1/4 of the SE 1/4 of Section 33	Topo map: BEDFORD WEST		
		Field located by:	on: Tue, Oct 01, 1963		
		Courthouse location by:	on:		
		Location accepted w/o verification by:	on:		
		Subdivision name:	Lot number:		
		Ft W of EL: 1500	Ft N of SL: 2100	Ft E of WL:	Ft S of NL:
		Ground elevation: 590.0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
		UTM Easting: 541505.0	UTM Northing: 4297121.0		
Well Log					
	Top	Bottom	Formation		
	0.0	4.0	DIRT		
	4.0	23.0	BLUE LS & BOULDERS		
	23.0	30.0	BLUE LS HARD		
	30.0	70.0	BROWN LS SOFT		
	70.0	92.0	BLUE LS SOFT		
	92.0	104.0	BLUE SHALE SOFT		
	104.0	118.0	GRAY LS HARD		
	118.0	165.0	BLUE LS HARD		
	165.0	170.0	BLUE SHALE SOFT		
Comments					

Record of Water Well

Indiana Department of Natural Resources

127

Reference Number
217914

Driving directions to well

FROM JCT 37 & 50 SOUTH OF BEDFORD GO NORTH 1ST RD ON LEFT AS OF NOW IS
LAST HOUSE ON RIGHT

Date completed

Wed, Mar 22, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JAMES DWYER

LOUIE O. SMITH
LOUIE O. SMITH

Address

R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 135.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 17.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 85.0 ft.

BailTest rate: 2.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the SE 1/4 of the SE 1/4 of Section 33
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1100
Ground elevation: 610.0
UTM Easting: 541627.0

Township: SN Range: 1W
Topo map: BEDFORD
WEST
on: Tue, Aug 17, 1971
on:
on:
Lot number:
Ft E of WL: 594.0
Bedrock elevation: 594.0
Ft S of NL:
Aquifer elevation:
UTM Northing: 4296463.0

Well Log

Top	Bottom	Formation
0.0	15.0	CLAY
15.0	16.0	BLANK
16.0	35.0	LIME
35.0	44.0	SHELL
44.0	45.0	BLANK
45.0	135.0	MED LIME

Comments

MC595, VERIFIED BY OWNER Page 9600

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
217919

Driving directions to well

1ST HOUE ON LEFT AFTER CROSS RR AT COXTON

Date completed

Fri, Jul 14, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
HARRY VOORHIES

LOUIE SMITH
LOUIE SMITHAddress
R1 BEDFORD, IN

R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 80.0
Length: 20.0
Length:Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:Casing
Screen

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 10.0 ft.

BailTest rate: 1.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 31
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 2050
Ground elevation: 520 0
UTM Easting: 538122 0Township: 5N Range: 1W
Topo map: BEDFORD
WEST
on: Tue, Aug 17, 1971
on:
on:
Lot number:
Ft E of WL: Ft S of NL: 850
Bedrock elevation: 502.0
Aquifer elevation:
UTM Northing: 4297743 0

Well Log

Top	Bottom	Formation
0 0	18 0	CLAY
18 0	62 0	LIME
62 0	70 0	HARD LIME
70 0	80 0	MED LS

Comments

NIC 500. VFRIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

129

Reference Number
217924

Driving directions to well

Date completed

FROM FAYETTEVILLE GO S TO 450 CROSS 450 GO TO RR 2ND HOUSE ON LEFT

Tue, May 02, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
MARY SHEL
LOUIE SMITH
LOUIE SMITH

Address
R1 BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 109.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Casing
Screen

Length: 66.0
Length:

Material:
Material:

Water quality:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 26.0 ft.

BailTest rate: 1.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the NW 1/4 of the NE 1/4 of Section 31
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1800
Ground elevation: 520.0
UTM Easting: 538201.0

Township: 5N **Range:** 1W
Topo map: BEDFORD WEST
on: Tue, Aug 17, 1971
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 500.0
UTM Northing: 4297687 0

Ft S of NL: 1000

Aquifer elevation:

Depth to bedrock: 20.0

Well Log

Top	Bottom	Formation
0 0	20.0	CLAY
20 0	30.0	SOFT GRAY
30 0	35.0	SOFT BROWN
35 0	55.0	SOFT GRAY
55 0	65.0	SOFT BROWN
65 0	75 0	MED LS
75 0	109.0	HARD LIME

Comments

MC 500 VERIFIED BY OWNER

130

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217929

Driving directions to well

FROM FAYETTEVILLE GO S TO 450 CROSS 450 GOING S TO CATTLE YARD TURN
RIGHT 1ST HOUSE ON RIGHT

Date completed

Thu, Mar 30, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DAVID INMAN

LOUIE SMITH
LOUIE SMITH

Address
R1 BEDFORD, IN

R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 95.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 25.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 58.0 ft.

BailTest rate: 10.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 31
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 2200
Ground elevation: 550.0
UTM Easting: 538073.0

Township: 5N **Range:** 1W
Topo map: BEDFORD WEST
on: Tue, Aug 17, 1971
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 530.0
UTM Northing: 4297207.0

Ft S of NL: 2500

Aquifer elevation:

Well Log

Top	Bottom	Formation
0 0	20.0	CLAY
20 0	25.0	GRAY LIME
25 0	40 0	DARK LIME
40 0	90.0	WHITE LIME
90 0	91.0	WATER SEAM
91 0	95.0	WHITE LIME

Comments

MC 530; VERIFIED BY OWNPage 9601

Record of Water Well

Indiana Department of Natural Resources

Reference Number
217934

Driving directions to well

GOING W FROM BEDFORD ON 450 APROX. 5 MI TO FAYETTEVILLE & COXTON
CROSSRD. TURN LEFT GO TO RR. WILL BE 2ND HOUSE ON RD

Date completed

Thu, Apr 01, 1965

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JAMES RAINEY

LOUIE SMITH
LOUIE SMITH

Address
R1 BEDFORD

R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 120.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
Screen

Length: 51.0
Length:

Material:
Material:

Diameter: 6.25

Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 25.0 ft.

BailTest rate: 1.5 gpm for 4.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 31
Field located by: JVH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1900
Ground elevation: 520.0
UTM Easting: 538147.0

Township: SN Range: 1W
Topo map: BEDFORD
WEST
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: Ft S of NL: 1100
Bedrock elevation: 470.0
Aquifer elevation:
UTM Northing: 4297646.0

Well Log

Top	Bottom	Formation
0.0	20.0	CLAY
20.0	35.0	BLUE CLAY
35.0	48.0	YEL CLAY
48.0	75.0	WHITE LIME SOFT
75.0	120.0	VERY HARD LIME

Comments

MC470

Record of Water Well

Indiana Department of Natural Resources

132

Reference Number 217939	Driving directions to well FROM FAYETTESVILLE GO S TO SR450 TURN R, 1ST HOUSE TRAILER ON L.		Date completed Sat, May 04, 1968																					
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HENRY ACTON LOUIE O. SMITH LOUIE O. SMITH	Address R#1, BEDFORD R#1, BEDFORD License:	Telephone																					
Construction Details Well Casing Screen	Use: HOME Depth: 70.0 Length: 47.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.25 Diameter: Slot size:																					
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 50.0 ft.	BailTest rate: 10.0 gpm for 2.0 hrs.																					
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																						
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																						
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 30 Field located by: PW Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 570.0 UTM Easting: 537068.0		Township: 5N Range: 1W Topo map: BEDFORD WEST on: Wed, Aug 18, 1971 on: on: Lot number: Ft E of WL: 50 Bedrock elevation: 525 0 UTM Northing: 4298042 0																					
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>45.0</td> <td>CLAY</td> </tr> <tr> <td>45 0</td> <td>50.0</td> <td>SHELL</td> </tr> <tr> <td>50.0</td> <td>60.0</td> <td>LIME</td> </tr> <tr> <td>60.0</td> <td>63.0</td> <td>SHELL</td> </tr> <tr> <td>63.0</td> <td>65 0</td> <td>LIME</td> </tr> <tr> <td>65.0</td> <td>70.0</td> <td>SHELL</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	45.0	CLAY	45 0	50.0	SHELL	50.0	60.0	LIME	60.0	63.0	SHELL	63.0	65 0	LIME	65.0	70.0	SHELL		
Top	Bottom	Formation																						
0 0	45.0	CLAY																						
45 0	50.0	SHELL																						
50.0	60.0	LIME																						
60.0	63.0	SHELL																						
63.0	65 0	LIME																						
65.0	70.0	SHELL																						
Comments	MC 525; MAILBOX VERIFICATION.																							

133

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217944

Driving directions to well

FROM BEDFORD GOING W ON 450 LAST FARM BEFORE CROSSING SALT CK BRIDGE

Date completed

Sat, May 02, 1970

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

FRANK JACKSON

Address

R1 BEDFORD, IN

License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 140.0

Pump setting depth:

Water quality:

Casing

Length: 22.0

Material:

Diameter: 6.25

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 3.0 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 95.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 29

Topo map: BEDFORD WEST

Field located by: PW

on: Tue, Aug 17, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 2200

Ft E of WL: 1950

Ft S of NL:

Ground elevation: 580.0

Depth to bedrock: 18.0

Bedrock elevation: 562.0

Aquifer elevation:

UTM Easting: 539335.0

UTM Northing: 4298676.0

Well Log

Top	Bottom	Formation
0.0	18.0	CLAY
18.0	20.0	SHELL
20.0	45.0	LIME
45.0	101.0	MED LIME
101.0	103.0	SS
103.0	140.0	LIME

Comments

MC560: VERIFIED BY NEIGHBOR Page 0601

134

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220882

Driving directions to well

3 S OF BEDFORD IN, ON VINEGAR HILL RD.

Date completed

Tue, Mar 06, 1962

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
KENNETH DAY
Address
RR#5, BEDFORD IN
ERNIE UMPHRESS & SONS RR6, BEDFORD IN
License:
ERNIE UMPHRESS & SONS

Telephone

Construction Details

Well

Use: HOME
Depth: 100.0Drilling method: CABLE TOOL
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 26.3
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 30.0 ft.

BailTest rate: 1.0 gpm for hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 36
Field located by: JCH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1800
Ground elevation: 660.0
UTM Easting: 546173.0
Ft N of SL: 1700
Depth to bedrock: 25.0Township: 5N Range: 1W
Topo map: BEDFORD EAST
on: Mon. Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: 635.0
Aquifer elevation:
UTM Northing: 4297032 0

Well Log

Top	Bottom	Formation
0.0	23.0	DIRT
23.0	50.0	WH LS SOFT
50.0	73.0	GRAY LS SOFT
73.0	100.0	BLUE LS HARD

Comments

MC 635

Record of Water Well

Indiana Department of Natural Resources

135

Reference Number 220887	Driving directions to well 2.75 MI S OF BEDFORD ON I ST.	Date completed Tue, Mar 09, 1965																								
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WALTER WOODWARD ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address R1, BEDFORD IN RR6, BEDFORD IN License:																								
		Telephone																								
Construction Details																										
Well	Use: HOME Depth: 105.0	Drilling method: CABLE TOOL Pump setting depth:																								
Casing	Length: 20.5	Pump type: Water quality:																								
Screen	Length:	Diameter: 6.0 Diameter: Slot size:																								
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 80.0 ft.																								
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																								
Administrative	County: LAWRENCE Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 36 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1800 Ground elevation: 650.0 UTM Easting: 546173.0	Township: 5N Range: 1W Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 635.0 UTM Northing: 4296965.0																								
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>17.0</td> <td>DIRT</td> </tr> <tr> <td>17.0</td> <td>33.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>33.0</td> <td>40.0</td> <td>GRAY LS HARD</td> </tr> <tr> <td>40.0</td> <td>74.0</td> <td>WH LS SOFT</td> </tr> <tr> <td>74.0</td> <td>88.0</td> <td>GRAY LS HARD</td> </tr> <tr> <td>88.0</td> <td>94.0</td> <td>BR LS HARD</td> </tr> <tr> <td>94.0</td> <td>105.0</td> <td>BLUE LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	17.0	DIRT	17.0	33.0	BLUE LS HARD	33.0	40.0	GRAY LS HARD	40.0	74.0	WH LS SOFT	74.0	88.0	GRAY LS HARD	88.0	94.0	BR LS HARD	94.0	105.0	BLUE LS HARD	
Top	Bottom	Formation																								
0.0	17.0	DIRT																								
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40.0	74.0	WH LS SOFT																								
74.0	88.0	GRAY LS HARD																								
88.0	94.0	BR LS HARD																								
94.0	105.0	BLUE LS HARD																								
Comments	M6 635																									

Record of Water Well

Indiana Department of Natural Resources

136

Reference Number 220892	Driving directions to well 3 MI S, S ON AIRPORT RD, 1 MI W ON BLK TIP RD. BEDFORD IN.	Date completed Fri, Mar 18, 1966						
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name I.L. EDWARDS KING WELL DRLG JACK KING	Address BEDFORD IN DILLSBORO IN, RR 1 License:						
Telephone								
Construction Details Well	Use: HOME Depth: 140.0	Drilling method: CABLE TOOL Pump setting depth:						
Casing	Length: 35.0	Pump type:						
Screen	Length:	Water quality: Diameter: 6.25 Diameter: Slot size:						
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 98 0 ft. BailTest rate: 6.75 gpm for 2.0 hrs.						
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:						
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:						
Administrative	County: LAWRENCE Section: NW 1/4 of the NE 1/4 of the NE 1/4 of Section 36 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 900 Ground elevation: 685.0 UTM Easting: 546459.0	Township: 5N Range: 1W Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft N of SL: Ft E of WL: Ft S of NL: 300 Depth to bedrock: Bedrock elevation: Aquifer elevation: UTM Northing: 4298013 0						
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>0.0</td> <td>NO INFORMATION</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	0.0	NO INFORMATION	
Top	Bottom	Formation						
0 0	0.0	NO INFORMATION						
Comments								

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220897		Driving directions to well S OF BLOOMINGTON ON SR37 TO BEDFORD. E TO PALEISTINE RD TO SUNNY ACRES DR, E ON SE CORNER.		Date completed Sat, Feb 20, 1965	
Owner-Contractor		Name	Address	Telephone	
Well Owner		DONALD PIPER	611 T ST, BEDFORD IN		
Building Contractor		WILLARD ENGLISH & SONS CLAYTON IN, RR1			
Drilling Contractor					
Equipment Operator		LEON ENGLISH	License:		
Construction Details					
Well	Use: HOME	Drilling method: ROTARY	Pump type:		
	Depth: 112.0	Pump setting depth:	Water quality:		
Casing	Length: 22.0	Material:	Diameter: 6.5		
Screen	Length:	Material:	Diameter: Slot size:		
Well Capacity Test					
Type of test:		Test rate: gpm for hrs.		Bail Test rate: 3.0 gpm for hrs.	
Drawdown: ft.		Static water level: 50.0 ft.			
Grouting Information					
Material:		Depth: from to		Number of bags used:	
Installation Method:					
Well Abandonment					
Sealing material:		Depth: from to		Number of bags used:	
Installation Method:					
Administrative					
County: LAWRENCE			Township: 5N Range: 1W		
Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 36			Topo map: BEDFORD EAST		
Field located by: JCH			on: Mon, Aug 01, 1966		
Courthouse location by:			on:		
Location accepted w/o verification by:			on:		
Subdivision name:			Lot number:		
Ft W of EL:		Ft N of SL:	Ft E of WL: 2000	Ft S of NL: 300	
Ground elevation: 650.0		Depth to bedrock: 20.0	Bedrock elevation: 630.0	Aquifer elevation:	
UTM Easting: 545758.0		UTM Northing: 4298025.0			
Well Log					
	Top	Bottom	Formation		
	0.0	22.0	CLAY YEL		
	22.0	91.0	LS BLUE		
	91.0	102.0	LS BR		
	102.0	112.0	LS BLUE		
Comments					
MC 630;					

138

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220902

Driving directions to well

APPRX 3MI S OF BEDFORD IN, ON THE PALESTINE RD. ABOUT 400' S ON PALESTINE RD FROM THE VINIGAR HILL, PALESTINE CROSS RDS.

Date completed

Tue, Jul 23, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

LOUIE E. JOHNSON

Address

1410 HILLCRES RD

Telephone

ERNIE UMPHRESS & SONS RR6, BEDFORD IN
EUGENE & CHARLES
UMPHRESS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 111.0

Pump setting depth:

Water quality:

Casing

Length: 18.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 3.0 gpm for hrs.

Drawdown: ft.

Static water level: 71.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 1W

Section: NW 1/4 of the NW 1/4 of the SE 1/4 of Section 36

Topo map: BEDFORD EAST

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 2000

Ft N of SL: 2500

Ft E of WL:

Ft S of NL:

Ground elevation: 675.0

Depth to bedrock: 10.0

Bedrock elevation:
665.0

Aquifer elevation:

UTM Easting: 546112.0

UTM Northing: 4297276.0

Well Log

Top

Bottom

Formation

0.0

12.0

DIRT

12.0

34.0

GRAY LS HARD

34.0

68.0

BLUE LS HARD

68.0

101.0

GRAY LS SOFT

101.0

111.0

BLUE LS HARD

Comments

MC 665:

139

Record of Water Well

Indiana Department of Natural Resources

Reference Number

220907

Driving directions to well

2 MI S OF BEDFORD TO POOR FARM RD, NOW CR200S. E 300', S 70'.

Date completed

Sat, Jul 20, 1968

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

BOB BURKHART

Address

RR#5, BEDFORD IN

Telephone

ERNIE UMPHRESS & SONS RR6, BEDFORD IN

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 106.0

Pump setting depth:

Water quality:

Casing

Length: 25.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 13.0 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 46.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 36

Topo map: BEDFORD EAST

Field located by: PW

on: Mon, Aug 16, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 2100

Ft S of NL: 100

Ground elevation: 650.0

Depth to bedrock: 22.0

Bedrock elevation:

Aquifer elevation:

628.0

UTM Easting: 545794.0

UTM Northing: 4298074.0

Well Log

Top

Bottom

Formation

0.0

22.0

DIRT

22.0

32.0

GRAY LS HARD

32.0

70.0

BLUE LS HARD

70.0

85.0

WH LS SOFT

85.0

106.0

BLUE LS SOFT

Comments

MC 630, MAILBOX VERIFICATION

140

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220912	Driving directions to well 3 MI S OF BEDFORD IN, ON VINIGAR HILL RD. 250S?UCH.		Date completed Wed, Jul 24, 1968	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name LLOYD CRAIG ERNIE UMPHRESS & SONS CHARLES UMPHRESS	Address RR5, BEDFORD IN RR6, BEDFORD IN License:	Telephone	
Construction Details				
Well	Use: HOME Depth: 133.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:	
Casing	Length: 26.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 53.0 ft.	BailTest rate: 0.6 gpm for 1.0 hrs.	
Grouting Information	Material: Installation Method:		Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:		Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Township: 5N Range: 1W Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 36 Topo map: BEDFORD EAST Field located by: PW on: Mon, Aug 16, 1971 Courthouse location by: on: Location accepted w/o verification by: on: Subdivision name: Lot number: Ft W of EL: 2350 Ft N of SL: Ft E of WL: Ft S of NL: 1500 Ground elevation: 680.0 Depth to bedrock: 23.0 Bedrock elevation: 657.0 Aquifer elevation: UTM Easting: 546020.0 UTM Northing: 4297324.0			
Well Log	Top	Bottom	Formation	
	0.0	23.0	DIRT	
	23.0	70.0	WH LS SOFT	
	70.0	76.0	BLUE LS HARD	
	76.0	105.0	GRAY LS SOFT	
	105.0	133.0	WH LS HARD	
Comments	MO 655, VERIFIED BY NEIGHBOR:			

Record of Water Well

Indiana Department of Natural Resources

Reference Number **Driving directions to well** **Date completed**
220917 RR5 Sat, Apr 02, 1960

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner
 Building Contractor
 Drilling Contractor
 Equipment Operator
 FLOYD STULTZ
 FLOYD STULTZ
 RR4, BEDFORD IN
 License:

Construction Details
 Well
 Use: **Drilling method:** CABLE TOOL **Pump type:**
Depth: 120.0 **Pump setting depth:** **Water quality:**
 Casing **Length:** 24.0 **Material:** **Diameter:** 6.0
 Screen **Length:** **Material:** **Diameter:** Slot size:
Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 1.0 gpm for 8.0 hrs.
Drawdown: ft. **Static water level:** 50.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: NW 1/4 of the NW 1/4 of the NE 1/4 of Section 36 **Topo map:** BEDFORD EAST
Field located by: BARNES **on:** Sun, Jul 01, 1962
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: 2250 **Ft N of SL:** **Ft E of WL:** **Ft S of NL:** 200
Ground elevation: 670.0 **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: 546044 0 **UTM Northing:** 4298044 0

Well Log

Top	Bottom	Formation
0 0	24.0	CLAY
24 0	120.0	LS

Comments

Record of Water Well

Indiana Department of Natural Resources

142

Reference Number 220922	Driving directions to well IN BEDFORD, S ON I ST PAST POOR FARM RD TO THE 1ST RD, THEN EAST TO THE 1ST RD AND NORTH ON THE EAST SIDE OF RD		Date completed Thu, Aug 12, 1965	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JOHN SCOGGINS WILLARD ENGLISH & SON LEON ENGLISH	Address 1905 14TH ST., BEDFORD, IN RR1 CLAYTON, IN License:	Telephone	
Construction Details				
Well	Use: HOME Depth: 130.0	Drilling method: ROTARY Pump setting depth:	Pump type: Water quality:	
Casing	Length: 27.0	Material:	Diameter: 6.5	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 30.0 ft.	BailTest rate: 20.0 gpm for hrs.	
Grouting Information	Material: Installation Method:		Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:		Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: NE 1/4 of the NE 1/4 of the NE 1/4 of Section 36 Field located by: IVH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 200 Ground elevation: 690.0 UTM Easting: 546690.0		Township: 5N Range: 1W Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 665.0 UTM Northing: 4298087.0	
		Ft N of SL: Depth to bedrock: 25.0	Ft S of NL: 100 Aquifier elevation:	
Well Log	Top	Bottom	Formation	
	0.0	27.0	CLAY YEL	
	27.0	130.0	LS	
Comments	MC665			

143

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220927

Driving directions to well

2 BLKS E OF PALESTINE RD & 2 BLKS N OF VINEGAR HILL RD.

Date completed

Tue, Aug 01, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
ROBERT C. NILSON

ERNE UMPHRESS & SONS
CHARLES

Address
1708 7TH ST, BEDFORD

License:

Telephone

Construction Details

Well

Use: HOME
Depth: 118.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 23.0
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 48.0 ft.

BailTest rate: 10.0 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 36
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1300
Ground elevation: 690.0
UTM Easting: 546343 0

Township: SN **Range:** 1W
Topo map: BEDFORD EAST
on: Mon, Aug 16, 1971
on:
on:
Lot number:
Ft E of WL: **Ft S of NL:** 2000
Bedrock elevation: 670 0
Aquifer elevation:
UTM Northing: 4297501 0

Well Log

Top	Bottom	Formation
0.0	20 0	DIR T
20.0	30 0	BLUE LIME HARD
30.0	80 0	WH LIME HARD
80.0	118 0	WH LIME SOFT

Comments

MC 670; VERIFIED BY MAILBOX.

144

Record of Water Well

Indiana Department of Natural Resources

Reference Number

220932

Driving directions to well

SUNNY ACRES DR, SO OF BEDFORD.

Date completed

Thu, Jun 25, 1964

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

JACK BYREN

FLOYD STULTZ

FLOYD STULTZ

Address

1630 25ST, BEDFORD

RR4, BEDFORD IN

License:

Telephone

Construction Details

Well

Use:

Depth: 105.0

Casing

Length: 28.0

Screen

Length:

Drilling method: CABLE TOOL

Pump setting depth:

Material:

Material:

Pump type:

Water quality:

Diameter:

Diameter: Slot size:

Well Capacity Test

Type of test: PUMPING

Drawdown: ft.

Test rate: 10.0 gpm for 8.0 hrs.

Static water level: 30.0 ft.

BailTest rate: gpm for hrs.

Grouting Information

Material:

Installation Method:

Depth: from to

Number of bags used:

Well Abandonment

Sealing material:

Installation Method:

Depth: from to

Number of bags used:

Administrative

County: LAWRENCE

Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 36

Field located by: JCH

Courthouse location by:

Location accepted w/o verification by:

Subdivision name:

Ft W of EL:

Ground elevation: 665 0

UTM Easting: 545813 0

Ft N of SL:

Depth to bedrock:

Township: 5N Range: 1W

Topo map: BEDFORD EAST

on: Mon, Aug 01, 1966

on:

on:

Lot number:

Ft E of WL: 2200

Ft S of NL: 700

Bedrock elevation: Aquifer elevation:

UTM Northing: 4297909 0

Well Log

Top

Bottom

Formation

0 0

28 0

CLAY

28 0

105 0

LS

Comments

MC 665Page 9789

145

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220937	Driving directions to well POOR FARM RD.	Date completed Fri, May 20, 1960
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Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name VADA H. HAWKINS FLOYD STULTZ FLOYD STULTZ	Address RR5, BEDFORD IN RR4, BEDFORD IN License:	Telephone
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Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 110.0	Pump setting depth:	Water quality:
Casing	Length: 6.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 1.3 gpm for 8.0 hrs.
	Drawdown: ft.	Static water level: 40.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W		
	Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 36	Topo map: BEDFORD EAST		
	Field located by: BARNES	on: Fri, Jul 01, 1960		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL: 3000	Ft N of SL:	Ft E of WL:	Ft S of NL: 700
	Ground elevation: 670.0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 545813.0		UTM Northing: 4297909.0	

Well Log	Top	Bottom	Formation
	0.0	6.0	CLAY
	6.0	10.0	SOFT LS

Comments

146

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220942

Driving directions to well

3 MI S OF BEDFORD, IN ON PALESTINE RD

Date completed

Thu, Sep 19, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
G BROWNAddress
R1 BEDFORD, IN

Telephone

ERNIE UMPHRESS & SONS RR6 BOX 13, BEDFORD, IN
EUGENE & CHARLES
UMPHRESS License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 113.0

Pump setting depth:

Water quality:

Casing

Length: 47.5

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: 3.0 gpm for hrs.

Drawdown: ft.

Static water level: 58 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: NE 1/4 of the SW 1/4 of the SE 1/4 of Section 36

Topo map: BEDFORD EAST

Field located by: JVH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number.

Ft W of EL: 1600

Ft N of SL: 1200

Ft E of WL:

Ft S of NL:

Ground elevation: 660 0

Depth to bedrock: 45 0

Bedrock elevation:

615 0

Aquifer elevation:

UTM Easting: 546246 0

UTM Northing: 4296879 0

Well Log

Top	Bottom	Formation
0 0	12 0	DIRT
12 0	44 0	BOULDERS & MUD HOLES
44 0	69 0	BLUE LS HARD
69 0	90.0	GRAY LS HARD
90.0	113 0	WHITE LS HARD

Comments

MC615

147

Record of Water Well

Indiana Department of Natural Resources

Reference Number

220947

Driving directions to well

ON SANDPIT RD JUST E OF MONAN RR AP 3 MI SW OF BEDFORD, IN S ACROSS

Date completed

Mon, Jul 27, 1959

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

J W HAWKINS

Address

RR1 BEDFORD, IN

Telephone

ERNIE UMPHRESS & SONS RR6 BOX 13, BEDFORD, IN

B ERIE

License

Construction Details

Well

Use: OTHER

Drilling method: CABLE TOOL

Pump type:

Depth: 78 0

Pump setting depth:

Water quality:

Casing

Length:

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: 1 0 gpm for 1 0 hrs

Drawdown: ft.

Static water level: 40 0 ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 35

Topo map: BEDFORD EAST

Field located by: BARNES

on: Fri, Jul 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL:

Ft S of NL:

Ground elevation: 520 0

Depth to bedrock

Bedrock elevation: Aquifer elevation:

UTM Easting: 543661 0

UTM Northing: 4297372 0

Well Log

Top	Bottom	Formation
0 0	21 0	SAND RED
21 0	40 0	BLUE MUCK
40 0	64 0	BROWN MUCK
64 0	68 0	BROWN LIME
68 0	78 0	SAND & SHALE

Comments

MC460

148

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220952	Driving directions to well 3 MI S OF BEDFORD ON SAND PIT RD.	Date completed Tue, Aug 22, 1961																								
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name GLEN HOPKIN ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address RR1, BEDFORD IN RR6, BEDFORD IN License:																								
		Telephone																								
Construction Details																										
Well	Use: STOCK Depth: 176.0	Drilling method: CABLE TOOL Pump setting depth:																								
Casing	Length: 28.75	Pump type: Water quality:																								
Screen	Length:	Diameter: 6.0 Diameter: Slot size:																								
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: ft.																								
		BailTest rate: gpm for hrs.																								
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																								
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 35 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 600.0 UTM Easting: 543655.0	Township: JN Range: 1W Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: 400 Bedrock elevation: 580.0 UTM Northing: 4296531.0																								
	Ft N of SL: 100 Depth to bedrock: 20.0	Ft S of NL: Aquifer elevation:																								
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>22.0</td> <td>DIRT</td> </tr> <tr> <td>22.0</td> <td>27.0</td> <td>LS BOLDER</td> </tr> <tr> <td>27.0</td> <td>75.0</td> <td>BR LS</td> </tr> <tr> <td>75.0</td> <td>80.0</td> <td>BLUE LS</td> </tr> <tr> <td>80.0</td> <td>83.0</td> <td>BLUE SHALE SHALE SOFT</td> </tr> <tr> <td>83.0</td> <td>167.0</td> <td>BR LS</td> </tr> <tr> <td>167.0</td> <td>176.0</td> <td>BLUE SHALE</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	22.0	DIRT	22.0	27.0	LS BOLDER	27.0	75.0	BR LS	75.0	80.0	BLUE LS	80.0	83.0	BLUE SHALE SHALE SOFT	83.0	167.0	BR LS	167.0	176.0	BLUE SHALE	
Top	Bottom	Formation																								
0.0	22.0	DIRT																								
22.0	27.0	LS BOLDER																								
27.0	75.0	BR LS																								
75.0	80.0	BLUE LS																								
80.0	83.0	BLUE SHALE SHALE SOFT																								
83.0	167.0	BR LS																								
167.0	176.0	BLUE SHALE																								
Comments	MC 580:																									

Record of Water Well

Indiana Department of Natural Resources

1249

Reference Number 317715	Driving directions to well 2 MI W OF BEDFORD, ON 450, RT SD OF RD		Date completed Thu, May 28, 1998	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name KIM JACKSON S&S DRILLING INC. DEXTER SWARTZENTRUBER	Address RR BOX 1695, BEDFORD, IN 47421 R1 BOX 507, MONTGOMERY, IN 47558 License: 302	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: ROTARY	Pump type:	
	Depth: 103.0	Pump setting depth:	Water quality:	
Casing	Length: 30.0	Material: PVC	Diameter: 6.0	
Screen	Length: 80.0	Material: PVC	Diameter: 4.5 Slot size:	
Well Capacity Test	Type of test:	Test rate: 10.0 gpm for hrs.	BailTest rate: gpm for hrs.	
	Drawdown: ft.	Static water level: ft.		
Grouting Information	Material: BNSL		Depth: from 30.0 to 0.0	
	Installation Method: PUMP		Number of bags used: 2.0	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: 1/4 of the 1/4 of the NE 1/4 of Section 30		Topo map: BEDFORD WEST	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting		UTM Northing:	
Well Log	Top	Bottom	Formation	
	0.0	3.0	CLAY	
	3.0	25.0	BRKN LIME	
	25.0	62.0	LIME	
	62.0	64.0	CLAY	
	64.0	103.0	SANDY LIME	
Comments				

Record of Water Well

Indiana Department of Natural Resources

Reference Number **217925** **Driving directions to well** FROM BEDFORD GO W ON 16TH ST TO 450 GO APROX 2 MI. OLDER FARM HOUSE ON L SIDE LAST HOUSE BEFORE RANCH IN SALT CREEK BRIDGE. **Date completed** Sat, Dec 15, 1979

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
BRIDWELL ESTATE
CARROLL SHIELDS
CARROLL SHIELDS

Address
R#11, BEDFORD
R#4, MITCHELL IN
License:

Telephone

Construction Details
Well
Casing
Screen

Use: HOME
Depth:
Length: 31.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 110.0 ft.

BailTest rate: 2.0 gpm for 2.0 hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: SW 1/4 of the SE 1/4 of the SE 1/4 of Section 20
Field located by: PES
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 700
Ground elevation: 628.0
UTM Easting: 540134 0

Township: SN Range: 1W
Topo map: BEDFORD WEST
on: Thu, Jul 31, 1980
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 597 0
UTM Northing: 4299700 0

Ft N of SL: 300
Depth to bedrock: 31 0
Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0 0	31 0	CLAY
31 0	150 0	SOFT LIME

Comments MC 597, VERIFIED BY NEIGHBOR & MAILBOX;

Record of Water Well

Indiana Department of Natural Resources

Reference Number **217945** **Driving directions to well** FROM FAYETTESVILLE GO S ABOUT 2MI, TURN L AT 2ND RD GO ABOUT 1 MI. TURN L 1ST HOUSE ON L. **Date completed** Mon, Dec 11, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DANNIE GOENS
LOUIE O. SMITH
LOUIS O. SMITH

Address
RR, WILLIAMS
R#1, BEDFORD
License:

Telephone

Construction Details
Well
Casing
Screen

Use: HOME
Depth: 150.0
Length: 22.0
Length:

Drilling method: CABLE TOOL
Pump setting depth:
Material:
Material:

Pump type:
Water quality:
Diameter: 6.25
Diameter: Slot size:

Well Capacity Test
Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 55.0 ft.

BailTest rate: 2.0 gpm for 2.0 hrs.

Grouting Information
Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment
Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative
County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 600.0
UTM Easting: 537519.0

Township: SN Range: 1W
Topo map: BEDFORD WEST
on: Wed, Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1400
Bedrock elevation: 579.0
UTM Northing: 4299865.0

Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0 0	19.0	CLAY
19 0	21.0	BLANK
21 0	22.0	LIME
22 0	26.0	SHELL
26 0	45 0	SOFT LIME
45 0	55.0	BROKEN
55 0	60.0	MD LIME
60 0	75.0	HARD LIME
75 0	135.0	BR LIME
135 0	150.0	GRAY LIME

Comments MC 580, VERIFIED BY OWNER;

Record of Water Well

Indiana Department of Natural Resources

152

Reference Number

217930

Driving directions to well

FROM BEDFORD GOING WEST ON 450 CROSS SALT CREEK 1ST RD TO RIGHT 7TH HOUSE ON RIGHT

Date completed

Mon, May 15, 1967

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JOE NORDHOFF
LOUIE O. SMITH

Address
2704 W 16TH ST., BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 180.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 27.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 100.0 ft.

BailTest rate: 0.5 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 600.0
UTM Easting: 537525.0

Township: 5N Range: 1W
Topo map: BEDFORD WEST
on: Wed. Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1600
Bedrock elevation: 580.0
UTM Northing: 4299907.0

Well Log

Top	Bottom	Formation
0.0	20.0	CLAY
20.0	28.0	LIME
28.0	40.0	SOFT LIME
40.0	48.0	LIME
48.0	49.0	SHELL
49.0	60.0	LIME
60.0	62.0	HARD LIME
62.0	63.0	SOFT LIME
63.0	64.0	BLANK
64.0	68.0	LIME
68.0	71.0	SHELL
71.0	180.0	LIME

Comments

NOT VERIFIED BY OWNER

153

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217935

Driving directions to well

FROM BEDFORD GOING W TURN LEFT ON 450 CROSS SALT CREEK TURN 1ST RD
RIGHT GO .5 MI TURN RIGHT 4TH HOUSE ON LEFT

Date completed

Mon, Oct 07, 1968

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DONNIE NORDHOFF

LOUIE SMITH
LOUIE SMITH

Address

R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 199.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 38.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 99.0 ft.

BailTest rate: 8.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 610.0
UTM Easting: 537446.0

Township: 5N **Range:** 1W
Topo map: BEDFORD WEST
on: Wed, Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1250
Bedrock elevation: 575.0
UTM Northing: 4299993.0

Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0.0	35.0	CLAY
35.0	40.0	LIME
40.0	150.0	HARD LIME
150.0	199.0	MED LIME

Comments

MC575: VERIFIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

154

Reference Number

217940

Driving directions to well

FROM BEDFORD GO WEST APPROX 1 MI TURN LEFT ON 450 CROSS SALT CREEK
TURN RIGHT 1ST RD APPROX 1 MI TURN RIGHT. LAST NEW HOUSE ON LEFT

Date completed

Wed, Jun 19, 1968

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DONNIE NORDHOFF
LOUIE O. SMITH
LOUIE O. SMITH

Address
BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 170.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Casing
Screen

Length: 35.0
Length:

Material:
Material:

Water quality:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 70.0 ft.

BailTest rate: 1.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SE 1/4 of the NW 1/4 of the SW 1/4 of Section 19
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 600.0
UTM Easting: 537409.0

Township: 5N Range: 1W
Topo map: BEDFORD
WEST
on: Wed, Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1150
Bedrock elevation: 568.0
UTM Northing: 4300035.0

Well Log

Top	Bottom	Formation
0.0	32.0	CLAY
32.0	45.0	BLUE LIME
45.0	66.0	LIME
66.0	67.0	SHELL
67.0	75.0	MED LIME
75.0	95.0	HARD LIME
95.0	114.0	MED LIME
114.0	122.0	SOFT LIME
122.0	135.0	MED LIME
135.0	152.0	BROWN LIME
152.0	155.0	HARD LIME
155.0	170.0	MED LIME

Comments

MCS70; VERIFIED BY OWNER

155

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217950

Driving directions to well

FROM BEDFORD GOING WEST ON 450 GO APPROX 5 MI CROSS SALT CREEK 1ST RD ON RIGHT. 9TH HOUSE ON RIGHT ON THIS ROAD

Date completed

Fri, Mar 10, 1967

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

J. NORDHOFF
LOUIE O. SMITH
LOUIE O. SMITH

Address

R1 BEDFORD, IN
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 160.0Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
ScreenLength: 46.0
Length:Material:
Material:

Diameter: 6.25

Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 77.0 ft.

BailTest rate: 0.5 gpm for 1.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19

Township: 5N Range: 1W

Topo map: BEDFORD
WEST

Field located by: PW

on: Wed, Aug 18, 1971

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1300

Ft E of WL: 1550

Ft S of NL:

Ground elevation: 600.0

Depth to bedrock: 45.0

Bedrock elevation:
555.0

Aquifer elevation:

UTM Easting: 537525.0

UTM Northing: 4299986.0

Well Log

Top	Bottom	Formation
0.0	40.0	CLAY
40.0	50.0	SOFT LIME
50.0	55.0	HARD LIME
55.0	60.0	MED LIME
60.0	66.0	HARD LIME
66.0	67.0	BLUE SHELL
67.0	70.0	HARD LIME
70.0	77.0	SHELL & LIME
77.0	160.0	LIME

Comments

MC555; VERIFIED BY OWNER

Record of Water Well

Indiana Department of Natural Resources

156

Reference Number
217955

Driving directions to well
FROM BEDFORD TURN LEFT ON 450 TURN RIGHT 1ST RD TO RIGHT AFTER CROSSING SALT CREEK GO .5 MI TURN RIGHT 3RD NEW HOUSE ON LEFT (W/STONE FRONT)

Date completed
Wed, Nov 20, 1968

Owner-Contractor	Name	Address	Telephone
Well Owner	TOM NORDHOFF	BEDFORD	
Building Contractor			
Drilling Contractor	LOUIE O. SMITH	R1 BEDFORD	
Equipment Operator	LOUIE O. SMITH	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 204.0	Pump setting depth:	Water quality:
Casing	Length: 73.0	Material:	Diameter: 6.25
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.5 gpm for 2.0 hrs.
	Drawdown: ft.	Static water level: 114.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19	Topo map: BEDFORD WEST
	Field located by: PW	on: Tue, Aug 18, 1970
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL.	Ft N of SL: 1200
	Ground elevation: 610.0	Ft E of WL: 1300
	Depth to bedrock: 20.0	Bedrock elevation: 590.0
	UTM Easting: 537464.0	Ft S of NL:
		Aquifer elevation:
		UTM Northing: 4429968 0

Well Log	Top	Bottom	Formation
	0.0	20.0	CLAY
	20.0	39.0	BROKEN
	39.0	62.0	LIME
	62.0	63.0	SEAM
	63.0	69.0	LIME
	69.0	70.0	SEAM
	70.0	75.0	BROKEN
	75.0	85.0	HARD LIME
	85.0	145.0	MED LIME
	145.0	160.0	BROWN LIME
	160.0	205.0	WHITE LIME

Comments MC 500 FIELD BY OWNER

Record of Water Well

Indiana Department of Natural Resources

157

Reference Number
217960

Driving directions to well

FROM FAYETTEVILLE GOING S ABOUT 2MI. WELL BE 2 RDS, TURN OFF ABOUT SAME TIME, TURN 2ND Y. TURN 1ST RD L 2ND HOUSE.

Date completed

Sat, Mar 30, 1968

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
DONNIE NORDHOFF

LOUIE SMITH
LOUIE SMITH

Address
BEDFORD
R#1, BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 185.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 24.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 135.0 ft.

BailTest rate: 5.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 19
Field located by: PW
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 600.0
UTM Easting: 537470.0

Township: 5N **Range:** 1W
Topo map: BEDFORD WEST
on: Wed, Aug 18, 1971
on:
on:
Lot number:
Ft E of WL: 1350
Bedrock elevation: 585.0
UTM Northing: 4290913.0
Ft S of NL:
Aquifer elevation:

Well Log

Top	Bottom	Formation
0.0	15.0	CLAY
15.0	20.0	SHELL
20.0	35.0	SOFT LIME
35.0	65.0	MD LIME
65.0	78.0	HARD LIME
78.0	165.0	MD LIME
165.0	185.0	MD SOFT LIME GRAY

Comments

MC 585, VERIFIED BY OWNER.

158

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220859		Driving directions to well EUREKA IN		Date completed Tue, Oct 20, 1964	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator		Name JAMES E. TERRY ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS		Address 1507 2ND ST RR6, BOS 13, BEDFORD IN License:	
				Telephone	
Construction Details					
Well		Use: HOME		Drilling method: CABLE TOOL	
		Depth: 91 0		Pump setting depth:	
Casing		Length: 39 5		Pump type:	
Screen		Length:		Water quality:	
		Material:		Diameter: 6 0	
		Material:		Diameter: Slot size:	
Well Capacity Test					
Type of test:		Test rate: gpm for hrs		BailTest rate: gpm for hrs	
Drawdown: ft		Static water level: 48 0 ft			
Grouting Information					
Material:		Depth: from to			
Installation Method:		Number of bags used:			
Well Abandonment					
Sealing material:		Depth: from to			
Installation Method:		Number of bags used:			
Administrative					
County: LAWRENCE		Township: 5N Range: 1W			
Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 18		Topo map: BEDFORD WEST			
Field located by: JCH		on: Mon, Aug 01, 1966			
Courthouse location by:		on:			
Location accepted w/o verification by:		on:			
Subdivision name:		Lot number			
Ft W of EL:		Ft N of SL: 4900		Ft E of WL: 2450	
Ground elevation: 650 0		Depth to bedrock: 35 0		Ft S of NL:	
UTM Easting: 537823 0				Bedrock elevation: 615 0	
				Aquifer elevation:	
				UTM Northing: 4302687 0	
Well Log					
Top		Bottom		Formation	
0 0		29 0		DIRT	
29 0		34 0		BOULDERS & MUDHOLES	
34 0		67 0		BLUE LS SOFT	
67 0		73 0		GRAY LS HARD	
73 0		91 0		BLUE LS HARD	
Comments					
MC 615,					

159

Record of Water Well

Indiana Department of Natural Resources

Reference Number

220864

Driving directions to well

WEST EDGE OF EUREKA, IN

Date completed

Wed, Sep 26, 1962

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

CHARLES KILLIAN

Address

RR2 BEDFORD, IN

Telephone

ERNIE UMPHRESS & SONS

EUGENE & CHARLES

UMPHRESS

RR6 BEDFORD, IN

License:

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 93.0

Pump setting depth:

Water quality:

Casing

Length: 51.5

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 3.0 gpm for hrs.

Drawdown: ft.

Static water level: 21.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: SN Range: 1W

Section: SW 1/4 of the SE 1/4 of the NW 1/4 of Section 18

Topo map: BEDFORD WEST

Field located by:

on: Tue, Oct 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 3300

Ft E of WL: 1600

Ft S of NL:

Ground elevation: 625.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 537543.0

UTM Northing: 4302151 0

Well Log

Top	Bottom	Formation
0.0	31.0	DIRT
31.0	47.0	MUD HOLES & BOULDERS
47.0	58.0	BLUE LS HARD
58.0	83.0	GRAY LS HARD
83.0	93.0	BLUE LS HARD

Comments

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220869

Driving directions to well

ON SR 158 W OF EUREKA ABOUT .5 MI.

Date completed

Fri, Oct 30, 1959

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
KERMIT WILLIAMS
Address
RR2, BEDFORD IN
ERNIE UMPHRESS & SONS RR6, BOS 13, BEDFORD IN
ERNIE UMPHRESS & SONS License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 125.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 41.0

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.92 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 80.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SW 1/4 of the SE 1/4 of the NW 1/4 of Section 18

Topo map: BEDFORD WEST

Field located by: BAINS

on: Fri, Jul 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 2600

Ft E of WL: 1550 Ft S of NL:

Ground elevation: 630.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 537555.0

UTM Northing: 4302004.0

Well Log

Top	Bottom	Formation
0.0	35.0	DIRT & FLINT ROCK
35.0	40.0	SOFT BLUE SHALE
40.0	75.0	WH LIME
75.0	80.0	EXTRA SOFT SHALE
80.0	100.0	HARD BLUE SHALE
100.0	125.0	BUFF LIME STONE

Comments

MC;

Record of Water Well

161

Indiana Department of Natural Resources

Reference Number 220874	Driving directions to well NW CORNER OF SAID QUARTER SECTION. S OF LEESVILLE GRAVE RD 18 POLES AND 17 LINKS 2.5 MI EAST OF BEDFORD, IN		Date completed Wed, Dec 14, 1960
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name FLOYD WEVER ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address 446 RR6 BOX 13, BEDFORD, IN License:	Telephone
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 100.0	Pump setting depth:	Water quality:
Casing	Length: 8.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.22 gpm for 1.0 hrs.
	Drawdown: ft.	Static water level: 42.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 5N Range: 1W	
	Section: SW 1/4 of the SW 1/4 of the SE 1/4 of Section 18	Topo map: BEDFORD EAST	
	Field located by: JVH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 2300	Ft N of SL: 100	Ft E of WL: Ft S of NL:
	Ground elevation: 660.0	Depth to bedrock: 5.0	Bedrock elevation: 655.0 Aquifer elevation:
	UTM Easting: 538037.0		UTM Northing: 4301212.0
Well Log	Top	Bottom	Formation
	0.0	6.0	DIRT
	6.0	40.0	WHITE LS HARD
	40.0	65.0	BLUE LS HARD
	65.0	83.0	WHITE LS HARD
	83.0	100.0	BLUE SHALE
Comments			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number
220879

Driving directions to well

Date completed

APP 1 MI E OF NEDFORD IN

Tue, Aug 06, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
GLENN D. WOODY
Address
RR#6, BEDFORD IN
ERNIE UMPHRESS & SONS BEDFORD IN
EUGENE & CHARLES
UMPHRESS License:

Telephone

Construction Details

Well

Use: HOME
Depth: 200.0Drilling method: CABLE TOOL
Pump setting depth:Pump type:
Water quality:Casing
ScreenLength: 6.0
Length:Material:
Material:Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 100.0 ft

BailTest rate: 0.5 gpm for hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the NE 1/4 of the SE 1/4 of Section 18
Field located by: JCH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 1200
Ground elevation: 560.0
UTM Easting: 538360.0Township: 5N Range: 1W
Topo map: BEDFORD EAST
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: 555.0
Aquifer elevation:
UTM Northing: 4301779.0

Well Log

Top	Bottom	Formation
0.0	2.5	DIRT
2.5	23.0	BLUE LS HARD
23.0	51.0	GRAY LS HARD
51.0	70.0	WH LS HARD
70.0	103.0	BLUE LS HARD
103.0	200.0	BLUE SHALE SOFT

Comments

Record of Water Well

163

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
220884	.25 MI N OF EUREKA IN. TRAIL.	Sat, Jul 25, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	RONNIE WALLCOTT	BEDFORD IN	
Building Contractor			
Drilling Contractor	EUGENE & CHARLES UMPHRESS	RR6, BOX 13, BEDFORD IN	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 151.0	Pump setting depth:	Water quality:
Casing	Length: 52.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 2.0 gpm for hrs.
	Drawdown: ft.	Static water level: 50.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 18	Topo map: BEDFORD WEST
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2650	Ft N of SL: 4700
	Ground elevation: 630.0	Depth to bedrock: 20.0
	UTM Easting: 537927.0	UTM Northing: 4302614.0
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation: 610.0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0.0	18.0	DIRT
	18.0	44.0	LS BOULDERS & MUD HOLES
	44.0	57.0	BLUE LS SOFT
	57.0	73.0	GRAY LS SOFT
	73.0	86.0	BLUE LS HARD
	86.0	134.0	GRAY LS SOFT
	134.0	151.0	WH LS SOFT

Comments	None
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Record of Water Well

Indiana Department of Natural Resources

164

Reference Number 220889	Driving directions to well EUREKA IN, S SIDE OF RD.	Date completed Mon, Sep 13, 1965
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Owner-Contractor	Name	Address	Telephone
Well Owner	JAMES MOSIER	BEDFORD IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR6, BOX 13, BEDFORD IN	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 137.0	Pump setting depth:	Water quality:
Casing	Length: 35.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0.75 gpm for hrs.
	Drawdown: ft.	Static water level: 20.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1W
	Section: NE 1/4 of the SE 1/4 of the NW 1/4 of Section 18	Topo map: BEDFORD WEST
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 3500
	Ground elevation: 620.0	Ft E of WL: 2400
	UTM Easting: 537811.0	Ft S of NL:
		Bedrock elevation: 595.0
		Aquifer elevation:
		UTM Northing: 4302236.0

Well Log	Top	Bottom	Formation
	0.0	24.0	DIRT
	24.0	27.0	BROKEN LS SOFT
	27.0	33.0	GRAY LS HARD
	33.0	64.0	BLUE LS SOFT
	64.0	67.0	BROKEN LS SOFT
	67.0	89.0	BLUE LS HARD
	89.0	108.0	GRAY LS SOFT
	108.0	124.0	BR LS SOFT
	124.0	137.0	WH LS SOFT

Comments MC 595.

Record of Water Well

Indiana Department of Natural Resources

165

Reference Number 220894	Driving directions to well EUREKA IN		Date completed Fri, Feb 10, 1967	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JAMES TERRY ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IN RR6, BOX 13, BEDFORD IN License:	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 90 0	Pump setting depth:	Water quality:	
Casing	Length: 49.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 4.0 gpm for hrs.	
	Drawdown: ft.	Static water level: 65 0 ft		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 18		Topo map: BEDFORD WEST	
	Field located by: PW		on: Tue, Aug 17, 1971	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 2150	Ft N of SL: 3950	Ft E of WL:	Ft S of NL:
	Ground elevation: 625.0	Depth to bedrock: 39 0	Bedrock elevation: 586 0	Aquifer elevation:
	UTM Easting: 538073 0		UTM Northing: 4302407 0	
Well Log	Top	Bottom	Formation	
	0 0	30.0	DIRT	
	30 0	39 0	BOULDERS & MUD HOLES	
	39 0	68 0	BLUE LS SOFT	
	68 0	75 0	GRAY LS HARD	
	75.0	90.0	BLUE LS HARD	
Comments	MC 585: VERIFIED BY NEIGHBOR.			

Record of Water Well

Indiana Department of Natural Resources

1666

Reference Number
220899

Driving directions to well

FROM BEDFORD GO WEST APPROX. 5MI ON 158, ACROSS RD FROM NEW UNION
CHRISTIAN CHURCH

Date completed

Thu, Mar 18, 1965

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
JAKE MULLIS
LOUIE O. SMITH
LOUIE O. SMITHAddress
R2 BEDFORD
R1 BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 205.0Drilling method: CABLE TOOL
Pump setting depth:

Pump type:

Water quality:

Casing
ScreenLength: 35.0
Length:Material:
Material:Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.Test rate: gpm for hrs.
Static water level: 120.0 ft.

BailTest rate: 0.5 gpm for 4.0 hrs.

Grouting Information

Material:
Installation Method:Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: SW 1/4 of the NE 1/4 of the NE 1/4 of Section 18
Field located by: JVH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 800
Ground elevation: 650.0
UTM Easting: 538494.0Township: 5N Range: 1W
Topo map: BEDFORD
WEST
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL: Ft S of NL:
Bedrock elevation: 620.0
Aquifer elevation:
UTM Northing: 4302443.0

Well Log

Top	Bottom	Formation
0.0	30.0	CLAY
30.0	70.0	BROWN LIME
70.0	90.0	GRAY LIME
90.0	120.0	LIGHT GRAY
120.0	155.0	DARK LIME
155.0	202.0	WHITE LIME
202.0	205.0	HARD LIME

Comments

MC620

Record of Water Well

Indiana Department of Natural Resources

167

Reference Number **220904** Driving directions to well APPROX 5 MI W OF BEDFORD TURN RIGHT AT EUREKA 1ST TRAILER ON RIGHT Date completed Mon, Jun 21, 1965

Owner-Contractor Name Address Telephone
Well Owner LESLIE GRISSOM R2 BEDFORD
Building Contractor
Drilling Contractor LOUIE O. SMITH R1 BEDFORD
Equipment Operator LOUIE O. SMITH License:

Construction Details
Well Use: HOME Drilling method: CABLE TOOL Pump type:
Depth: 187.0 Pump setting depth: Water quality:
Casing Length: 36.0 Material: Diameter: 6.25
Screen Length: Material: Diameter: Slot size:

Well Capacity Test Type of test: Test rate: gpm for hrs. BailTest rate: 1.5 gpm for 30 hrs.
Drawdown: ft. Static water level: 87.0 ft

Grouting Information Material: Depth: from to
Installation Method: Number of bags used:

Well Abandonment Sealing material: Depth: from to
Installation Method: Number of bags used:

Administrative County: LAWRENCE Township: 5N Range: 1W
Section: NW 1/4 of the NW 1/4 of the NE 1/4 of Section 18 Topo map: BEDFORD WEST
Field located by: JVH on: Mon, Aug 01, 1966
Courthouse location by: on:
Location accepted w/o verification by: on:
Subdivision name: Lot number:
Ft W of EL: 2500 Ft N of SL: 4600 Ft E of WL: Ft S of NL:
Ground elevation: 630.0 Depth to bedrock: 35.0 Bedrock elevation: 595.0 Aquifer elevation:
UTM Easting: 537933.0 UTM Northing: 4302541.0

Well Log	Top	Bottom	Formation
	0 0	35 0	CLAY
	35 0	40 0	SOFT LIME
	40 0	42 0	GRAY LIME
	42 0	63 0	BROWN LIME
	63.0	64 0	BLANK
	64.0	68 0	HARD LIME
	68 0	71 0	SHELL
	71 0	74 0	LIME
	74 0	77 0	SHELL
	77 0	90 0	HARD LIME
	90 0	140 0	WHITE LIME
	140 0	185 0	GRAY LIME
	185 0	188 0	HARD LIME

168

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
220919	APP 3 MI W OF BEDFORD IN ON SR450, S SIDE OF RD.	Fri, Nov 19, 1965

Owner-Contractor	Name	Address	Telephone
Well Owner	CHARLES E. HILLENBURG	RR2, BEDFORD IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR6, BOX 13, BEDFORD IN	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 137.0	Pump setting depth:	Water quality:
Casing	Length: 18.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 5.0 gpm for hrs.
	Drawdown: ft.	Static water level: 42.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1W
	Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 18	Topo map: BEDFORD WEST
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 2400
	Ground elevation: 630.0	Ft E of WL: 1600
	UTM Easting: 537531.0	Depth to bedrock: 15.0
		Bedrock elevation: 615.0
		Ft S of NL:
		Aquifer elevation:
		UTM Northing: 4301931.0

Well Log	Top	Bottom	Formation
	0.0	7.0	DIRT
	7.0	15.0	BOULDERS & MUD HOLES
	15.0	34.0	GRAY LS HARD
	34.0	48.0	WH LS SOFT
	48.0	60.0	BLUE LS SOFT
	60.0	96.0	BR LS SOFT
	96.0	112.0	GRAY LS SOFT
	112.0	137.0	BLUE LS HARD

Comments MC 615.

169

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220924

Driving directions to well

APP 2.5 MI W OF BEDFORD IN.

Date completed

Tue, Jan 28, 1964

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
ELIZABETH DONALDSON

ERNIE UMPHRESS & SONS
EUGENE & CHARLES
UMPHRESS

Address
BEDFORD IN, RR2

RR6, BOX 13, BEDFORD IN
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 140.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 23.0
Length:

Material:
Material:

Diameter: 6.0
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 70.0 ft.

BailTest rate: 0.08 gpm for hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NW 1/4 of the NW 1/4 of the SE 1/4 of Section 17
Field located by: JCH
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL: 2600
Ground elevation: 610.0
UTM Easting: 539530.0

Township: SN **Range:** 1W
Topo map: BEDFORD WEST
on: Mon, Aug 01, 1966
on:
on:
Lot number:
Ft E of WL:
Bedrock elevation: 590.0
UTM Northing: 4301974.0

Well Log

Top	Bottom	Formation
0 0	12.0	DIRT
12 0	20.0	BROKEN LS & BOULDERS
20 0	63.0	BLUE LS HARD
63 0	71.0	GRAY LS SOFT
71 0	77.0	BLUE LS HARD
77 0	118.0	WH LS SOFT
118 0	132.0	GRAY LS HARD
132.0	140.0	BLUE LS HARD

Comments

MC 590:

170

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220929	Driving directions to well 100' SW OF TILE BLOCK CHICKEN HOUSE. WEST OF BEDFORD ON 450, WEST OF NEW BRIDGE ON FAYETTE RD		Date completed Thu, Nov 16, 1961
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HUGH SCHENSCHER ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address RR2 BEDFORD, IN BEDFORD, IN RR6 License:	Telephone
Construction Details	Use: STOCK Depth: 175.0 Length: 27.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 55.0 ft.	BailTest rate: 0.75 gpm for 1.0 hrs.
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 17 Field located by: Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 2200 Ground elevation: 560.0 UTM Easting: 539652.0		Township: 5N Range: 1W Topo map: BEDFORD WEST on: Tue, Oct 01, 1963 on: on: Lot number: Ft E of WL: Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4302272.0
Well Log	Top	Bottom	Formation
	0.0	23.0	DIRT
	23.0	30.0	BLUE LS HARD
	30.0	40.0	GRAY LS HARD
	40.0	62.0	BROWN LS SOFT
	62.0	68.0	BROKEN LS SOFT
	68.0	125.0	BLUE LS HARD
	125.0	140.0	BLUE LS SOFT
	140.0	163.0	WHITE LS HARD
	163.0	175.0	BLUE SHALE SOFT
Comments	BROTHER VERIFIED		

171

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
220934	ON THE N SIDE OF SR 158 APROX 1300' W OF JCT WITH SR458.	Sat, Oct 03, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	O. COOPER MILLER	RR#2, BEDFORD IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR6, BOX 13, BEDFORD IN	
Equipment Operator	EUGENE & CHARLE UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 150.0	Pump setting depth:	Water quality:
Casing	Length: 43.5	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 1.0 gpm for hrs.
	Drawdown: ft.	Static water level: 30.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1W
	Section: NE 1/4 of the NW 1/4 of the NW 1/4 of Section 17	Topo map: BEDFORD WEST
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 4900
	Ground elevation: 580.0	Ft E of WL: 1100
	Depth to bedrock: 20.0	Ft S of NL:
	UTM Easting: 539067.0	Bedrock elevation: 560.0
		Aquifer elevation:
		UTM Northing: 4302687.0

Well Log	Top	Bottom	Formation
	0.0	18.0	DIRT
	18.0	41.0	BROKEN I.S. SOFT
	41.0	67.0	GRAY LS HARD
	67.0	84.0	BLUE LS HARD
	84.0	116.0	BR LS SOFT
	116.0	150.0	WH LS SOFT

Comments MC 560;

172

Record of Water Well

Indiana Department of Natural Resources

Reference Number

220939

Driving directions to well

4 MI WEST OF BEDFORD, IN ON BEDFORD & FA YETTEVILLE RD RT 158; E OF EUREKA

Date completed

Fri, Feb 12, 1960

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

SAM G. MITCHELL

Address

944 1 ST BEDFORD, IN

Telephone

ERNIE UMPHRESS & SONS RR6 BOX 13, BEDFORD, IN

ERNIE UMPHRESS & SONS License:

Construction Details

Well

Use: OTHER

Drilling method: CABLE TOOL

Pump type:

Depth: 150.0

Pump setting depth:

Water quality:

Casing

Length: 23.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 1.0 gpm for 1.0 hrs.

Drawdown: ft.

Static water level: 25.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SW 1/4 of the NE 1/4 of the NW 1/4 of Section 17

Topo map: BEDFORD WEST

Field located by: BARNES

on: Fri, Jul 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 4200

Ft E of WL: 1550 Ft S of NL:

Ground elevation: 560.0

Depth to bedrock:

Bedrock elevation: Aquifer elevation:

UTM Easting: 539195.0

UTM Northing: 4302492.0

Well Log

Top	Bottom	Formation
0.0	22.0	DIRT
22.0	70.0	BLUE L.S. SOFT
70.0	85.0	WHITE L.S. HARD
85.0	125.0	BLUE L.S. HARD
125.0	150.0	WHITE L.S. HARD

Comments

MC: SEE MAP; WE DRILL THIN WELL IN 5' PIT AND YOU COULD SAY 5' MORE DIRT

173

Record of Water Well

Indiana Department of Natural Resources

Reference Number **220944** **Driving directions to well** **Date completed**
 2 MI W OF BEDFORD ON RR2 SR58 ON FAYETTEVILLE RD & ON S SIDE OF RD.
 CLOSE TO JCT OF PURDUE FARM RD & FAYETTEVILLE RD. Tue, Nov 16, 1965

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner MILO V. MARCHETTI 1408 20TH, BEDFORD
 Building Contractor
 Drilling Contractor ERNIE UMPHRESS & SONS RR6, BOX 13, BEDFORD IN
 Equipment Operator EUGENE & CHARLES UMPHRESS License:

Construction Details
Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 150.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 13.5 **Material:** **Diameter:** 6.0
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 3.0 gpm for hrs.
Drawdown: ft. **Static water level:** 59.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: NW 1/4 of the NE 1/4 of the NW 1/4 of Section 17 **Topo map:** BEDFORD WEST
Field located by: JCH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 5000 **Ft E of WL:** 1450 **Ft S of NL:**
Ground elevation: 575.0 **Depth to bedrock:** 5.0 **Bedrock elevation:** 570.0 **Aquifer elevation:**
UTM Easting: 539177.0 **UTM Northing:** 4302717.0

Well Log	Top	Bottom	Formation
	0 0	4.0	DIRT
	4 0	33 0	GRAY LS HARD
	33 0	60 0	WH LS SOFT
	60 0	111 0	GRAY LS SOFT
	111 0	117.0	WH LS SOFT
	117 0	143 0	BLUE LS HARD
	143 0	150 0	WH LS SOFT

Comments MIC 570.

Record of Water Well

Indiana Department of Natural Resources

174

Reference Number
220846

Driving directions to well

FROM BEDFORD GOING W TURN R ON PURDUE TOWN RD. 2ND HOUSE ON L. J. CONERS RES.

Date completed

Wed, Jan 23, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
VIRGIL ARNEY
LOUIS O. SMITH
LOUIS O. SMITH

Address
R#2, BEDFORD
R#1, BEDFORD
License:

Telephone

Construction Details

Well

Use: HOME
Depth: 125.0

Drilling method: CABLE TOOL
Pump setting depth:

Pump type:
Water quality:

Casing
Screen

Length: 20.0
Length:

Material:
Material:

Diameter: 6.25
Diameter: Slot size:

Well Capacity Test

Type of test:
Drawdown: ft.

Test rate: gpm for hrs.
Static water level: 43.0 ft.

BailTest rate: 1.0 gpm for 2.0 hrs.

Grouting Information

Material:
Installation Method:

Depth: from to
Number of bags used:

Well Abandonment

Sealing material:
Installation Method:

Depth: from to
Number of bags used:

Administrative

County: LAWRENCE
Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 8
Field located by: U
Courthouse location by:
Location accepted w/o verification by:
Subdivision name:
Ft W of EL:
Ground elevation: 615.0
UTM Easting: 539086.0

Township: 5N **Range:** 1W
Topo map: OOLITIC
on: Tue, Oct 01, 1963
on:
on:
Lot number:
Ft E of WL: 1100
Bedrock elevation:
UTM Northing: 4303125.0

Well Log

Top	Bottom	Formation
0.0	17.0	CLAY
17.0	60.0	LIME
60.0	120.0	WH LIME
120.0	128.0	GRAY LIME

Comments

Record of Water Well

Indiana Department of Natural Resources

175

Reference Number
220851

Driving directions to well

3 MI W OF BEDFORD, IN ON DARK HOLLOW RD; ANNA SWANGO ON PURDUE FARM RD

Date completed

Thu, Nov 09, 1961

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
ANNA SWANGO
Address
RR2 BEDFORD, IN
ERNIE UMPHRESS & SONS RR6 BEDFORD, IN
ERNIE UMPHRESS & SONS License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 150.0

Pump setting depth:

Water quality:

Casing

Length:

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 0.5 gpm for hrs.

Drawdown: ft.

Static water level: 64.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 8

Topo map: OOLITIC

Field located by:

on: Tue, Oct 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1350

Ft E of WL: 1400

Ft S of NL:

Ground elevation: 640.0

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

UTM Easting: 539141 0

UTM Northing: 4303265 0

Well Log

Top	Bottom	Formation
0 0	10.0	DIRT
10 0	39.0	BLUE LS HS
39 0	42.0	MUD SOFT
42 0	67.0	GRAY LS HARD
67 0	80.0	WHITE LS HARD
80 0	115 0	BROWN LS SOFT
115 0	150 0	WHITE LS SOFT

Comments

MC, MAIL BOX

176

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220856	Driving directions to well ABOUT .375 MI N OF BEDFORD & FAYETVILLE RD ON SR158.	Date completed Tue, Feb 23, 1960																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name SAM O'MITCHEL ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS License:	Address 944 N I ST, BEDFORD IN RR6, BOX 13, BEDFORD IN																		
		Telephone																		
Construction Details																				
Well	Use: HOME Depth: 140.0	Drilling method: CABLE TOOL Pump setting depth:																		
Casing	Length: 27.0	Pump type: Water quality:																		
Screen	Length:	Diameter: 6.0 Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 45.0 ft.																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																		
Administrative	County: LAWRENCE Section: NW 1/4 of the SE 1/4 of the SW 1/4 of Section 8 Field located by: S&H Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 615.0 UTM Easting: 539128.0	Township: 5N Range: 1W Topo map: OOLITIC on: Tue, Nov 01, 1960 on: on: Lot number: Ft E of WL: 1400 Bedrock elevation: UTM Northing: 4303088.0																		
	Ft N of SL: 800 Depth to bedrock:	Ft S of NL: Aquifer elevation:																		
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>25.0</td> <td>DIRT</td> </tr> <tr> <td>25 0</td> <td>50.0</td> <td>WH LS HARD</td> </tr> <tr> <td>50 0</td> <td>103.0</td> <td>BR LS SOFT</td> </tr> <tr> <td>103 0</td> <td>125.0</td> <td>WH LS SOFT</td> </tr> <tr> <td>125 0</td> <td>140.0</td> <td>BLUE LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	25.0	DIRT	25 0	50.0	WH LS HARD	50 0	103.0	BR LS SOFT	103 0	125.0	WH LS SOFT	125 0	140.0	BLUE LS HARD	
Top	Bottom	Formation																		
0 0	25.0	DIRT																		
25 0	50.0	WH LS HARD																		
50 0	103.0	BR LS SOFT																		
103 0	125.0	WH LS SOFT																		
125 0	140.0	BLUE LS HARD																		
Comments	MC 590: OFFICE CHAM: FE 0.6 PPM, HARDNESS 335 PPM, PH 7.2, CHLORIDE 6 PPMPage 9784																			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

220861

Driving directions to well

Date completed

FROM BEDFORD GOING W. ON 158 TO PURDUE FARM RD, GO TO 5TH HOUSE ON R. Thu, Aug 01, 1963

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
JOHN BUNDY
LOUIE O. SMITH
LOUIE O. SMITH

Address
RRT. #2, BEDFOR, IN.
RRT. #1, BEDFORD, IN.
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth:

Pump setting depth:

Water quality:

Casing

Length: 30.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 5.0 gpm for 2.0 hrs.

Drawdown: ft.

Static water level: 50 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 8

Topo map: OOLITIC

Field located by: U

on: Tue, Oct 01, 1963

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 2600

Ft E of WL: 1200

Ft S of NL:

Ground elevation: 655.0

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

UTM Easting: 539093 0

UTM Northing: 4303631 0

Well Log

Top	Bottom	Formation
0.0	20.0	CLAY
20.0	26.0	RED CLAY
26.0	35.0	LS
35.0	37.0	SOFT LIME
37.0	40.0	WHITE LIME
40.0	41.0	BLANK
41.0	45.0	SHFL
45.0	66.0	BLUE LIME
66.0	70.0	WHITE LIME
70.0	105.0	HARD LIME
105.0	145.0	WHITE BLUE LIME
145.0	185.0	HARD LIME

Comments

MC 600:

178

Record of Water Well

Indiana Department of Natural Resources

Reference Number
220866

Driving directions to well

APPROX. 200' E. OF THE PURDUE FARM RD.

Date completed

Wed, Aug 22, 1962

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment OperatorName
HARRY & PAULINE KERN
Address
RRT. #2, BEDFOR, IN.
ERNIE UMPHRESS & SONS
EUGENE & CHARLES
License:
RRT. 6, BEDFORD, IN.
UMPHRESS

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 148.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 34.5

Material:

Diameter: 6.0

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 5.0 gpm for hrs.

Drawdown: ft.

Static water level: 95.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N Range: 1W

Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 8

Topo map: OOLITIC

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1600

Ft E of WL: 1480

Ft S of NL:

Ground elevation: 645.0

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

UTM Easting: 539141 0

UTM Northing: 4303356.0

Well Log

Top	Bottom	Formation
0.0	27.0	DIRT
27.0	33.0	GRAY LS-SOFT
33.0	45.0	BLUE LS-SOFT
45.0	59.0	GRAY LS-SOFT
59.0	77.0	BLUE LS-HARD
77.0	95.0	GRAY LS-SOFT
95.0	127.0	BRN LS-SOFT
127.0	139.0	GRAY LS-SOFT
139.0	148.0	WHITE LS SOFT

Comments

MC:

Record of Water Well

Indiana Department of Natural Resources

179

Reference Number
220871

Driving directions to well

E OPPOSITE PARDUE FARMS.

Date completed

Wed, Oct 12, 1960

Owner-Contractor
Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name
WM. FITZGERALD
ELMER ALFORD
ELMER ALFORD

Address
BEDFORD RR 2, IN
MITCHELL IN
License:

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 160.0

Pump setting depth:

Water quality:

Casing
Screen

Length: 28.0

Material:

Diameter: 6.62

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: gpm for hrs.

Drawdown: ft.

Static water level: 90.0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 5N **Range:** 1W

Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 8

Topo map: OOLITIC

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL:

Ft E of WL: 1200

Ft S of NL: 400

Ground elevation: 653.0

Depth to bedrock: 28.0

Bedrock elevation: 625.0

Aquifer elevation:

UTM Easting: 539094.0

UTM Northing: 4304301.0

Well Log

Top	Bottom	Formation
0.0	28.0	RED CLAY & BOULDERS
28.0	100.0	GRAY LIME MD
100.0	160.0	WH LIME MD

Comments

MC 625.

Record of Water Well

Indiana Department of Natural Resources

180

Reference Number 220876	Driving directions to well APP 1.5 MI N OF EURKA IN	Date completed Thu, Jul 23, 1964																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name MICHAEL K. SKEEN ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address RR#2, BEDFORD IN BEDFORD IN, RR6 License:																		
		Telephone																		
Construction Details																				
Well	Use: HOME Depth: 104.0	Drilling method: CABLE TOOL Pump setting depth:																		
Casing	Length: 30.0	Water quality:																		
Screen	Length:	Diameter: 6.0 Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 40.0 ft. Bail Test rate: 9.0 gpm for hrs.																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																		
Administrative	County: LAWRENCE Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 7 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 2500 Ground elevation: 650.0 UTM Easting: 537941.0	Township: 5N Range: 1W Topo map: OOLITIC on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 625.0 UTM Northing: 4304126.0																		
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>27.0</td> <td>DIRT</td> </tr> <tr> <td>27.0</td> <td>61.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>61.0</td> <td>87.0</td> <td>GRAY LS SOFT</td> </tr> <tr> <td>87.0</td> <td>93.0</td> <td>WH LS SOFT</td> </tr> <tr> <td>93.0</td> <td>104.0</td> <td>BLUE LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	27.0	DIRT	27.0	61.0	BLUE LS HARD	61.0	87.0	GRAY LS SOFT	87.0	93.0	WH LS SOFT	93.0	104.0	BLUE LS HARD	
Top	Bottom	Formation																		
0.0	27.0	DIRT																		
27.0	61.0	BLUE LS HARD																		
61.0	87.0	GRAY LS SOFT																		
87.0	93.0	WH LS SOFT																		
93.0	104.0	BLUE LS HARD																		
Comments	MC 625																			

Record of Water Well

Indiana Department of Natural Resources

181

Reference Number 220881 **Driving directions to well** FROM BEDFORD GOING W. ON 158 APPROX. 5 MI., TURN N ON PENDUE FARM RD GO 1ST RD TO L., 2ND HOUSE ON L. **Date completed** Sat, Sep 12, 1964

Owner-Contractor
Well Owner LESTER COMPTON **Address** RRT. #2, BEDFORD, IN. **Telephone**
Building Contractor
Drilling Contractor LOUIE O. SMITH **Address** RRT. #1, BEDFORD, IN.
Equipment Operator LOUIE O. SMITH **License:**

Construction Details

Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 100.0 **Pump setting depth:** **Water quality:**
Casing **Length:** 30.0 **Material:** **Diameter:** 6.25
Screen **Length:** **Material:** **Diameter:** Slot size:

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 3.0 gpm for 3.0 hrs
Drawdown: ft. **Static water level:** 45.0 ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 5N **Range:** 1W
Section: SE 1/4 of the SE 1/4 of the SE 1/4 of Section 7 **Topo map:** OOLITIC
Field located by: JCH **on:** Mon, Aug 01, 1966
Courthouse location by: **on:**
Location accepted w/o verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 1250 **Ft E of WL:** 2700 **Ft S of NL:**
Ground elevation: 640.0 **Depth to bedrock:** **Bedrock elevation:** 615.0 **Aquifer elevation:**
UTM Easting: 537848.0 **UTM Northing:** 4303218.0

Well Log

Top	Bottom	Formation
0.0	25.0	CLAY
25.0	33.0	LIME
33.0	45.0	SOFT LIME
45.0	47.0	HARD LIME
47.0	53.0	SOFT LIME
53.0	100.0	MED. LIME

Comments MC 615

Record of Water Well

182

Indiana Department of Natural Resources

Reference Number 220886		Driving directions to well 279 2161 BOB WAKEFIELD INDIAN CREEK CAMP		Date completed Sat May 26 1951	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator		Name BAPTIST CONVENTION HOMER ALFORD	Address WELL #1 AVOC, IN RR2 MITCHELL License	Telephone	
Construction Details					
Well	Use HOME	Drilling method CABLE TOOL	Pump type		
	Depth 125 0	Pump setting depth	Water quality		
Casing	Length 37 0	Material	Diameter 5 62		
Screen	Length	Material	Diameter Slot size		
Well Capacity Test		Type of test	Test rate gpm for hrs	BailTest rate 18 0 gpm for 0 5 hrs	
		Drawdown ft	Static water level 52 0 ft		
Grouting Information		Material		Depth from to	
		Installation Method		Number of bags used	
Well Abandonment		Sealing material		Depth from to	
		Installation Method		Number of bags used	
Administrative		County LAWRENCE		Township 5N Range 1W	
		Section NW 1/4 of the NW 1/4 of the SE 1/4 of Section 6		Topo map OOLITIC	
		Field located by JRD		on Mon Aug 09 1971	
		Courthouse location by		on	
		Location accepted w/o verification by		on	
		Subdivision name		Lot number	
		Ft W of EL 2500	Ft N of SL 2400	Ft E of WL	Ft S of NL
		Ground elevation 615 0	Depth to bedrock 37 0	Bedrock elevation 578 0	Aquifer elevation
		UTM Easting 537937 0	UTM Northing 4305181 0		
Well Log	Top	Bottom	Formation		
	0 0	0 0	CLAY BOLLIDERS BROKEN LS		
	0 0	37 0	OVERBURDEN CLAY BLDRS LS		
	37 0	125 0	FS		
Comments		MC578 50 S OF WHITE TRAILER TO ME DRAWDOWN DURING TEST			

183

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220891	Driving directions to well 5 MILE W AVACO, HATCHERY ON AVOCA RD		Date completed Fri, May 20, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name BARB KIRKMAN ELMER ALFORD	Address OVACA, IN RRT. #, MITCHELL, IN License:	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 98 0 Length: 43 0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6 25 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 18 0 ft	BailTest rate: 10 0 gpm for 0 5 hrs	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the NE 1/4 of the NE 1/4 of Section 6 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 950 Ground elevation: 640 0 UTM Easting: 538456 0		Township: 5N Range: 1W Topo map: OOLITIC on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: Bedrock elevation: UTM Northing: 4305893 0	
Well Log	Top 0 0 43 0	Bottom 43 0 98 0	Formation RED CLAY LS GRAY	
Comments	MC.			

184

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220896	Driving directions to well AVACA & EUREKA RD, 2 WEST, OOLITIC,		Date completed Fri, Jun 08, 1962	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name RAYMOND JONES ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD, IN RRT. 6, BOX 13, BEDFORD, IN License.	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 100 0	Pump setting depth:	Water quality:	
Casing	Length: 67 0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 2 0 gpm for hrs	
	Drawdown: ft	Static water level: 75 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: SE 1/4 of the SE 1/4 of the NW 1/4 of Section 6		Topo map: OOLITIC	
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL: 2250	Ft S of NL: 2600
	Ground elevation: 645 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation: 630 0
	UTM Easting: 537724 0	UTM Northing: 4305261 0		
Well Log	Top	Bottom	Formation	
	0 0	16 0	DIRT	
	16 0	67 0	LS BOULDERS & MUD HOLES	
	67 0	74 0	BLUE LS-HARD	
	74 0	100 0	GRAY LS-SOFT	
Comments	MC 630			

185

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
220901	FROM PATTON HILL(W OF OOLITIC) GOING W APPROX 25 MI SMALL FARM ON R		Sat, Jul 25, 1964	
Owner-Contractor	Name	Address	Telephone	
Well Owner	OPAL WEBB	821 SMITH DR, OOLITIC		
Building Contractor				
Drilling Contractor	LOUIS O. SMITH	R#1, BEDFORD		
Equipment Operator	LOUIS O SMITH	License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 163.0	Pump setting depth:	Water quality:	
Casing	Length: 26.0	Material:	Diameter: 6.25	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 3.0 gpm for 2.0 hrs	
	Drawdown: ft.	Static water level: 90.0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: SW 1/4 of the NE 1/4 of the NW 1/4 of Section 5		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1900	Ft S of NL: 1200
	Ground elevation:	Depth to bedrock:	Bedrock elevation: 640.0	Aquifer elevation:
	UTM Easting: 539303.0		UTM Northing: 4305685.0	
Well Log	Top	Bottom	Formation	
	0.0	22.0	CLAY	
	22.0	28.0	HARD LS	
	28.0	40.0	MD LIME	
	40.0	45.0	HARD LIME	
	45.0	63.0	SOFT LIME	
	63.0	95.0	MUD	
	95.0	105.0	BR LIME	
	105.0	115.0	GRAY	
	115.0	150.0	WH LS	
	150.0	163.0	HARD LIME	
Comments	MC 640			

186

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220906	Driving directions to well PATTON HILL APP 1 MI W OF OOLITIC IN		Date completed Tue, Jul 21, 1964	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ELI TAYLOR JR & NELLIE TAYLOR ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IN, RR2 BEDFORD IN, RR6 License:	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 167.0 Length: 58.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs. Static water level: 87.0 ft.	BailTest rate: 1.0 gpm for hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: NE 1/4 of the SW 1/4 of the NE 1/4 of Section 5 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1300 Ground elevation: 690.0 UTM Easting: 539919.0		Township: 5N Range: 1W Topo map: OOLITIC on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 650.0 UTM Northing: 4305543.0	
Well Log	Top	Bottom	Formation	
	0.0	41.0	DIRT	
	41.0	54.0	BLUE L.S. HARD	
	54.0	56.0	MUD HOLE	
	56.0	71.0	BLUE L.S. HARD	
	71.0	121.0	GRAY L.S. SOFT	
	121.0	154.0	WH L.S. SOFT	
	154.0	167.0	BLUE L.S. HARD	
Comments	MC 650.			

187

Record of Water Well

Indiana Department of Natural Resources

Reference Number 220911	Driving directions to well PATTON HILL, R PAST CAMP, KEEP R	Date completed Sat, Apr 01, 1961																														
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name WM. STRUNK LOUIE O. SMITH LOUIE O. SMITH	Address R#2, BEDFORD R#1, BEDFORD IN License.																														
		Telephone																														
Construction Details																																
Well	Use: HOME	Drilling method:																														
	Depth: 190.0	Pump setting depth:																														
Casing	Length: 26.0	Material:																														
Screen	Length:	Material:																														
		Pump type:																														
		Water quality:																														
		Diameter: 6.25																														
		Diameter: Slot size:																														
Well Capacity Test	Type of test:	Test rate: gpm for hrs.																														
	Drawdown: ft.	Static water level: 92.0 ft.																														
Grouting Information	Material:	Depth: from to																														
	Installation Method:	Number of bags used:																														
Well Abandonment	Sealing material:	Depth: from to																														
	Installation Method:	Number of bags used:																														
Administrative	County: LAWRENCE	Township: 5N Range: 1W																														
	Section: NE 1/4 of the SE 1/4 of the NE 1/4 of Section 5	Topo map: OOLITIC																														
	Field located by: JCH	on: Mon, Aug 01, 1966																														
	Courthouse location by:	on:																														
	Location accepted w/o verification by:	on:																														
	Subdivision name:	Lot number:																														
	Ft W of EL:	Ft N of SL:																														
	Ft E of WL: 2200	Ft S of NL: 1900																														
	Ground elevation: 650.0	Bedrock elevation: 625.0																														
	Depth to bedrock:	Aquifer elevation:																														
	UTM Easting: 539394.0	UTM Northing: 4305496.0																														
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>24.0</td><td>CLAY</td></tr> <tr><td>24.0</td><td>25.0</td><td>BLANK</td></tr> <tr><td>25.0</td><td>50.0</td><td>LS</td></tr> <tr><td>50.0</td><td>85.0</td><td>HARD TIME BLUE</td></tr> <tr><td>85.0</td><td>90.0</td><td>GREY TIME</td></tr> <tr><td>90.0</td><td>120.0</td><td>WHITISH</td></tr> <tr><td>120.0</td><td>135.0</td><td>MID TIME</td></tr> <tr><td>135.0</td><td>155.0</td><td>SOFT GREY</td></tr> <tr><td>155.0</td><td>190.0</td><td>HARD TIME</td></tr> </tbody> </table>	Top	Bottom	Formation	0.0	24.0	CLAY	24.0	25.0	BLANK	25.0	50.0	LS	50.0	85.0	HARD TIME BLUE	85.0	90.0	GREY TIME	90.0	120.0	WHITISH	120.0	135.0	MID TIME	135.0	155.0	SOFT GREY	155.0	190.0	HARD TIME	
Top	Bottom	Formation																														
0.0	24.0	CLAY																														
24.0	25.0	BLANK																														
25.0	50.0	LS																														
50.0	85.0	HARD TIME BLUE																														
85.0	90.0	GREY TIME																														
90.0	120.0	WHITISH																														
120.0	135.0	MID TIME																														
135.0	155.0	SOFT GREY																														
155.0	190.0	HARD TIME																														
Comments	MC 625:																															

188

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
220916	W OF OOLITIC 2 MI OVER PATTEN HILL ON N SIDE OF RD	Sat, Jun 17, 1967

Owner-Contractor	Name	Address	Telephone
Well Owner	BYRON BAKER	BEDFORD R	
Building Contractor			
Drilling Contractor	ROY EALFORD	R2, MITCHELL	
Equipment Operator	ROY EALFORD	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 125.0	Pump setting depth:	Water quality:
Casing	Length: 44.5	Material:	Diameter: 6.62
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 1.0 gpm for hrs
	Drawdown: ft	Static water level: 85.0 ft	

Grouting Information

Material:	Depth: from to
Installation Method:	Number of bags used:

Well Abandonment

Sealing material:	Depth: from to
Installation Method:	Number of bags used:

Administrative

County: LAWRENCE	Township: 5N Range: 1W	Topo map: OOLITIC
Section: SW 1/4 of the NW 1/4 of the NW 1/4 of Section 5		
Field located by: JRD	on: Tue, Aug 08, 1978	
Courthouse location by:	on:	
Location accepted w/o verification by:	on:	
Subdivision name:	Lot number:	
Ft W of EL:	Ft N of SL:	Ft E of WL: 550 Ft S of NL: 1200
Ground elevation: 660.0	Depth to bedrock: 44.0	Bedrock elevation: 616.0 Aquifer elevation:
UTM Easting: 538913.0		UTM Northing: 4305710.0

Well Log

Top	Bottom	Formation
0.0	44.5	SOIL & CLAY
44.5	57.0	GRAY LIME
57.0	68.0	BR LIME
68.0	82.0	GRAY LIME
82.0	125.0	WH LIME

Comments

MC 616, OWNER VERIFIED 50' NW OF HOUSE

Record of Water Well

189

Indiana Department of Natural Resources

Reference Number 217979	Driving directions to well 5MI E OF BEDFORD, ON THE LEATHERWOOD RD. & DIRECTLY S OF LEATHERWOOD CHURCH	Date completed Wed, Dec 02, 1959
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Owner-Contractor	Name	Address	Telephone
Well Owner	H.E. WEAVER	R R. 6 BEDFORD, INDIANA	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BOX 13 R R. 6 BEDFORD, INDIANA	
Equipment Operator	ERNIE UMPHRESS & SONS	License	

Construction Details

Well	Use: HOME	Drilling method:	Pump type:
	Depth: 100.0	Pump setting depth:	Water quality:
Casing	Length: 15.75	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 5 0 gpm for 0.5 hrs.
	Drawdown: ft.	Static water level: 40.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: NE 1/4 of the NW 1/4 of the NE 1/4 of Section 22	Topo map: BEDFORD EAST
	Field located by: BARNES	on: Fri, Jul 01, 1960
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 1700	Ft N of SL:
	Ft E of WL:	Ft S of NL: 100
	Ground elevation: 700 0	Bedrock elevation: 688 0
	Depth to bedrock: 12.0	Aquifer elevation:
	UTM Easting: 552845 0	UTM Northing: 4301263 0

Well Log	Top	Bottom	Formation
	0 0	12 0	DIRT FLINT ROCK
	12 0	40 0	GRAY LS
	40 0	90 0	BLUE LS HARD
	90 0	100 0	BLUE SH

Comments	MC690.
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Record of Water Well

190

Indiana Department of Natural Resources

Reference Number 217984	Driving directions to well 5MI E OF BEDFORD ON LEATHERWOOD RD, ABOUT .2MI E OF SHAWSWICK SCHOOL HOUSE		Date completed Fri, Nov 11, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name K SNOW ERNIE UMPHRESS & SONS	Address R. 6 R.R. 6 BOX 13 BEDFORD IND License:	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 90 0	Pump setting depth:	Water quality:	
Casing	Length: 25 5	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 6 0 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 45 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: NW 1/4 of the NW 1/4 of the NE 1/4 of Section 22		Topo map: BEDFORD EAST	
	Field located by: JUH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 2300	Ft N of SL:	Ft E of WL:	Ft S of NL: 100
	Ground elevation: 705 0	Depth to bedrock: 10 0	Bedrock elevation: 695 0	Aquifer elevation:
	UTM Easting: 552646 0		UTM Northing: 4301267 0	
Well Log	Top	Bottom	Formation	
	0 0	10 0	DIRT	
	10 0	20 0	LS BOULDERS HARD	
	20 0	60 0	WH LS HARD	
	60 0	75 0	BLUE LS HARD	
	75 0	90 0	BLUE SH SOFT	
Comments	MC 695 Page 9605			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217989	Driving directions to well 3MI E OF BEDFORD ON LEATHERWOOD RD, 1MI W SHAWSWICK SCHOOL	Date completed Mon, Aug 03, 1964																								
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name KEDRIC BOLTON ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address R 6 BEDFORD, IND BEDFORD, IND R R 6 License:																								
		Telephone																								
Construction Details																										
Well	Use: STOCK Depth: 200 0	Drilling method: CABLE TOOL Pump setting depth:																								
Casing	Length: 12 0	Material:																								
Screen	Length:	Material:																								
		Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:																								
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs. Static water level: 95 0 ft																								
		BailTest rate: 0 5 gpm for hrs																								
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																								
Administrative	County: LAWRENCE Section: NW 1/4 of the NE 1/4 of the NW 1/4 of Section 21 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 685 0 UTM Easting: 550770 0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number Ft E of WL: 1900 Bedrock elevation: 680 0 UTM Northing: 4301287 0																								
		Ft S of NL: 100 Aquifer elevation:																								
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>3 0</td> <td>DIRT</td> </tr> <tr> <td>3 0</td> <td>9 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>9 0</td> <td>23 0</td> <td>GRAY LS SOFT</td> </tr> <tr> <td>23 0</td> <td>57 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>57 0</td> <td>78 0</td> <td>BLUE LS SOFT</td> </tr> <tr> <td>78 0</td> <td>110 0</td> <td>WH LS HARD</td> </tr> <tr> <td>110 0</td> <td>200 0</td> <td>BLUE SH SOFT</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	3 0	DIRT	3 0	9 0	BLUE LS HARD	9 0	23 0	GRAY LS SOFT	23 0	57 0	BLUE LS HARD	57 0	78 0	BLUE LS SOFT	78 0	110 0	WH LS HARD	110 0	200 0	BLUE SH SOFT	
Top	Bottom	Formation																								
0 0	3 0	DIRT																								
3 0	9 0	BLUE LS HARD																								
9 0	23 0	GRAY LS SOFT																								
23 0	57 0	BLUE LS HARD																								
57 0	78 0	BLUE LS SOFT																								
78 0	110 0	WH LS HARD																								
110 0	200 0	BLUE SH SOFT																								
Comments	MC 680.																									

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
218029	NEAR SW CORNER OF SW QUARTER OF NE QUARTER OF ABOVE LOCATION - 100' SOUTH FROM LEATHERWOOD CREEK		Mon, Nov 07, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	J. E. SPEER	ROUTE 6, BEDFORD IN		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6, BOX 13, BEDFORD IN		
Equipment Operator	ERNIE UMPHRESS & SONS	License:		
Construction Details				
Well	Use: STOCK	Drilling method: CABLE TOOL	Pump type:	
	Depth: 100.0	Pump setting depth:	Water quality:	
Casing	Length: 10.58	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.05 gpm for 1.0 hrs	
	Drawdown: ft.	Static water level: 20.0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 16		Topo map: BEDFORD EAST	
	Field located by: JVH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 2400	Ft N of SL: 3100	Ft E of WL:	Ft S of NL:
	Ground elevation: 650.0	Depth to bedrock: 5.0	Bedrock elevation: 645.0	Aquifer elevation:
	UTM Easting:		UTM Northing:	
Well Log	Top	Bottom	Formation	
	0.0	0.0		
Comments	WELL 2 OF 2			

193

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218034	Driving directions to well APP. 3MI E OF BEDFORD, IND ON S LEATHERWOOD RD	Date completed Fri, Jun 26, 1964
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Owner-Contractor	Name	Address	Telephone
Well Owner	J E. SPEER	R 6 BEDFORD, IND.	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND R R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 200 0	Pump setting depth:	Water quality:
Casing	Length: 5 5	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0 33 gpm for hrs
	Drawdown: ft	Static water level: 88 0 ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 16	Topo map: BEDFORD EAST
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2400	Ft N of SL: 3100
	Ground elevation: 650 0	Depth to bedrock: 5 0
	UTM Easting: 550999 0	UTM Northing: 4302262 0
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation: 645 0
		Aquifer elevation

Well Log	Top	Bottom	Formation
	0 0	4 0	DIRT
	4 0	29 0	GRAY LS HARD
	24 0	60 0	GRAY LS SOFT
	60 0	109 0	BLUE LS HARD
	109 0	133 0	GRAY LS HARD
	133 0	138 0	BLUE SH SOFT
	138 0	150 0	WLS HARD
	150 0	150 0	BLUE LS SOFT
	156 0	200 0	BLUE SH SOFT

Comments MC645. WELL 1 OF 2

194

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218039	Driving directions to well NE ABOUT 25MI FROM SHAWSWICK SCHOOL IN REVEIN	Date completed Wed Nov 28 1962
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CHARLES A SNOW ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address R F D #6 BEDFORD IND R R 6 License
Telephone		
Construction Details		
Well	Use STOCK	Drilling method CABLE TOOL
	Depth 60 0	Pump setting depth
Casing	Length 14 0	Material
Screen	Length	Material
		Pump type
		Water quality
		Diameter 6 0
		Diameter Slot size
Well Capacity Test	Type of test	Test rate gpm for hrs
	Drawdown ft	Static water level 14 0 ft
Grouting Information	Material	Depth from to
	Installation Method	Number of bags used
Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used
Administrative	County LAWRENCE	Township 5N Range 1E
	Section NW 1/4 of the NE 1/4 of the SE 1/4 of Section 15	Topo map BEDFORD EAST
	Field located by JUH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EI 900	Ft N of SL 2300
	Ground elevation 650 0	Depth to bedrock
	UTM Easting 553068 0	UTM Northing 43019 1
Well Log	Top	Bottom
	0 0	36 0
	36 0	60 0
		Formation
		ORIGINAL WELL
		BLUE SH
Comments	MC OLD WELL DRILLED DEEPER	

195

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218044	Driving directions to well E OF BEDFORD OFF SR 50 1MI AT SHAWSWICK SCHOOL		Date completed Tue, Aug 23, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name SHAWSWICK TOWNSHIP SCHOOL	Address R R #6 BEDFORD, IND.	Telephone	
Construction Details		License		
Well	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:	
Casing	Depth: 200 0	Pump setting depth:	Water quality:	
Screen	Length: 8 0	Material:	Diameter: 6 0	
	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 2 5 gpm for 2 0 hrs	
	Drawdown: 140 0 ft	Static water level: 60 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SE 1/4 of the SE 1/4 of the SW 1/4 of Section 15		Topo map: BEDFORD EAST	
	Field located by: S&H		on: Thu, Nov 03, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 25	Ft E of WL: 2550	Ft S of NL:
	Ground elevation: 720 0	Depth to bedrock: 5 0	Bedrock elevation: 715 0	Aquifer elevation:
	UTM Easting: 552534 0		UTM Northing: 4301313 0	
Well Log	Top	Bottom	Formation	
	0 0	5 0	DIRT	
	5 0	70 0	BLUE LS HARD	
	70 0	200 0	BLUE SH	
Comments	MOT. OFFIC. CHEM. IRON 0 2PPM, HARDNESS 335PPM, PH 8 0, CHL. 10 12PPM			

196

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218049	Driving directions to well E OF BEDFORD 1MI S OF US RD 50 AT SHAWSWICK SCHOOL		Date completed Sat, Aug 20, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	SHAWSWICK TOWNSHIP	R.R. 6 BEDFORD, IND.		
Building Contractor	ERNIE UMPHRESS & SONS	BEDFORD IND. R.R. 6 BOX 13		
Drilling Contractor	ERNIE UMPHRESS & SONS	License:		
Equipment Operator				
Construction Details				
Well	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:	
	Depth: 150.0	Pump setting depth:	Water quality:	
Casing	Length:	Material:	Diameter:	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for hrs.	
	Drawdown: ft	Static water level: ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SE 1/4 of the SE 1/4 of the SW 1/4 of Section 15		Topo map: BEDFORD EAST	
	Field located by: S&H		on: Thu, Nov 03, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 100	Ft E of WL: 2400	Ft S of NL:
	Ground elevation: 730.0	Depth to bedrock: 6.0	Bedrock elevation: 724.0	Aquifer elevation:
	UTM Easting: 552486.0		UTM Northing: 4301334.0	
Well Log	Top	Bottom	Formation	
	0.0	6.0	DIRT	
	6.0	80.0	BLUE LS HARD	
	80.0	150.0	BLUE SH SOFT	
Comments	FC ONLY: DRY WELL:			

Record of Water Well

Indiana Department of Natural Resources

197

Reference Number **217369** Driving directions to well SHAWSWICK STATION ERIE RD Date completed Thu Oct 08 1959

Owner Contractor Name Address Telephone
Well Owner ROLAPH BECHNER R 3 BEDFORD IND
Building Contractor
Drilling Contractor ERNIE UMPHRESS & SONS R R 6 BOX 13 BEDFORD IND
Equipment Operator ERNIE UMPHRESS & SONS License

Construction Details
Well Use HOME Drilling method CABLE TOOL Pump type
Depth 275 0 Pump setting depth Water quality
Casing Length 15 75 Material Diameter 6 0
Screen Length Material Diameter Slot size
Well Capacity Test Type of test Test rate gpm for hrs Bail Test rate 0 08 gpm for 1 0 hrs
Drawdown ft Static water level 117 0 ft

Grouting Information Material Depth from to
Installation Method Number of bags used

Well Abandonment Sealing material Depth from to
Installation Method Number of bags used

Administrative County LAWRENCE Township SN Range 1E
Section SE 1/4 of the NW 1/4 of the SE 1/4 of Section 9 Topo map
Field located by I&H on Thu Nov 03 1960 BARTLETTSVILLE
Courthouse location by on
Location accepted w/o verification by on
Subdivision name Lot number
Ft W of EL 2000 Ft V of SL 1900 Ft E of WL Ft S of NL
Ground elevation 725 0 Depth to bedrock 8 0 Bedrock elevation 717 0 Aquifer elevation
UTM Easting 551113 0 UTM Northing 4303501 0

Well Log	Top	Bottom	Formation
	0 0	8 0	DIRT
	8 0	71 0	CRAYES FT
	21 0	70 0	WHITES
	70 0	90 0	WHISHARD
	90 0	95 0	BLUEIS FT
	95 0	110 0	WHITES
	110 0	145 0	BLUEIS FT
	145 0	275 0	BLUEIS FT

Comment MC

Record of Water Well

Indiana Department of Natural Resources

198

Reference Number 217374	Driving directions to well 1/4 MI N OF US HIGHWAY 50, 4 MILE EAST OF BEDFORD IN ON SHAWSWICK STATION AND ERIE ROAD	Date completed Mon, Sep 19, 1960
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Owner-Contractor	Name	Address	Telephone
Well Owner	ALDOLPH BECKNER		
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6, BEDFORD IN	
Equipment Operator	ERNIE UMPHRESS & SONS	License	

Construction Details	Use:	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 125 0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter:
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bar/ Test rate: gpm for hrs
	Drawdown: ft	Static water level: ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: SE 1/4 of the NW 1/4 of the SE 1/4 of Section 9	Topo map BARTLETTSVILLE
	Field located by: H & S	on: Thu, Nov 03, 1960
	Courthouse location by	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2000	Ft N of SL: 1400
	Ground elevation: 725 0	Depth to bedrock: 8 0
	UTM Easting:	UTM Northing:
		Ft E of WL:
		Ft S of NL:
		Bedrock elevation: 717 0
		Aquifer elevation:

Well Log	Top	Bottom	Formation
	0 0	8 0	DIRT
	8 0	21 0	GRAY LIMESTONE SOFT
	21 0	70 0	WHITE LIMESTONE SOFT
	70 0	90 0	WHITE LIMESTONE HARD
	90 0	95 0	BLUE LIMESTONE SOFT
	95 0	110 0	WHITE LIMESTONE SOFT
	110 0	125 0	BLUE LIMESTONE SOFT

Comments	DRY HOLE
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Record of Water Well

Indiana Department of Natural Resources

199

Reference Number	Driving directions to well	Date completed
217379	APPR. 3MI E OF BEDFORD, IND. ON SR 50 N/SIDE OF HIGHWAY	Thu, Jul 22, 1965

Owner-Contractor	Name	Address	Telephone
Well Owner	JAMES HEWITT	BEDFORD, IND. R R. 6	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	

Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 85.0	Pump setting depth:	Water quality:
Casing	Length: 18.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 10.0 gpm for hrs
	Drawdown: ft.	Static water level: 30.0 ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1E
	Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 9	Topo map: BARTLETTSVILLE
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 100
	Ground elevation: 645.0	Ft E of WL: 300
	UTM Easting: 550222.0	Ft S of NL:
		Bedrock elevation: 630.0
		Aquifer elevation:
		UTM Northing: 4302962.0

Well Log	Top	Bottom	Formation
	0.0	14.0	DIRT
	14.0	43.0	BLUE LS HARD
	43.0	55.0	GRAY LS HARD
	55.0	78.0	BLUE LS HARD
	78.0	85.0	WH LS HARD

Comments MC630;

200

Record of Water Well

Indiana Department of Natural Resources

Reference Number 336984	Driving directions to well GO TO OTIS PARK, TURN FIRST R HANG TO RT THEN YOU COME AROUND A STEEP CURVE W/DRIVEWAY CLOST HANG R DOWN LANE		Date completed Sat, Dec 19, 1998	
Owner-Contractor	Name	Address	Telephone	
Well Owner	DON L. TAYLOR	RR18 BOX 205, BEDFORD, IN 47421	(812)279-5190	
Building Contractor				
Drilling Contractor	PHILLIPS WELL DRLNG & PUMP SVC	RR12 BOX 444, BEDFORD, IN 47421	(812)279-4843	
Equipment Operator	KEVIN MATHIES	License 1679		
Construction Details	Use: HOME	Drilling method: ROTARY	Pump type:	
Well	Depth: 160.0	Pump setting depth:	Water quality: CLEAR	
Casing	Length: 25.0	Material: PVC	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test: BAILING	Test rate: 7.0 gpm for hrs	BailTest rate: gpm for hrs	
	Drawdown: ft	Static water level: ft		
Grouting Information	Material: BENONITE	Depth: from 0.0 to 42.0		
	Installation Method: AIR	Number of bags used: 4.0		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 5N Range: 1E		
	Section: 1/4 of the NE 1/4 of the SW 1/4 of Section 10	Topo map: BARTLETTSVILLE		
	Field located by:	on		
	Courthouse location by:	on		
	Location accepted w/o verification by:	on		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0.0	20.0	CLAY	
		22.0	BRKN SS	
		30.0	LS	
		42.0	GRAY SANDY LS	
		47.0	HD SANDY SH	
		49.0	LS	
		53.0	SHALEY LS	
		56.0	LS	
		59.0	SHALEY LS	
		67.0	LS	
		70.0	SHALEY LS	
		76.0	LS	
		85.0	HD SHALEY LS	

85 0	89 0	SANDY SH
89 0	120 0	LS WATER
120 0	160 0	SHALEY LS

Comments

SEE MAP

201

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217479	Driving directions to well STATE ROAD #58 APP 600 YARDS E OF MILWAKIE RR		Date completed Fri, May 06, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name FRANK E TODD	Address R R 3 BEDFORD IND	Telephone	
		License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type	
	Depth: 175 0	Pump setting depth:	Water quality:	
Casing	Length: 21 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size	
Well Capacity Test				
	Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 1 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 63 0 ft		
Grouting Information				
	Material:	Depth: from to		
	Installation Method	Number of bags used		
Well Abandonment				
	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used		
Administrative				
	County: LAWRENCE		Township: 5N Range: 1E	
	Section: NE 1/4 of the NW 1/4 of the SE 1/4 of Section 4		Topo map BARTLETTSVILLE	
	Field located by: BARNES		on: Mon Aug 01, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name		Lot number	
	Ft W of EL: 1500	Ft N of SL: 2300	Ft E of WL:	Ft S of NL:
	Ground elevation: 670 0	Depth to bedrock: 17 0	Bedrock elevation: 653 0	Aquifer elevation:
	UTM Easting: 551224 0		UTM Northing: 4305186 0	
Well Log				
	Top	Bottom	Formation	
	0 0	17 0	DIRT	
	17 0	40 0	BLUE LS HARD	
	40 0	175 0	BLUE SH SOFT	
Comments MC 655 LOC ACCEPTED W/O VERIF NO.				

202

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217484	Driving directions to well WELL IS APPR 5MI E OF BEDFORD CITY LIMITS OFF SR 58 TURN N ONTO RD 350E&PROCEED APP 75MI WELL IS APP 90 OFF RD 350E ON W/SIDE		Date completed Sat Mar 01 1969	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name J D PEXTON&C M PEXTON R 1 ERNIE UMPHRESS & SONS CHARLES EMPHRESS	Address R 1 HELTONVILLE IND 47436 R 6 BEFORD INDIANA 47421 License	Telephone	
Construction Details	Use HOME	Drilling method CABLE TOOL	Pump type	
Well	Depth 200 0	Pump setting depth	Water quality	
Casing	Length	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 0 13 gpm for 1 0 hrs	
	Drawdown ft	Static water level 80 0 ft		
Grouting Information	Material	Depth from to	Number of bags used	
	Installation Method			
Well Abandonment	Sealing material	Depth from to	Number of bags used	
	Installation Method			
Administrative	County LAWRENCE	Township 5N	Range 1E	
	Section 1/4 of the 1/4 of the 1/4 of Section 4	Topo map BARTLETTSVILLE		
	Field located by	on		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL	Ft E of WL	Ft S of NI
	Ground elevation	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting	UTM Northing		
Well Log	Top	Bottom	Formation	
	0 0	28 0	DIRT	
	28 0	200 0	BLUE SH SOFT	
Comments	APPROX 1 LOCATION			

203

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217489	Driving directions to well N OF SR #58 25MI SW OF HELTONVILLE 4MI OR 5 5MI NE OF BEDFORD IND		Date completed Thu Feb 16 1961	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name PAUL S NEAL ERNIE UMPHRESS	Address R R #3 BEDFORD LEATHER WOOD RD BEDFORD R R 6 BOX 13 License	Telephone	
Construction Details	Use STOCK	Drilling method CABLE TOOL	Pump type	
Well	Depth 165 0	Pump setting depth	Water quality	
Casing	Length	Material	Diameter	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate gpm for hrs	
	Drawdown ft	Static water level ft		
Grouting Information	Material	Depth from to	Number of bags used	
	Installation Method			
Well Abandonment	Sealing material	Depth from to	Number of bags used	
	Installation Method			
Administrative	County LAWRENCE	Township 5N Range 1E	Topo map	
	Section NW 1/4 of the SW 1/4 of the NW 1/4 of Section 3		BARTLETTSVILLE	
	Field located by UHL	on Tue Jun 01 1965		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL	Ft E of WL 500	Ft S of NL 1400
	Ground elevation 700 0	Depth to bedrock 21 0	Bedrock elevation 679 0	Aquifer elevation
	UTM Easting 551799 0		UTM Northing 4305631 0	
Well Log	Top	Bottom	Formation	
	0 0	21 0	DIRT	
	21 0	25 0	BLUE LS HARD	
	25 0	165 0	BLUE SH SOFT	
Comments	DRY HOLE PLUGGED MC680			

204

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
221461	E VINEGAR HILL RD 6MI FROM BEDFORD INDIANA 250S USE		Fri May 02 1969	
Owner-Contractor	Name	Address	Telephone	
Well Owner	HAROLD GUTHRIE	R R 6 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD IND R R 6		
Equipment Operator		License		
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 220 0	Pump setting depth	Water quality	
Casing	Length	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 0 17 gpm for 1 0 hrs	
	Drawdown ft	Static water level 110 0 ft		
Grouting Information	Material	Depth from to	Number of bags used	
	Installation Method			
Well Abandonment	Sealing material	Depth from to	Number of bags used	
	Installation Method			
Administrative	County LAWRENCE		Township SN Range 1E	
	Section SE 1/4 of the SE 1/4 of the NW 1/4 of Section 33		Topo map BEDFORD EAST	
	Field located by DW		on Thu Aug 13 1970	
	Courthouse location by		on	
	Location accepted w/o verification by		on	
	Subdivision name		Lot number	
	Ft W of EL	Ft N of SL	Ft E of WL 2300	Ft S of VL 2500
	Ground elevation 660 0	Depth to bedrock 28 0	Bedrock elevation 632 0	Aquifer elevation
	UTM Easting 550958 0		UTM Northing 4297342 0	
Well Log	Top	Bottom	Formation	
	0 0	28 0	DIRT	
	28 0	105 0	LS HARD	
	105 0	220 0	BLUE SH SOFT	
Comments	MC630 VERIFIED BY NEIGHBOR MC			

205

Record of Water Well

Indiana Department of Natural Resources

Reference Number 221471	Driving directions to well 4MI SE OF BEDFORD ON TUNNELTON RD	Date completed Wed, Feb 17, 1965															
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HERB KINDER ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address R R. 5 BEDFORD IND. BEDFORD IND. R R 6 License:															
		Telephone															
Construction Details																	
Well	Use: HOME Depth: 89.0	Drilling method: CABLE TOOL Pump setting depth:															
Casing	Length: 44.75	Material:															
Screen	Length:	Material:															
		Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:															
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs. Static water level: 59 0 ft.															
		BailTest rate: 5 0 gpm for hrs															
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:															
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:															
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 32 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 730 0 UTM Easting: 548870 0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: 700 Bedrock elevation: 690 0 UTM Northing: 4297488 0															
	Ft N of SL: Depth to bedrock: 40 0	Ft S of NL: 2000 Aquifer elevation:															
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>28 0</td> <td>DIRT</td> </tr> <tr> <td>28 0</td> <td>41 0</td> <td>BOULDERS & MUD HOLES</td> </tr> <tr> <td>41 0</td> <td>63 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>63 0</td> <td>89 0</td> <td>GRAY LS HARD</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	28 0	DIRT	28 0	41 0	BOULDERS & MUD HOLES	41 0	63 0	BLUE LS HARD	63 0	89 0	GRAY LS HARD	
Top	Bottom	Formation															
0 0	28 0	DIRT															
28 0	41 0	BOULDERS & MUD HOLES															
41 0	63 0	BLUE LS HARD															
63 0	89 0	GRAY LS HARD															
Comments	MC690.																

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 221476	Driving directions to well APPR 4MI SE OF BEDFORD IND ON VINEGAR HILL RD	Date completed Tue, Feb 18, 1964																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name RAY E WOODWARD ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address PO BOX 472 BEDFORD IND BEDFORD, IND R R 6 License																		
		Telephone																		
Construction Details																				
Well	Use: HOME Depth: 200 0	Drilling method: CABLE TOOL Pump setting depth																		
Casing	Length: 25 0	Material:																		
Screen	Length:	Material:																		
		Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 55 0 ft																		
		Bail Test rate: 1 0 gpm for hrs																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																		
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 32 Field located by: JUH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 725 0 UTM Easting: 548905 0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Mon Aug 01, 1966 on: on: Lot number: Ft E of WL: 800 Bedrock elevation: 705 0 UTM Northing: 4297430 0																		
	Ft N of SL: Depth to bedrock: 20 0	Ft S of NL: 2200 Aquifer elevation:																		
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>19 0</td> <td>DIRT</td> </tr> <tr> <td>19 0</td> <td>74 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>74 0</td> <td>127 0</td> <td>GRAY LS HARD</td> </tr> <tr> <td>127 0</td> <td>183 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>183 0</td> <td>200 0</td> <td>BLUE SH SOFT</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	19 0	DIRT	19 0	74 0	BLUE LS HARD	74 0	127 0	GRAY LS HARD	127 0	183 0	BLUE LS HARD	183 0	200 0	BLUE SH SOFT	
Top	Bottom	Formation																		
0 0	19 0	DIRT																		
19 0	74 0	BLUE LS HARD																		
74 0	127 0	GRAY LS HARD																		
127 0	183 0	BLUE LS HARD																		
183 0	200 0	BLUE SH SOFT																		
Comments	MC705																			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 221481	Driving directions to well APPR. 3MI SE OF BEDFORD, IND. ON TUNNELTON RD, NW CORNER OF TUNNELTON RD, & VINEGAR HILL RD		Date completed Thu, Aug 19, 1965
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name EUGENE SPAULDING ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address SPRINGVILLE, IND. R.R. 1 BEDFORD, IND. R.R. 6 License:	Telephone
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 136.0	Pump setting depth:	Water quality:
Casing	Length: 59.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 5.0 gpm for hrs
	Drawdown: ft.	Static water level: 90.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 5N Range: 1E	
	Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 32	Topo map: BEDFORD EAST	
	Field located by: JCH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 900 Ft S of NL: 2500
	Ground elevation: 700.0	Depth to bedrock: 55.0	Bedrock elevation: 645.0 Aquifer elevation:
	UTM Easting: 548919.0		UTM Northing: 4297323.0
Well Log	Top	Bottom	Formation
	0.0	15.0	DIRT
	15.0	54.0	BOULDERS & MUD HOLES
	54.0	69.0	GRAY LS HARD
	69.0	90.0	BLUE LS SOFT
	90.0	116.0	GRAY LS HARD
	116.0	136.0	WH LS SOFT
Comments	MC645;		

208

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
221486	4MI OUT ON THE L SIDE OF TUNNERTOWN RD ON L SIDE		Thu, Sep 15, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	STEPHEN E JONES	ROUTE 5 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	R R 6 BEDFORD IND		
Equipment Operator	ERNIE UMPHRESS & SONS	License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 225 0	Pump setting depth:	Water quality:	
Casing	Length: 34 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 0 05 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SW 1/4 of the SE 1/4 of the SW 1/4 of Section 32		Topo map: BEDFORD EAST	
	Field located by: S&H		on: Fri, Nov 04, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 100	Ft E of WL: 1500	Ft S of NL:
	Ground elevation: 670 0	Depth to bedrock: 20 0	Bedrock elevation: 650 0	Aquifer elevation:
	UTM Easting: 549116 0		UTM Northing: 4296531 0	
Well Log	Top	Bottom	Formation	
	0 0	20 0	DIRT	
	20 0	30 0	LS BOULDERS HARD	
	30 0	70 0	BR LS SOFT	
	70 0	79 0	BLUE LS HARD	
	79 0	85 0	BLUE SH SOFT	
	85 0	110 0	BLUE LS HARD	
	110 0	127 0	WH LS HARD	
	127 0	156 0	BLUE LS HARD	
	156 0	168 0	WH LS HARD	
	168 0	190 0	BLUE LS SOFT	
	190 0	225 0	BLUE SH SOFT	
Comments	MC650, FE-4 0PPM HARDNESS 5000 PPM PH 8 0 CHLORIDE 15PPM, APPROX LOCATION LOC ACCEPTED VERIFI YES.			

209

Record of Water Well

Indiana Department of Natural Resources

Reference Number 221491	Driving directions to well 1ST CROSS RD S OF VIRGIL GRISSIOM AIRPORT, TURN W , APPR 5MI N/SIDE OF RD VINEGAR HILL RD		Date completed Fri, Aug 12, 1966	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CHARLES E MAICK ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IND R R 5 BEDFORD IND R R 6 License	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 113 0 Length: 29 0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 50 0 ft	Bail Test rate: 0 5 gpm for hrs	
Grouting Information	Material: Installation Method	Depth: from to Number of bags used		
Well Abandonment	Sealing material: Installation Method	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 31 Field located by: PW Courthouse location by: Location accepted w/o verification by: Subdivision name Ft W of EL: 2000 Ground elevation: 670 0 UTM Easting: 548065 0		Township: 5N Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 16 1971 on: on: Lot number: Ft E of WL: Bedrock elevation: 646 0 UTM Northing: 4297330 0	
Well Log	Top 0 0 24 0 43 0 77 0 98 0	Bottom 24 0 43 0 77 0 98 0 113 0	Formation DIRT BLUE LS HARD WH LS HARD GRAY LS HARD SH LS SOFT	
Comments	MC 645 VERIFIED BY OWNER, MC,			

210

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
221496	APPR. 3MI S OF BEDFORD IND. IN S I STREET TO VINEGAR HILL RD, APPR 1MI		Wed, Mar 30, 1966
Owner-Contractor	Name	Address	Telephone
Well Owner	GLENN EDWARDS	R.R. 5 BEDFORD	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND. R.R. 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:	
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 150.0	Pump setting depth:	Water quality:
Casing	Length: 24.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 0.07 gpm for hrs.
	Drawdown: ft.	Static water level: 110.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1E
	Section: SE 1/4 of the SE 1/4 of the NW 1/4 of Section 31		Topo map: BEDFORD EAST
	Field located by: JUH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 3200	Ft N of SL:	Ft E of WL: Ft S of NL: 2500
	Ground elevation: 680.0	Depth to bedrock: 20.0	Bedrock elevation: 660.0 Aquifer elevation:
	UTM Easting: 547687.0	UTM Northing: 4297344.0	
Well Log	Top	Bottom	Formation
	0.0	16.0	DIRT
	16.0	19.0	LS BOULDERS
	19.0	28.0	BLUE LS BOULDERS HARD
	28.0	45.0	GRAY LS BOULDERS SOFT
	45.0	79.0	WH LS BOULDERS SOFT
	79.0	93.0	BLUE LS BOULDERS HARD
	93.0	126.0	WH LS BOULDERS HARD
	126.0	150.0	GRAY LS BOULDERS HARD
Comments	N/C 660.		

211

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
221501	S AND SLIGHTLY E FROM BEDFORD ON VINEGAR HILL RD		Sat, Mar 13, 1965	
Owner-Contractor	Name	Address	Telephone	
Well Owner	WALTER CRAWFORD	R R 5 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	R R 6 BEDFORD, IND		
Equipment Operator	EUGENE & CHARLES UMPHRESS	License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 200 0	Pump setting depth:	Water quality:	
Casing	Length: 26 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 13 gpm for hrs	
	Drawdown: ft	Static water level: 107 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 31		Topo map: BEDFORD EAST	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 2300	Ft E of WL: 2700	Ft S of NL:
	Ground elevation: 680 0	Depth to bedrock: 20 0	Bedrock elevation: 660 0	Aquifer elevation:
	UTM Easting: 547582 0	UTM Northing: 4297214 0		
Well Log	Top	Bottom	Formation	
	0 0	20 0	DIRT	
	20 0	26 0	GRAY LS HARD	
	26 0	54 0	BLUE LS SOFT	
	54 0	71 0	BR LS SOFT	
	71 0	94 0	BLUE LS HARD	
	94 0	100 0	BLUE SH SOFT	
	100 0	112 0	WH LS HARD	
	112 0	175 0	BLUE LS HARD	
	175 0	200 0	BLUE SH SOFT	
Comments	NK 6601			

212

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
221506	80 IN FROM N COUNTY LINE 80 FROM E BOUNDRY JUST S OF COUNTY HOUSE & A LITTLE W		Thu Nov 05 1959	
Owner Contractor	Name	Address	Telephone	
Well Owner	HAROLD LESLIE MOORE	R R #5 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS LEATHFRWOOD RD BEDFORD IND R R 6 BOX 13			
Equipment Operator	ERNIE UMPHRESS & SONS License			
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 95 0	Pump setting depth	Water quality	
Casing	Length 21 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 4 0 gpm for 1 0 hrs	
	Drawdown ft	Static water level 22 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE		Township 5N Range 1E	
	Section NW 1/4 of the NW 1/4 of the NE 1/4 of Section 31		Topo map BEDFORD EAST	
	Field located by BARNES		on Fri Jul 01 1960	
	Courthouse location by		on	
	Location accepted w/o verification by		on	
	Subdivision name		Lot number	
	Ft W of EL 2450	Ft N of SL	Ft E of WL	Ft S of VL 50
	Ground elevation 700 0	Depth to bedrock 16 0	Bedrock elevation 684 0	Aquifer elevation
	UTM Easting 547904 0		UTM Northing 4298083 0	
Well Log	Top	Bottom	Formation	
	0 0	16 0	DIRT	
	16 0	60 0	BLUE SLT HARD	
	60 0	75 0	GRAYS SLT SOFT	
	75 0	95 0	WHITE SLT HARD	
Comments	MC680 OWNER NOT HOME LOC ACCEPTED W/O VERIF YES			

Record of Water Well

213

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
221511	FROM BEDFORD GO E TO TUNNELTON RD PASS BROOK KNOLL TUPN W 1ST RD TO R TO GO POOR FARM RD TURN R 3RD HOUSE ON L 1/4 MI W OF OLD POOR FARM		Fri Aug 21 1959	
Owner Contractor	Name	Address	Telephone	
Well Owner	WARREN & SUE RAINEY	R 5 BEDFORD		
Building Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD IN		
Drilling Contractor	BUCYRUS ERIC	License		
Equipment Operator				
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 108 0	Pump setting depth	Water quality	
Casing	Length 28 5	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 0 06 gpm for 1 0 hrs	
	Drawdown ft	Static water level 38 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE	Township 5N Range 1E		
	Section NE 1/4 of the NE 1/4 of the NW 1/4 of Section 31	Topo map BEDFORD EAST		
	Field located by BARNES	on Fri Jul 01 1960		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL 3250	Ft N of SI	Ft E of WL	Ft S of NL 50
	Ground elevation 700 0	Depth to bedrock 25 0	Bedrock elevation 675 0	Aquifer elevation
	UTM Easting 547627 0		UTM Northing 4298094 0	
Well Log	Top	Bottom	Formation	
	0 0	0 0	BLANK	
Comments	MC675 OWNER NOT HOME			

214

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
221516	4MI SE OF BEDFORD ON VINEGAR HILL RD	Sat, Mar 24, 1962

Owner-Contractor	Name	Address	Telephone
Well Owner	JAMES W EDWARDS	R R. 5 BEDFORD IND	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD IND R R. 6	
Equipment Operator	ERNIE UMPHRESS & SONS	License.	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 200 0	Pump setting depth:	Water quality:
Casing	Length: 21.5	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0 18 gpm for hrs
	Drawdown: ft	Static water level: 100 0 ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: SN Range: 1E
	Section: SE 1/4 of the SE 1/4 of the NW 1/4 of Section 31	Topo map: BEDFORD EAST
	Field located by: JUH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 3300	Ft N of SL:
	Ground elevation: 680 0	Depth to bedrock: 20 0
	UTM Easting: 547653 0	UTM Northing: 4297345 0

Well Log	Top	Bottom	Formation
	0 0	18 0	DIRT
	18 0	44 0	BLUE LS HARD
	44 0	63 0	BR LS SOFT
	63 0	75 0	WH LS HARD
	75 0	91 0	BLUE LS HARD
	91 0	134 0	GRAY LS HARD
	134 0	165 0	BLUE LS HARD
	165 0	200 0	BLUE SH SOFT

Comments	MC660.
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215

Record of Water Well

Indiana Department of Natural Resources

Reference Number 221521		Driving directions to well APPR 3 BLOCKS W OF POOR FARM ON POOR FARM RD, S/SIDE OF RD		Date completed Thu, Jun 02, 1966	
Owner-Contractor		Name	Address	Telephone	
Well Owner		DAVID L. TIDD	BEDFORD IND R R 5		
Building Contractor					
Drilling Contractor		ERNIE UMPHRESS & SONS	BEDFORD IND R R 6		
Equipment Operator		EUGENE & CHARLES UMPHRESS	License		
Construction Details					
Well	Use: HOME	Drilling method: CABLE TOOL		Pump type:	
	Depth: 103 0	Pump setting depth:		Water quality:	
Casing	Length: 32 0	Material:		Diameter: 6 0	
Screen	Length:	Material:		Diameter: Slot size:	
Well Capacity Test		Type of test:	Test rate: gpm for hrs	Bail Test rate: 1 3 gpm for hrs	
		Drawdown: ft	Static water level: 40 0 ft		
Grouting Information		Material:	Depth: from to		
		Installation Method:	Number of bags used:		
Well Abandonment		Sealing material:	Depth: from to		
		Installation Method:	Number of bags used:		
Administrative					
County: LAWRENCE			Township: SN Range: 1E		
Section: NE 1/4 of the NE 1/4 of the NW 1/4 of Section 31			Topo map: BEDFORD EAST		
Field located by: DW			on: Mon, Aug 16, 1971		
Courthouse location by:			on:		
Location accepted w/o verification by:			on:		
Subdivision name:			Lot number:		
Ft W of EL:		Ft N of SL:	Ft E of WL: 3050	Ft S of NL: 50	
Ground elevation: 695 0		Depth to bedrock: 26 0	Bedrock elevation: 669 0	Aquifer elevation:	
U T M Easting: 547684 0		UTM Northing: 4298095 0			
Well Log					
	Top	Bottom	Formation		
	0 0	24 0	DIRT		
	24 0	26 0	BOULDERS		
	26 0	47 0	GRAY LS HARD		
	47 0	72 0	BLUE LS HARD		
	72 0	94 0	WH LS HARD		
	94 0	103 0	GRAY LS HARD		
Comments					
MO 675 MC					

Record of Water Well

Indiana Department of Natural Resources

216

Reference Number 221526	Driving directions to well 5MI W OF OLD VINEGAR HILL SCHOOL VINEGAR HILL SCHOOL IS LOCATED ABOUT 4MI SE OF BEDFORD ON THE TUNNELTON RD. PAST AIR PORT CROSSROADS		Date completed Mon, May 16, 1960																					
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name FAY JOHNSON WINFRED PHILLIPS WINFRED PHILLIPS	Address R R #5 BEDFORD R R. #5 BEDFORD IND License	Telephone																					
Construction Details Well Casing Screen	Use: HOME Depth: 85 0 Length: 18 0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 5 63 Diameter: Slot size:																					
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 9 0 ft	BailTest rate: 2 0 gpm for 1 0 hrs																					
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																						
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																						
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 31 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1300 Ground elevation: 670 0 UTM Easting: 548254 0		Township: 5N Range: 1E Topo map: BEDFORD EAST on Fri, Jul 01, 1960 on on Lot number: Ft E of WL: Bedrock elevation: 658 0 UTM Northing: 4297327 0																					
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>12 0</td> <td>CLAY</td> </tr> <tr> <td>10 0</td> <td>15 0</td> <td>LIME</td> </tr> <tr> <td>20 0</td> <td>16 0</td> <td>MUD SEAM</td> </tr> <tr> <td>30 0</td> <td>35 0</td> <td>BLUE LIME</td> </tr> <tr> <td>40 0</td> <td>65 0</td> <td>BR LIME</td> </tr> <tr> <td>50 0</td> <td>85 0</td> <td>BLUE LIME</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	12 0	CLAY	10 0	15 0	LIME	20 0	16 0	MUD SEAM	30 0	35 0	BLUE LIME	40 0	65 0	BR LIME	50 0	85 0	BLUE LIME		
Top	Bottom	Formation																						
0 0	12 0	CLAY																						
10 0	15 0	LIME																						
20 0	16 0	MUD SEAM																						
30 0	35 0	BLUE LIME																						
40 0	65 0	BR LIME																						
50 0	85 0	BLUE LIME																						
Comments	NO 655, LOC. ACCEPTED W/O VERIF. YES.																							

Record of Water Well

Indiana Department of Natural Resources

217

Reference Number	Driving directions to well		Date completed	
217965	NEAR INTERSECTOIN OF POOR FARM & TUNNELTON ROADS, APPROX 100 FT SOUTH OF POOR FARM RD AND 70 FT WEST OF TENNELTON ROAD		Thu, Dec 07, 1961	
Owner-Contractor	Name	Address	Telephone	
Well Owner	ALBERT E. WHITNER	RR 5, BEDFORD IN		
Building Contractor	ERNIE UMPHRESS & SONS	RR 6, BOX 13, BEDFORD IN		
Drilling Contractor	ERNIE UMPHRESS & SONS	License:		
Equipment Operator				
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 250.0	Pump setting depth:	Water quality:	
Casing	Length:	Material:	Diameter:	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bat/Test rate: 0.05 gpm for hrs.	
	Drawdown: ft.	Static water level: 150.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 5N Range: 1E		
	Section: SE 1/4 of the SW 1/4 of the SW 1/4 of Section 29	Topo map: BEDFORD EAST		
	Field located by: JVH	on: Mon, Aug 01, 1966		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL: 600	Ft E of WL: 1200	Ft S of NL:
	Ground elevation: 735.0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0.0	0.0	BLANK	
Comments	WELL DEEPEMED			

Record of Water Well

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Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217970	NEAR INTERSECTION OF POOR FARM & TUNTILTON RD		Thu, Dec 07, 1961	
Owner-Contractor	Name	Address	Telephone	
Well Owner	ALBERT E. WHITNER	R R 5 BEDFORD IND.		
Building Contractor	ERNIE UMPHRESS & SONS	R R 6 BEDFORD IND.		
Drilling Contractor	ERNIE UMPHRESS & SONS	License		
Equipment Operator				
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 144 0	Pump setting depth:	Water quality:	
Casing	Length:	Material:	Diameter:	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: gpm for hrs	
	Drawdown: ft	Static water level: ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SE 1/4 of the SW 1/4 of the SW 1/4 of Section 29		Topo map: BEDFORD EAST	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 600	Ft E of WL: 1200	Ft S of NL:
	Ground elevation: 735 0	Depth to bedrock: 25 0	Bedrock elevation: 710 0	Aquifer elevation:
	UTM Easting: 548999 0		UTM Northing: 4298280 0	
Well Log	Top	Bottom	Formation	
	0 0	25 0	DIRT	
	25 0	65 0	BLUE LS HARD	
	65 0	102 0	BR LS SOFT	
	102 0	144 0	SH LS HARD	
Comments	MC710, NO GOOD DRY HOLE Page 9604			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217975	Driving directions to well 1ST ROAD NORTH GOOSETOWN SCHOOL 1/4 MILE NORTH PINHOOK ROAD		Date completed Tue, Oct 11, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name GEORGE BARNETT ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R 5, BEDFORD IN RR 6, BOX 13, BEDFORD IN License	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 150.0 Length: 5.75 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs. Static water level: 50.0 ft.	BailTest rate: 0.13 gpm for 1 0 hrs	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 29 Field located by: S&H Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 25 Ground elevation: 650 0 UTM Easting: 550171 0		Township: 5N Range: 1E Topo map: BEDFORD EAST on: Thu, Nov 03, 1960 on: on: Lot number: Ft E of WL: Bedrock elevation: 646 0 UTM Northing: 4299669 0	
Well Log	Top 0 0	Bottom 0 0	Formation BLANK	
Comments	MC645, OFFICE CHEM. FH 5 PPM, HARDNESS - 410 PPM; PH - 7.5, CHLORIDE - 11 PPM			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217980	ON TUNTELTON & BEDFORD RD ACROSS FROM BEDFORD AIR PORT		Fri Nov 04 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	ERNEST G BARBARA S	BEDFORD IND		
Building Contractor	SPEER			
Drilling Contractor	ERNIE UMPHRESS & SONS R R 6 BOX 13 BEDFORD			
Equipment Operator	ERNIE UMPHRESS & SONS License			
Construction Details	Use	Drilling method	Pump type	
Well	HOME	CABLE TOOL		
	Depth 130 0	Pump setting depth	Water quality	
Casing	Length 31 3	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 0 gpm for 1 0 hrs	
	Drawdown ft	Static water level 85 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE	Township 5N Range 1E		
	Section NW 1/4 of the SE 1/4 of the SW 1/4 of Section 29	Topo map BEDFORD EAST		
	Field located by JUH	on Mon Aug 01 1966		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of FL	Ft N of SL 1200	Ft E of WL 1400	Ft S of SL
	Ground elevation 725 0	Depth to bedrock 20 0	Bedrock elevation 705 0	Aquifer elevation
	UTM Easting 549048 0		UTM Northing 4298491 0	
Well Log	Top	Bottom	Formation	
	0 0	20 0	DIRT	
	20 0	28 0	LS BOULDERS	
	28 0	100 0	WH LS HARD	
	100 0	130 0	GRAY LS SOFT	
Comments	MC 705			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217985	Driving directions to well ON AIRPORT & POOR FARM RD		Date completed Sat Apr 23 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CARL CASIDY ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R R 5 BEDFORD IND R R 6 BOX 13 BEDFORD IND License	Telephone	
Construction Details Well Casing Screen	Use HOME Depth 121 0 Length 23 58 Length	Drilling method CABLE TOOL Pump setting depth Material Material	Pump type Water quality Diameter 6 0 Diameter Slot size	
Well Capacity Test	Type of test Drawdown ft	Test rate gpm for hrs Static water level 43 0 ft	Bail/Test rate 0 67 gpm for 1 0 hrs	
Grouting Information	Material Installation Method	Depth from to Number of bags used		
Well Abandonment	Sealing material Installation Method	Depth from to Number of bags used		
Administrative	County LAWRENCE Section NW 1/4 of the SW 1/4 of the SW 1/4 of Section 29 Field located by BARNES Courthouse location by Location accepted w/o verification by Subdivision name Ft W of EL Ground elevation 725 0 UTM Easting 548709 0		Township 5N Range 1E Topo map BEDFORD EAST on Fri Jul 01 1960 on on Lot number Ft E of WL 300 Bedrock elevation 695 0 UTM Northing 4298332 0	
Well Log	Top 0 0 30 0 50 0 90 0	Bottom 30 0 50 0 90 0 121 0	Formation DIRT WH LS GRAY LS WH LS	
Comments	MC700 LOC ACCEPTED W/O VERIF NO HARD WATER			

222

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217990	3MI SE OF BEDFORD IND ON POOR FARM RD		Thu, Mar 29, 1962	
Owner-Contractor	Name	Address	Telephone	
Well Owner	LEONARD PAREY	R R 5 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	R R 6 BEDFORD IND		
Equipment Operator		License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 100 0	Pump setting depth:	Water quality:	
Casing	Length: 31 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 2 0 gpm for hrs	
	Drawdown: ft	Static water level 50 0 ft		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: NE 1/4 of the SW 1/4 of the SW 1/4 of Section 29		Topo map: BEDFORD EAST	
	Field located by: JUH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 700	Ft E of WL: 700	Ft S of VL:
	Ground elevation 730 0	Depth to bedrock 25 0	Bedrock elevation: 705 0	Aquifer elevation:
	UTM Easting: 548848 0		UTM Northing 4298334 0	
Well Log	Top	Bottom	Formation	
	0 0	26 0	DIRT	
	26 0	36 0	WHITISHARD	
	36 0	44 0	BLUESHARD	
	44 0	75 0	BRUSHSOFT	
	75 0	100 0	BLUESHARD	
Comments	MC705,			

223

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217995	WELL DRILLED ON PEER FARM RD JUST S OF BEDFORD AIR PORT	Sat, Jul 11, 1959

Owner-Contractor	Name	Address	Telephone
Well Owner	GEORGE HICHISON	R R 5 BEDFORD IND	
Building Contractor			
Drilling Contractor	WINFRED PHILLIPS	R R 5, BEDFORD, IND	
Equipment Operator	WINFRED PHILLIPS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 110 0	Pump setting depth:	Water quality:
Casing	Length: 27 0	Material:	Diameter: 5 63
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 58 gpm for 1 0 hrs
	Drawdown: ft	Static water level: 30 0 ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 5N Range: 1E
	Section: NW 1/4 of the SW 1/4 of the SW 1/4 of Section 29	Topo map: BEDFORD EAST
	Field located by: BARNES	on: Fri, Jul 01, 1960
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 700
	Ground elevation: 730 0	Ft E of WL: 450
	UTM Easting: 548778 0	Ft S of NL:
		Bedrock elevation: 709 0
		Aquifer elevation:
		UTM Northing: 4298328 0

Well Log	Top	Bottom	Formation
	0 0	21 0	RED CLAY
	21 0	27 0	BOULDERS
	27 0	44 0	HARD WH LIME
	44 0	95 0	SOFT BR LIME
	95 0	111	VERY HARD BLUE LIME

Comments	MC710. HIT WATER BE TW 1 N 64 & 65 LOC ACCEPTED W/O VERIF YES.
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224

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218000	Driving directions to well ON TUNNELTON & BEDFORD RD APPR. 4MI FROM BEDFORD IND ACROSS RD FROM AIR PORT		Date completed Thu, Apr 27, 1961																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HOMER GRUFF JR ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address 2120 2ST BEDFORD IND. R.R 6 BOX 13 BEDFORD IND License:	Telephone																		
Construction Details																					
Well	Use: HOME Depth: 180.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:																		
Casing	Length: 32.17	Material:	Diameter: 6 0																		
Screen	Length:	Material:	Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs Static water level: 75 0 ft	Bail Test rate: 28 0 gpm for 1 0 hrs.																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																			
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																			
Administrative	County: LAWRENCE Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 29 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Feet W of EL: Ground elevation: 730 0 UTM Easting: 549156 0																				
	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Mon, Aug 01, 1966 on: on: Lot number: Feet E of WL: 1800 Bedrock elevation: 700 0 UTM Northing: 4298766 0																				
	Feet N of SL: 2100 Depth to bedrock: 30 0 Feet S of NL: Aquifer elevation:																				
Well Log	<table border="0"> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> <tr> <td>0 0</td> <td>28 0</td> <td>DIRT</td> </tr> <tr> <td>28 0</td> <td>30 0</td> <td>BLUE LS BOULDERS</td> </tr> <tr> <td>30 0</td> <td>100 0</td> <td>WH LS HARD</td> </tr> <tr> <td>100 0</td> <td>130 0</td> <td>GRAY LS SOFT</td> </tr> <tr> <td>130 0</td> <td>180 0</td> <td>WH LS AVERAGE</td> </tr> </table>	Top	Bottom	Formation	0 0	28 0	DIRT	28 0	30 0	BLUE LS BOULDERS	30 0	100 0	WH LS HARD	100 0	130 0	GRAY LS SOFT	130 0	180 0	WH LS AVERAGE		
Top	Bottom	Formation																			
0 0	28 0	DIRT																			
28 0	30 0	BLUE LS BOULDERS																			
30 0	100 0	WH LS HARD																			
100 0	130 0	GRAY LS SOFT																			
130 0	180 0	WH LS AVERAGE																			
Comments	MC700																				

225

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
218005	APP 3 MI SE OF BEDFORD ON TUNNELTON ROAD ACROSS FROM VIRGIL GIRISSIOM AIR PORT		Thu Sep 08 1966	
Owner Contractor	Name	Address	Telephone	
Well Owner	SLFRED & ORA COLLINS	BEDFORD, IND RR6		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS&SONS	RR6 BOX 13 BEDFORD IND		
Equipment Operator	EUGENE&CHARLES UMPHRESS	License		
Construction Details				
Well	Use STOCK	Drilling method CABLE TOOL	Pump type	
	Depth 110 0	Pump setting depth	Water quality	
Casing	Length 46 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 0 8 gpm for hrs	
	Drawdown ft	Static water level 40 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE		Township 5N Range 1E	
	Section NW 1/4 of the NE 1/4 of the SW 1/4 of Section 29		Topo map BEDFORD EAST	
	Field located by DCS	on		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL 2200	Ft F of WL 1900	Ft S of NL
	Ground elevation 730 0	Depth to bedrock 42 0	Bedrock elevation 688 0	Aquifer elevation
	UTM Easting 549197 0	UTM Northing 4298784 0		
Well Log	Top	Bottom	Formation	
	0 0	42 0	DIRT	
	42 0	53 0	BLUE LS HARD	
	53 0	91 0	GRAY LS SILT	
	91 0	110 0	WHITE LS HARD	
Comments	nc 690 verified by owner mc			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 218010		Driving directions to well APPR. 1.5MI SE OF BEDFORD, IND. CORNER OF TUNNELTURN & PINHOOK RD		Date completed Mon, Dec 14, 1964	
Owner-Contractor		Name	Address	Telephone	
Well Owner		CHARLES R. BOTTS	R.R. 6 BEDFORD, IND		
Building Contractor		ERNIE UMPRESS & SONS	BEDFORD, IND. R.R. 6		
Drilling Contractor		EUGENE & CHARLES	License:		
Equipment Operator		UMPHRESS			
Construction Details					
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:		
	Depth: 140.0	Pump setting depth:	Water quality:		
Casing	Length: 3.5	Material:	Diameter: 6.0		
Screen	Length:	Material:	Diameter: Slot size:		
Well Capacity Test		Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.33 gpm for hrs.	
		Drawdown: ft.	Static water level: 20.0 ft.		
Grouting Information		Material:	Depth: from to		
		Installation Method:	Number of bags used:		
Well Abandonment		Sealing material:	Depth: from to		
		Installation Method:	Number of bags used:		
Administrative					
County: LAWRENCE		Township: 5N		Range: 1E	
Section: NW 1/4 of the NW 1/4 of the NW 1/4 of Section 29		Topo map: BEDFORD EAST			
Field located by: JUH		on: Mon, Aug 01, 1966			
Courthouse location by:		on:			
Location accepted w/o verification by:		on:			
Subdivision name:		Lot number:			
Ft W of EL:		Ft N of SL:	Ft E of WL: 400	Ft S of NL: 100	
Ground elevation: 630.0		Depth to bedrock: 5.0	Bedrock elevation: 625.0	Aquifer elevation:	
UTM Easting: 578704.0		UTM Northing: 4299671.0			
Well Log					
	Top	Bottom	Formation		
	0.0	5.0	DIRT		
	5.0	26.0	WHLS SOFT		
	26.0	51.0	BLUE SH HARD		
	51.0	56.0	BLUE SH SOFT		
	56.0	92.0	WHLS HARD		
	92.0	140.0	BLUE SH SOFT		
Comments					
MC625:					

227

Record of Water Well

Indiana Department of Natural Resources

Reference Number 218015		Driving directions to well 1MI OFF TUNNELTON RD ON PINHOOK RD		Date completed Tue Jul 07 1964	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator		Name DONALD NORDHOFF ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS		Address BEDFORD IND 616 TST BEDFORD IND R R 6 License	
Construction Details				Telephone	
Well	Use HOME	Drilling method CABLE TOOL	Pump type		
	Depth 107 0	Pump setting depth	Water quality		
Casing	Length 6 0	Material	Diameter 6 0		
Screen	Length	Material	Diameter, Slot size.		
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 0 25 gpm for hrs		
	Drawdown ft	Static water level 20 0 ft			
Grouting Information	Material		Depth from to		
	Installation Method		Number of bags used		
Well Abandonment	Sealing material		Depth from to		
	Installation Method		Number of bags used		
Administrative	County LAWRENCE		Township 5N Range 1E		
	Section SW 1/4 of the NW 1/4 of the NW 1/4 of Section 28		Topo map BEDFORD EAST		
	Field located by JUH		on Mon Aug 01 1966		
	Courthouse location by		on		
	Location accepted w/o verification by		on		
	Subdivision name		Lot number		
	Ft W of EL	Ft N of SL	Ft E of WL 600	Ft S of NL 1000	
	Ground elevation 660 0	Depth to bedrock 5 0	Bedrock elevation 655 0	Aquifer elevation	
	UTM Easting		UTM Northing		
Well Log	Top	Bottom	Formation		
	0 0	2 0	DIRT		
	2 0	33 0	GRAY L SHARD		
	33 0	59 0	BLUE L SHARD		
	59 0	65 0	BLUE L SOFT		
	65 0	101 0	BLUE L SHARD		
	101 0	107 0	BLUE L SOFT		

Comments

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 218020	Driving directions to well 3 MI SE ON TUNNELTON RD , FROM BEDFORD IND & ACROSS RD TROM AIRPORT A LITTLE TO THE N		Date completed Thu, Apr 14, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	GIRL SCOUT ASSN LAW CO	1415 1/2 W 15TH ST		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	LEATHERWOOD RD, BEDFORD, INDIANA R R 6 BOX 13		
Equipment Operator	ERNIE UMPHRESS & SONS	License		
Construction Details				
Well	Use: PUBLIC SUPPLY	Drilling method: CABLE TOOL	Pump type:	
	Depth: 205 0	Pump setting depth:	Water quality:	
Casing	Length: 47 0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 2 0 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 43 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: SN Range: 1E		
	Section: SE 1/4 of the SE 1/4 of the NW 1/4 of Section 29	Topo map: BEDFORD EAST		
	Field located by: BARNES	on: Fri, Jul 01, 1960		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL: 2800	Ft N of SL: 2900	Ft E of WL:	Ft S of NL:
	Ground elevation: 730 0	Depth to bedrock: 30 0	Bedrock elevation: 700 0	Aquifer elevation
	UTM Easting: 549353 0	UTM Northing: 4299026 0		
Well Log	Top	Bottom	Formation	
	0 0	30 0	DIRT	
	30 0	42 0	DIRT & HARD LS BOULDERS	
	42 0	60 0	WH LS HARD	
	60 0	75 0	BR LS SOFT	
	75 0	150 0	BL UE LS HARD	
	150 0	190 0	WH LS EXTRA HARD	
	190 0	205 0	BLUE LS HARD	
Comments	MC730,			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
218025	4 MILES EAST OF BEDFORD ON PINHOOK ROAD, BRIDGE CROSSING SAND CREEK AT START, LEFT SIDE OF ROAD		Tue, Aug 27, 1963	
Owner-Contractor	Name	Address	Telephone	
Well Owner	DONALD AND LEE NORDHOFF	#10 MURRAY COURT		
Building Contractor	ERNIE UMPHRESS & SONS	RR 6, BOX 13, BEDFORD IN		
Drilling Contractor	EUGENE & CHARLES UMPHRESS	License:		
Equipment Operator				
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 200 0	Pump setting depth:	Water quality:	
Casing	Length: 5.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0.1 gpm for hrs.	
	Drawdown: ft.	Static water level: 110 0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 5N	Range: 1E	
	Section: SW 1/4 of the NW 1/4 of the NW 1/4 of Section 28	Topo map: BEDFORD EAST		
	Field located by: JVH	on: Mon, Aug 01, 1966		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL: 600	Ft S of NL: 1000
	Ground elevation: 660 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0 0	0 0	BLANK	
Comments				

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 218030	Driving directions to well 1MI E OFF TUNNEL TON RD ON PINHOOK RD		Date completed Thu Sep 24 1964	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name DONALD NORDHOFF ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD IND 616 TST BEDFORD IND R R 6 License	Telephone	
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 200 0	Pump setting depth	Water quality	
Casing	Length 12 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 0 2 gpm for hrs	
	Drawdown ft	Static water level 114 0 ft		
Grouting Information	Material		Depth from to	
	Installation Method		Number of bags used	
Well Abandonment	Sealing material		Depth from to	
	Installation Method		Number of bags used	
Administrative	County LAWRENCE		Township SN Range 1E	
	Section SW 1/4 of the NW 1/4 of the NW 1/4 of Section 28		Topo map BEDFORD EAST	
	Field located by JCH		on Mon Aug 01 1966	
	Courthouse location by		on	
	Location accepted w/o verification by		on	
	Subdivision name		Lot number	
	Ft W of EL	Ft N of SL	Ft E of WL 600	Ft S of WL 1000
	Ground elevation 660 0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting		UTM Northing	
Well Log	Top	Bottom	Formation	
	0 0	4 0	DIRT	
	4 0	28 0	GRAY LS HARD	
	28 0	53 0	BLUE LS HARD	
	53 0	60 0	BLUE LS SOFT	
	60 0	108 0	BLUE LS HARD	
	108 0	200 0	BLUE SH SOFT	
Comments				

Record of Water Well

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Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
218035	APPR. 3MI E OF BEDFORD, IND. APPR. 0 125MI N OF OLD SOOSE TOWN SCHOOL		Wed, Apr 07, 1965	
Owner-Contractor	Name	Address	Telephone	
Well Owner	DONALD NORDHOFF	BEDFORD, IND. R.R.		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD IND. R.R. 6		
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 200.0	Pump setting depth:	Water quality:	
Casing	Length: 7.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0 27 gpm for hrs.	
	Drawdown: ft.	Static water level: 92.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: SW 1/4 of the NW 1/4 of the NW 1/4 of Section 28		Topo map: BEDFORD EAST	
	Field located by: JNH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 600	Ft S of NL: 1000
	Ground elevation: 660 0	Depth to bedrock: 4 0	Bedrock elevation: 656 0	Aquifer elevation:
	UTM Easting: 550378.0		UTM Northing: 4299403 0	
Well Log	Top	Bottom	Formation	
	0 0	4 0	DIRT	
	4 0	28 0	GRAY LS HARD	
	28 0	53 0	BLUE LS HARD	
	53 0	60 0	BLUE LS SOFT	
	60 0	116 0	BLUE LS HARD	
	116 0	200 0	BLUE SH SOFT	
Comments	MC655:			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
218040	APPR 4MI SE OF BEDFORD, IND ON PINHOOK RD		Fri, Oct 16, 1964
Owner-Contractor	Name	Address	Telephone
Well Owner	HAZEL L. GILSLEEP	BEDFORD, IND R R 5	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IND R R 6	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License	
Construction Details			
Well	Use: STOCK	Drilling method: CABLE TOOL	Pump type:
	Depth: 100 0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 1 0 gpm for hrs.
	Drawdown: ft.	Static water level: 20 0 ft	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 5N Range: 1E
	Section: NW 1/4 of the NE 1/4 of the SE 1/4 of Section 28		Topo map: BEDFORD EAST
	Field located by: JCH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL: 700	Ft N of SL: 2600	Ft E of WL: Ft S of NL:
	Ground elevation: 635 0	Depth to bedrock: 15 0	Bedrock elevation: 620 0 Aquifer elevation:
	UTM Easting: 551635 0	UTM Northing: 4298887 0	
Well Log	Top	Bottom	Formation
	0 0	17 0	DIRT
	17 0	100 0	BLUE SH SOFT
Comments	MC620,		

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 218045	Driving directions to well 1.5 MI OFF THE BEDFORD TUNNELTON RD ON THE GOOSE TOWN RD		Date completed Tue May 23 1961	
Owner-Contractor		Name	Address	Telephone
Well Owner		CAM ANDERSON	R R 5 BEDFORD	
Building Contractor				
Drilling Contractor		WINFRED PHILLIPS	R R 5 BEDFORD	
Equipment Operator		WINFRED PHILLIPS	License	
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 210.0	Pump setting depth	Water quality	
Casing	Length 7.0	Material	Diameter 5.63	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 0.09 gpm for 1.0 hrs	
	Drawdown ft	Static water level 65.0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE		Township 5N Range 1E	
	Section NE 1/4 of the SE 1/4 of the NW 1/4 of Section 28		Topo map BEDFORD EAST	
	Field located by JCH		on	
	Courthouse location by		on	
	Location accepted w/o verification by		on	
	Subdivision name		Lot number	
	Ft W of EL	Ft N of SL	Ft E of WL 2600	Ft S of NL 1500
	Ground elevation 610.0	Depth to bedrock 5.0	Bedrock elevation 605.0	Aquifer elevation
	UTM Easting 550986.0		UTM Northing 4299255.0	
Well Log	Top	Bottom	Formation	
	0.0	6.0	CLAY	
	6.0	58.0	LS	
	58.0	210.0	BLUE SH	
Comments	MC605			

Record of Water Well

Indiana Department of Natural Resources

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Reference Number 218050	Driving directions to well APP 5MIS OF GOOSE TOWN SCHOOL ON PINHOOK RD	Date completed Sat, Jun 14, 1969																								
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name BOB MEDOWS ERNIE UMPHRESS & SONS Address BEDFORD, R5 R. 6 BEDFORD, IND License:	Telephone																								
Construction Details Well Casing Screen	Use: HOME Depth: 219.0 Length: Length:	Drilling method: Pump setting depth: Material: Material:																								
		Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:																								
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs. Static water level: ft																								
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																								
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																								
Administrative	County: LAWRENCE Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 28 Field located by: PW Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 700.0 UTM Easting: 550611.0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Fri, Aug 13, 1971 on: on: Lot number: Ft E of WL: 1300 Bedrock elevation: 685.0 UTM Northing: 4298819.0 Ft S of NL: Aquifer elevation:																								
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>15.0</td> <td>DIRT</td> </tr> <tr> <td>15.0</td> <td>30.0</td> <td>BROKEN STONE</td> </tr> <tr> <td>30.0</td> <td>60.0</td> <td>BLUE LS SOFT</td> </tr> <tr> <td>60.0</td> <td>85.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>85.0</td> <td>120.0</td> <td>WH LS HARD</td> </tr> <tr> <td>120.0</td> <td>145.0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>145.0</td> <td>219.0</td> <td>BLUE SH SOFT</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	15.0	DIRT	15.0	30.0	BROKEN STONE	30.0	60.0	BLUE LS SOFT	60.0	85.0	BLUE LS HARD	85.0	120.0	WH LS HARD	120.0	145.0	BLUE LS HARD	145.0	219.0	BLUE SH SOFT	
Top	Bottom	Formation																								
0.0	15.0	DIRT																								
15.0	30.0	BROKEN STONE																								
30.0	60.0	BLUE LS SOFT																								
60.0	85.0	BLUE LS HARD																								
85.0	120.0	WH LS HARD																								
120.0	145.0	BLUE LS HARD																								
145.0	219.0	BLUE SH SOFT																								
Comments	MC685, DRY HOLE. VERIFIED BY OWNER, MC;																									

Record of Water Well

Indiana Department of Natural Resources

Reference Number 221541	Driving directions to well JUST S OF POOR FARM RD & ABOUT .5MI OF TUNTELTON RD TO W #2		Date completed Sat, Dec 05, 1959
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HIRKMAN & PARLEY ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R.R. 6 BEDFORD IND. R.R. 6 BOX 18 BEDFORD IND License:	Telephone
Construction Details Well Casing Screen	Use: HOME Depth: 125.0 Length: 38.83 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 57.0 ft.	BailTest rate: 2.5 gpm for 1.0 hrs.
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 29 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 730.0 UTM Easting: 548732.0		Township: 5N Range: 1E Topo map: BEDFORD EAST on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: 300 Bedrock elevation: 697.0 UTM Northing: 4298267.0 Ft S of NL: Aquifer elevation:
Well Log	Top 0.0 33.0 52.0 70.0	Bottom 33.0 52.0 70.0 125.0	Formation DIRT BLUE LS HARD GRAY LS SOFT WH LS HARD
Comments	MC700, INFOR FROM NEIGHBOR; LOC ACCEPTED W/O VERIF. YES.		

Record of Water Well

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Indiana Department of Natural Resources

Reference Number 221546	Driving directions to well JUST S OF POOR FARM RD AND ABOUT 5MI OF TUNTELTON RD TO W	Date completed Tue, Dec 08, 1959															
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HIRKMAN & PARLEY ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R R 6 BEDFORD IND R R 6 BEDFORD, IND License															
Telephone																	
Construction Details																	
Well	Use: HOME Depth: 106 0	Drilling method: CABLE TOOL Pump setting depth:															
Casing	Length: 35 3	Pump type: Water quality:															
Screen	Length:	Diameter: 6 0 Diameter: Slot size:															
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 56 0 ft															
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:															
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:															
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 29 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 730 0 UTM Easting: 548779 0	Township: 5N Range: 1E Topo map: BEDFORD EAST on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: 500 Bedrock elevation: 698 0 UTM Northing: 4298269 0															
Well Log	<table border="0"> <tr> <td>Top</td> <td>Bottom</td> <td>Formation</td> </tr> <tr> <td>0 0</td> <td>32 0</td> <td>DIRT</td> </tr> <tr> <td>32 0</td> <td>50 0</td> <td>BLUE LS HARD</td> </tr> <tr> <td>50 0</td> <td>70 0</td> <td>GRAY LS SOFT</td> </tr> <tr> <td>70 0</td> <td>106 0</td> <td>WH LS HARD</td> </tr> </table>	Top	Bottom	Formation	0 0	32 0	DIRT	32 0	50 0	BLUE LS HARD	50 0	70 0	GRAY LS SOFT	70 0	106 0	WH LS HARD	
Top	Bottom	Formation															
0 0	32 0	DIRT															
32 0	50 0	BLUE LS HARD															
50 0	70 0	GRAY LS SOFT															
70 0	106 0	WH LS HARD															
Comments	MC700 VERIFIED BY NEIGHBOR, LOC ACCEPTED W/O VERIF YES,																

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 221551	Driving directions to well APPR. 200' S OF POOR FARM RD OR 3MI SE BEDFORD IND		Date completed Wed, Nov 11, 1959	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JACK CUMMINS ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address R.R. 6 BEDFORD R.R. 6 BOX 13 BEDFORD IND. License:	Telephone	
Construction Details Well Casing Screen	Use: Depth: 100.0 Length: 23.75 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 30.0 ft.	BailTest rate: 0.2 gpm for 1.0 hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the SW 1/4 of Section 29 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 720.0 UTM Easting: 548643.0		Township: 5N Range: 1E Topo map: BEDFORD EAST on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: 100 Bedrock elevation: 698.0 UTM Northing: 4298267 0 Ft S of NL: Aquifer elevation:	
Well Log	Top	Bottom	Formation	
	0.0	22.0	DIRT	
	23.0	43.0	BLUE LS HARD	
	43.0	77.0	GRAY LS SOFT	
	77.0	100.0	BLUE LS EXTRA HARD	
Comments	MC700 LOC. ACCEPTED W/O VERIF. YES;			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
221556	ABOUT 3MI S OF BEDFORD OFF TUNTILTON RD ABOUT 5MI W ON POOR FARM RD		Wed, May 25, 1966
Owner-Contractor	Name	Address	Telephone
Well Owner	JAMES ROOT	R R 6 BEDFORD IND	
Building Contractor	ERNIE UMPHRESS & SONS	R R 6 BOX 13 BEDFORD IND	
Drilling Contractor	ERNIE UMPHRESS & SONS	License:	
Equipment Operator			
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 100.0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 3 0 gpm for 1 0 hrs
	Drawdown: ft.	Static water level: 45 0 ft	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 5N Range: 1E	
	Section: NW 1/4 of the SW 1/4 of the SW 1/4 of Section 29	Topo map: BEDFORD EAST	
	Field located by: JCH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL: 700	Ft E of WL: 100 Ft S of NL:
	Ground elevation: 720 0	Depth to bedrock: 20 0	Bedrock elevation: 700 0 Aquifer elevation:
	UTM Easting: 548639 0		UTM Northing: 4298335 0
Well Log	Top	Bottom	Formation
	0 0	20 0	DIRT
	20 0	30 0	BLUE LS BOULDERS
	30 0	40 0	BLUE LS
	40 0	75 0	BR LS
	75 0	100 0	WH LS
Comments	MC700;		

Record of Water Well

Indiana Department of Natural Resources

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Reference Number **217262** **Driving directions to well** FROM FAYETTEVILLE GO E TO 1ST RD N GO APPROX 3 MI TO 1ST SEEP HILL 2ND HSE ON HILL **Date completed** Fri, Apr 15, 1960

Owner-Contractor **Name** **Address** **Telephone**
 Well Owner ED STEELE 2307 WASH AVE, BEDFORD
 Building Contractor
 Drilling Contractor LOUIE A SMITH R1, BEDFORD
 Equipment Operator LOUIE A SMITH License

Construction Details
Well **Use:** HOME **Drilling method:** CABLE TOOL **Pump type:**
Depth: 150.0 **Pump setting depth:** **Water quality:**
Casing **Length:** **Material:** **Diameter:**
Screen **Length:** **Material:** **Diameter: Slot size:**

Well Capacity Test **Type of test:** **Test rate:** gpm for hrs. **BailTest rate:** 8.0 gpm for 2.0 hrs
Drawdown: ft. **Static water level:** ft.

Grouting Information **Material:** **Depth:** from to
Installation Method: **Number of bags used:**

Well Abandonment **Sealing material:** **Depth:** from to
Installation Method: **Number of bags used:**

Administrative **County:** LAWRENCE **Township:** 6N **Range:** 2W
Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 36 **Topo map:** OOLITIC
Field located by: S&H **on:** Tue, Nov 01, 1960
Courthouse location by: **on:**
Location accepted w/a verification by: **on:**
Subdivision name: **Lot number:**
Ft W of EL: **Ft N of SL:** 2500 **Ft E of WL:** 1000 **Ft S of NL:**
Ground elevation: 765.0 **Depth to bedrock:** **Bedrock elevation:** **Aquifer elevation:**
UTM Easting: 535841.0 **UTM Northing:** 4306708.0

Well Log

Top	Bottom	Formation
0.0	9.0	CLAY
9.0	30.0	BR LIME
30.0	100.0	WHITE LIME
100.0	125.0	HARD LIME
125.0	150.0	SOME SOFTER LIME

Comments MC

240

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217267	Driving directions to well IN 3 MILES OF FAYETTEVILLE 2 MILES OF SPRINGVILLE, BETWEEN ST HIGHWAY 450 AND ST HIGHWAY 54 ON REUTER LANE		Date completed Fri, Sep 25, 1964
Owner-Contractor	Name	Address	Telephone
Well Owner	EDGAR W & ALURA A STEELE	2307 WASHINGTON AVE , BEDFORD, INDIANA	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6, BEDFORD, IND.	
Equipment Operator	EUGENE & CHARLES UMPHRESS	License	
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 95 0	Pump setting depth:	Water quality:
Casing	Length:	Material:	Diameter:
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bad Test rate: gpm for hrs
	Drawdown: ft	Static water level: ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 6N Range: 2W	
	Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 36	Topo map: OOLITIC	
	Field located by: JVH	on: Mon, Aug 01, 1966	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL: 1800	Ft E of WL: 1400
	Ground elevation: 725 0	Depth to bedrock:	Bedrock elevation:
	UTM Easting: 535854 0		Aquifer elevation:
		UTM Northing: 4306610 0	
Well Log	Top	Bottom	Formation
	0 0	4 0	DIRT
	4 0	9 0	BLUE LS HARD
	9 0	15 0	GRAY LS HARD
	15 0	16 0	BROKEN LS SOFT
	16 0	52 0	GRAY LS HARD
	52 0	70 0	WHITE LS HARD
	70 0	73 0	BROKEN LS SOFT
	73 0	79 0	BLUE LS HARD
	79 0	82 0	BROKEN LS SOFT
	82 0	89 0	WHITE LS HARD
	89 0	95 0	BROKEN LS & MUD SOFT
Comments	MC DRY HOLE		

241

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217272	Driving directions to well SPRINGVILLE, INDIANA	Date completed Sat, Mar 21, 1964													
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CONSTANCE LACKY EADS AND DECKARD ERNEST D. EADS	Address R 2, SPRINGVILLE R 9, BLOOMINGTON, IND. License:	Telephone												
Construction Details	Use: HOME Depth: 130.0 Length: 2.0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6.0 Diameter: Slot size:												
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 93.0 ft.	BailTest rate: 10.0 gpm for 1.0 hrs.												
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:													
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:													
Administrative	County: LAWRENCE Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 36 Field located by: JRS Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 730.0 UTM Easting: 535848.0	Township: 6N Range: 2W on: Tue, Aug 08, 1978 on: on: Lot number: Ft N of SL: 1850 Depth to bedrock: 4.0 UTM Northing: 4306616.0	Topo map: OOLITIC on: Tue, Aug 08, 1978 on: on: Lot number: Ft E of WL: 1450 Bedrock elevation: 726.0 UTM Northing: 4306616.0 Ft S of NL: Aquifer elevation:												
Well Log	<table border="0"> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> <tr> <td>0.0</td> <td>4.1</td> <td>CLAY</td> </tr> <tr> <td>4.1</td> <td>105.0</td> <td>HARD LIMESTONE</td> </tr> <tr> <td>105.0</td> <td>130.0</td> <td>SLAPSTONE</td> </tr> </table>	Top	Bottom	Formation	0.0	4.1	CLAY	4.1	105.0	HARD LIMESTONE	105.0	130.0	SLAPSTONE		
Top	Bottom	Formation													
0.0	4.1	CLAY													
4.1	105.0	HARD LIMESTONE													
105.0	130.0	SLAPSTONE													
Comments	MC 726; MC; OWNER VERIFIED/ 10 FT. NW OF HOUSE:														

Record of Water Well

Indiana Department of Natural Resources

242

Reference Number	Driving directions to well		Date completed	
217241	LOCATED AT NEEDMORE INDIANA AP 2 BLOCKS DUE S OF SCHOOL HOUSE		Thu, Jul 14, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	GAROLD TURNER	RR 2 BEDFORD IND		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD IND		
Equipment Operator	ERNIE UMPHRESS	License		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 166 0	Pump setting depth:	Water quality:	
Casing	Length: 56 5	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 1 0 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 80 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 28		Topo map: OOLITIC	
	Field located by: S&H		on: Tue Nov 01 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1100	Ft S of NL: 3000
	Ground elevation: 700 0	Depth to bedrock	Bedrock elevation	Aquifer elevation:
	UTM Easting: 540648 0		UTM Northing: 4308606 0	
Well Log	Top	Bottom	Formation	
	0 0	20 0	DIRT	
	20 0	53 0	SHALIE LS & MUD	
	53 0	70 0	BLUE LS HARD	
	70 0	166 0	WH LS SOFT	
Comments	MC680			

Record of Water Well

243

Indiana Department of Natural Resources

Reference Number **217246** Driving directions to well 2 BLOCKS E OF US HWY 37 NEEDMORE, IN Date completed Wed, May 04, 1960

Owner-Contractor Name Address Telephone
Well Owner HENRY GOODMAN RR3, BEDFORD, IN
Building Contractor
Drilling Contractor ERNIE UMPHRESS & SONS BEDFORD, IN
Equipment Operator ERNIE UMPHRESS & SONS License

Construction Details
Well Use: HOME Drilling method: CABLE TOOL Pump type:
Depth: 140 0 Pump setting depth: Water quality:
Casing Length: 37 5 Material: Diameter: 6 0
Screen Length: Material: Diameter: Slot size:
Well Capacity Test Type of test: Test rate: gpm for hrs BailTest rate: 0 5 gpm for 1 0 hrs
Drawdown: ft Static water level: 70 0 ft

Grouting Information Material: Depth: from to
Installation Method: Number of bags used:

Well Abandonment Sealing material: Depth: from to
Installation Method: Number of bags used:

Administrative County: LAWRENCE Township: 6N Range: 1W
Section SE 1/4 of the SE 1/4 of the NW 1/4 of Section 28 Topo map OOLITIC
Field located by: BARNES on: Fri, Jul 01, 1960
Courthouse location by: on:
Location accepted w/o verification by: on:
Subdivision name: Lot number:
Ft W of EL: 3100 Ft N of SL: 2800 Ft E of WL: Ft S of NL:
Ground elevation: 680 0 Depth to bedrock Bedrock elevation: Aquifer elevation:
UTM Easting: 540941 0 UTM Northing: 4308545 0

Well Log	Top	Bottom	Formation
	0 0	12 0	DIRT
	12 0	15 0	LS BOULDERS
	15 0	34 0	BLUE LS & MUD HOLES
	34 0	50 0	BLUE I S HARD
	50 0	75 0	WHITE I S SOFT
	75 0	80 0	BLUE I S HARD
	80 0	140 0	WHITE I S SOFT

Comments MC

244

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217251	WELL WAS DRILLED DEEPER WELL IS LOCATED IN NEEDMORE		Wed Jul 15 1959	
Owner Contractor	Name	Address	Telephone	
Well Owner	FRED DAVIS	RR #4 BEDFORD		
Building Contractor				
Drilling Contractor	WINFRED PHILLIPS	RR #5 BEDFORD IND		
Equipment Operator	WINFRED PHILLIPS	License		
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 150 0	Pump setting depth	Water quality	
Casing	Length	Material	Diameter 5 63	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 0 gpm for 1 0 hrs	
	Drawdown ft	Static water level 53 0 ft		
Grouting Information	Material	Depth from to	Number of bags used	
	Installation Method			
Well Abandonment	Sealing material	Depth from to	Number of bags used	
	Installation Method			
Administrative	County LAWRENCE	Township 6N Range 1W	Topo map COOLIDGE	
	Section SW 1/4 of the SW 1/4 of the NW 1/4 of Section 28			
	Field located by BARNES	on Fr Jul 01 1960		
	Courthouse location by	on		
	Location accepted w/o verification by NO	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL 2800	Ft E of WL 800	Ft S of WL
	Ground elevation 700 0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting 540526 0		UTM Northing 4308502 0	
Well Log	Top	Bottom	Formation	
	0 0	90 0	BLANK	
	90 0	150 0	SOFT GRAY LIME	
Comments	MC DRILLED WELL DEEPER			

245

Record of Water Well

Indiana Department of Natural Resources

Reference Number

217256

Driving directions to well

APP 1/4 MI S OF NEEDMORE IND & ON E SIDE OF SR37

Date completed

Wed, Dec 06, 1961

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

JAMES HORNOCKER

Address

ERNIE UMPHRESS & SONS RR 6 BEDFORD IND

ERNIE UMPHRESS & SONS License

Telephone

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type

Depth: 169 0

Pump setting depth:

Water quality:

Casing

Length:

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

Bail Test rate: 15 0 gpm for hrs

Drawdown: ft

Static water level: ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used.

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used.

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: SW 1/4 of the NW 1/4 of the SE 1/4 of Section 28

Topo map: OOLITIC

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by

on:

Subdivision name

Lot number.

Ft W of EL: 2500

Ft N of SL: 1700

Ft E of WL:

Ft S of NL:

Ground elevation: 640 0

Depth to bedrock:

Bedrock elevation

Aquifer elevation

UTM Easting: 541148 0

UTM Northing: 4308174 0

Well Log

Top

Bottom

Formation

0 0

4 0

DIRT

4 0

27 0

BLUE LS HARD

27 0

85 0

WH LS SOFT

85 0

155 0

BLUE LS HARD

155 0

169 0

BR LS SOFT

Comments

MC635

246

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217261	Driving directions to well NEAR NEEDMORE ON HIGHWAY 37 S	Date completed Sat Aug 18 1962
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JOE ROBERTS FLOYD STULTZ FLOYD STULTZ	Address BEDFORD RR 3 BEDFORD IND RR 4 BOX 72 License
Telephone		
Construction Details		
Well	Use HOME	Drilling method
	Depth 105 0	Pump setting depth
Casing	Length 9 0	Material
Screen	Length	Material
		Pump type
		Water quality
		Diameter 6 0
		Diameter, Slot size
Well Capacity Test	Type of test	Test rate gpm for 8 0 hrs
	Drawdown ft	Static water level 40 0 ft
Grouting Information	Material	Depth from to
	Installation Method	Number of bags used
Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used
Administrative	County LAWRENCE	Township 6N Range 1W
	Section NW 1/4 of the SW 1/4 of the SE 1/4 of Section 28	Topo map OOLITIC
	Field located by JCH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL 2400	Ft N of SL 800
	Ground elevation 640 0	Depth to bedrock
	UTM Easting 541192 0	UTM Northing 4307912 0
		Ft E of WL
		Ft S of NL
		Bedrock elevation 630 0
		Aquifer elevation
Well Log	Top	Bottom
	0 0	8 0
	8 0	78 0
	78 0	113 0
		Formation
		CLAY
		SOFT LS
		HARD LS
Comments	MC 63P 1-6 9558	

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217266	Driving directions to well NEEDMORE IND		Date completed Tue Apr 04 1961	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ORVILLE ARTHUR FLOYD STULTZ FLOYD STULTZ	Address BEDFORD RR 3 BEDFORD IND RR 4 BOX 72 License	Telephone	
Construction Details	Use HOME	Drilling method	Pump type	
Well	Depth 120 0	Pump setting depth	Water quality	
Casing	Length 18 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test Drawdown ft	Test rate gpm for hrs Static water level ft	BarTest rate 0 8 gpm for 8 0 hrs	
Grouting Information	Material Installation Method	Depth from to Number of bags used		
Well Abandonment	Sealing material Installation Method	Depth from to Number of bags used		
Administrative	County LAWRENCE Section SW 1/4 of the SW 1/4 of the NW 1/4 of Section 28 Field located by JCH Courthouse location by Location accepted w/o verification by Subdivision name Ft W of EL Ground elevation 710 0 UTM Easting 540477 0		Township 6N Range 1W Topo map OOLITIC on Mon Aug 01 1966 on on Lot number Ft E of WL 650 Ft S of NL 2100 Bedrock elevation Aquifer elevation UTM Northing 4308636 0	
Well Log	Top 0 0 18 0	Bottom 18 0 120 0	Formation CLAY SOFT LS	
Comments				

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217271	Driving directions to well WELL WAS DRILLED IN NEEDMORE AT THE BAPTIST CHURCH	Date completed Tue, Jul 28, 1959																																	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name BAPTIST CHURCH WINFRED PHILLIPS WINFRED PHILLIPS	Address RR #4 BEDFORD IND RR #5 BEDFORD IND License																																	
		Telephone																																	
Construction Details																																			
Well	Use: HOME Depth: 200 0	Drilling method: CABLE TOOL Pump setting depth:																																	
Casing	Length: 19 0	Pump type Water quality:																																	
Screen	Length:	Diameter: 5 62 Diameter: Slot size																																	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 75 0 ft																																	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																																	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																																	
Administrative	County: LAWRENCE Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 28 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 690 0 UTM Easting: 540837 0	Township: 6N Range: 1W Topo map: OOLITIC on: Fri Jul 01, 1960 on: on: Lot number: Ft E of WL: 800 Bedrock elevation: UTM Northing: 4308314 0																																	
Well Log	<table border="0"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr><td>0 0</td><td>14 0</td><td>RED CLAY</td></tr> <tr><td>14 0</td><td>16 0</td><td>LS</td></tr> <tr><td>16 0</td><td>19 0</td><td>BLUE SH</td></tr> <tr><td>19 0</td><td>57 0</td><td>BLUE HARD LIME</td></tr> <tr><td>57 0</td><td>70 0</td><td>GRAY HARD LIME</td></tr> <tr><td>70 0</td><td>76 0</td><td>BLUE SH</td></tr> <tr><td>76 0</td><td>85 0</td><td>HARD BLUE LIME</td></tr> <tr><td>85 0</td><td>145 0</td><td>SOFT GRAY LIME</td></tr> <tr><td>145 0</td><td>165 0</td><td>VERY HARD WH LIME</td></tr> <tr><td>165 0</td><td>200 0</td><td>HARD BLUE LIME</td></tr> </tbody> </table>	Top	Bottom	Formation	0 0	14 0	RED CLAY	14 0	16 0	LS	16 0	19 0	BLUE SH	19 0	57 0	BLUE HARD LIME	57 0	70 0	GRAY HARD LIME	70 0	76 0	BLUE SH	76 0	85 0	HARD BLUE LIME	85 0	145 0	SOFT GRAY LIME	145 0	165 0	VERY HARD WH LIME	165 0	200 0	HARD BLUE LIME	
Top	Bottom	Formation																																	
0 0	14 0	RED CLAY																																	
14 0	16 0	LS																																	
16 0	19 0	BLUE SH																																	
19 0	57 0	BLUE HARD LIME																																	
57 0	70 0	GRAY HARD LIME																																	
70 0	76 0	BLUE SH																																	
76 0	85 0	HARD BLUE LIME																																	
85 0	145 0	SOFT GRAY LIME																																	
145 0	165 0	VERY HARD WH LIME																																	
165 0	200 0	HARD BLUE LIME																																	
Comments	ADD CONST INFO																																		

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217276	.5 MI N OF AVOCA ON HARROWSBURG RD LOCATED ON NW CORNER OF PLOT PT NW SW SEC 29 TW 6 R 5		Sat, Jun 01, 1963	
Owner-Contractor	Name	Address	Telephone	
Well Owner	MURLE HOSTETTER	RR2, SPRINGVILLE, IN		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	BEDFORD, IN		
Equipment Operator	EUGENE & CHARLES UMPHRESS	License:		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 175.0	Pump setting depth:	Water quality:	
Casing	Length: 78 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test				
	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0 4 gpm for hrs.	
	Drawdown: ft.	Static water level: 73 0 ft		
Grouting Information				
	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment				
	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative				
	County: LAWRENCE	Township: 6N Range: 1W		
	Section: NW 1/4 of the SW 1/4 of the SW 1/4 of Section 29	Topo map: OOLITIC		
	Field located by: JCA	on: Mon, Aug 01, 1966		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL: 1000	Ft E of WL: 100	Ft S of NL:
	Ground elevation: 610 0	Depth to bedrock:	Bedrock elevation: 580 0	Aquifer elevation:
	UTM Easting: 538735 0	UTM Northing: 4307975 0		
Well Log				
	Top	Bottom	Formation	
	0 0	32 0	DIRT	
	32 0	75 0	MUD HOLES & BROKEN STONE	
	75 0	96 0	BLUE LS HARD	
	96 0	108 0	GRAY LS HARD	
	108 0	134 0	WHITE LS SOFT	
	134 0	140 0	BLUE LS HARD	
	140 0	175 0	WHITE LS SOFT	
Comments				
	MC 580			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number **217281** Driving directions to well Date completed
 CENTE ROF THE SW 1/4 OF NW 1/4 OF N3 1/4 5 MI W OF MARSHALL TWP SCHOOL Wed, Jul 18 1962

Owner-Contractor Name Address Telephone
 Well Owner DEAN PENNINGTON RR4, BEDFORD, IN
 Building Contractor
 Drilling Contractor ERNIE UMPHRESS & SONS BEDFORD, IN
 Equipment Operator EUGENE & CHARLES UMPHRESS License

Construction Details

Well Use: HOME Drilling method: CABLE TOOL Pump type:
 Depth 162 0 Pump setting depth Water quality:
 Casing Length: 103 0 Material: Diameter: 6 0
 Screen Length: Material: Diameter: Slot size:
 Well Capacity Test Type of test: Test rate: gpm for hrs Bail Test rate: 3 0 gpm for hrs
 Drawdown: ft Static water level: 102 0 ft

Grouting Information Material: Depth: from to
 Installation Method: Number of bags used:

Well Abandonment Sealing material: Depth: from to
 Installation Method: Number of bags used:

Administrative County: LAWRENCE Township: 6N Range: 1W
 Section: SW 1/4 of the NW 1/4 of the NE 1/4 of Section 29 Topo map: OOLITIC
 Field located by: JCH on: Mon, Aug 01, 1966
 Courthouse location by: on:
 Location accepted w/o verification by: on:
 Subdivision name: Lot number
 Ft W of EL: 2100 Ft N of SL Ft E of WL Ft S of NL: 1200
 Ground elevation: 710 0 Depth to bedrock Bedrock elevation Aquifer elevation
 UTM Easting 539629 0 UTM Northing 4308897 0

Well Log	Top	Bottom	Formation
	0 0	40 0	DIRT
	40 0	43 0	BLUE LS HARD
	43 0	45 0	RED CLAY
	45 0	70 0	BROKEN LS & MUD SEAMS SOFT
	70 0	85 0	BLUE LS HARD
	85 0	98 0	BROKEN LS SOFT
	98 0	126 0	BLUE LS SOFT
	126 0	138 0	WHITE LS SOFT
	138 0	150 0	BLUE LS SOFT
	150 0	162 0	WHITE LS SOFT

Comments MC 67Page 9559

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 217286	Driving directions to well 1 MI S OF NEEDMORE		Date completed Wed, Jul 20, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name VON CRAIG FLOYD STULTZ FLOYD STULTZ	Address BEDFORD RR 3 IND. BEDFORD IND. RR 4 BOX 72 License:	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 60.0	Pump setting depth:	Water quality:	
Casing	Length: 43.0	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 5.0 gpm for 8.0 hrs.	
	Drawdown: ft.	Static water level: 35.0 ft.		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NE 1/4 of the SE 1/4 of the SE 1/4 of Section 29		Topo map: OOLITIC	
	Field located by: IT -S		on: Tue, Nov 01, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 400	Ft N of SL: 900	Ft E of WL:	Ft S of NL:
	Ground elevation: 670.0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 540174.0		UTM Northing: 4307941.0	
Well Log	Top	Bottom	Formation	
	0.0	43.0	CLAY	
	43.0	60.0	LS	
Comments	MC630. CHEM ANALYSIS			

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Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217291	APP 1/4 MI S OF NEEDMORE IND & ON W SIDE OF SR37	Wed Nov 29 1961

Owner-Contractor	Name	Address	Telephone
Well Owner	BATOME EVANS		
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BEDFORD IND	
Equipment Operator	ERNIE UMPHRESS & SONS	License	

Construction Details

Well	Use HOME	Drilling method CABLE TOOL	Pump type
	Depth 100 0	Pump setting depth	Water quality
Casing	Length 17 5	Material	Diameter 4 0
Screen	Length	Material	Diameter Slot size
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 3 0 gpm for hrs
	Drawdown ft	Static water level ft	

Grouting Information	Material	Depth from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used

Administrative	County LAWRENCE	Township 6N Range 1W
	Section SE 1/4 of the NE 1/4 of the SW 1/4 of Section 28	Topo map OOLITIC
	Field located by JCH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL	Ft N of SL 500
	Ground elevation 630 0	Ft E of WL 2650 Ft S of NL
	UTM Easting 541112 0	Depth to bedrock
		Bedrock elevation Aquifer elevation
		UTM Northing 4308119 0

Well Log	Top	Bottom	Formation
	0 0	4 0	DIRT
	4 0	23 0	BLUE LS EX HARD
	23 0	78 0	WH LS SOFT
	78 0	100 0	BLUE LS SOFT

Comments

253

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217296	AP 1/4 MI S OF NEEDMORE IND ON SR37 AND ON E SIDE OF RD		Thu, Apr 05, 1962	
Owner-Contractor	Name	Address	Telephone	
Well Owner	JOE B. NORDHAFF			
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BEDFORD IND		
Equipment Operator	ERNIE UMPHRESS & SONS	License:		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 200 0	Pump setting depth:	Water quality:	
Casing	Length: 6 8	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 2 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 75 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: SW 1/4 of the NW 1/4 of the SE 1/4 of Section 28		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 2400	Ft N of SL: 1500	Ft E of WL:	Ft S of NL:
	Ground elevation: 640 0	Depth to bedrock:	Bedrock elevation: 635 0	Aquifer elevation:
	UTM Easting: 541161 0		UTM Northing: 4308119 0	
Well Log	Top	Bottom	Formation	
	0 0	4 0	DIRT	
	4 0	70 0	BLUE LS HARD	
	70 0	76 0	WH LS SOFT	
	76 0	92 0	BR LS SOFT	
	92 0	180 0	WH LS SOFT	
	180 0	184 0	BLUE LS HARD	
	184 0	200 0	BLUE SH SOFT	
Comments				

254

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217301	Driving directions to well AVOCA	Date completed Tue Jul 07 1953	
Owner Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ELMER PATTON HOMER ALFORD	Address RR3 MITHCELL License	Telephone
Construction Details			
Well	Use HOME	Drilling method CABLE TOOL	Pump type
	Depth 114 0	Pump setting depth	Water quality
Casing	Length 39 5	Material	Diameter 5 63
Screen	Length	Material	Diameter Slot size
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 4 0 gpm for hrs
	Drawdown ft	Static water level ft	
Grouting Information	Material	Depth from to	
	Installation Method	Number of bags used	
Well Abandonment	Sealing material	Depth from to	
	Installation Method	Number of bags used	
Administrative	County LAWRENCE	Township 6N Range 1W	
	Section NW 1/4 of the SE 1/4 of the SE 1/4 of Section 31		Topo map OOLITIC
	Field located by JRD	on Tue Aug 08 1978	
	Courthouse location by	on	
	Location accepted w/o verification by	on	
	Subdivision name	Lot number	
	Ft W of EL 750	Ft N of SL 1200	Ft E of WL Ft S of VL
	Ground elevation 655 0	Depth to bedrock 35 0	Bedrock elevation 620 0 Aquifer elevation
	UTM Easting 538500 0		UTM Northing 4306438 0
Well Log	Top	Bottom	Formation
	0 0	35 0	OVERBURDEN CLAY ROCKS
	35 0	39 0	SOLID LS
	39 0	114 0	LS
Comments	MC620 ADDTL CONST INFO NEIGHBOR VERIFIED BREXK OR CREVICE @ 4 73		

255

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217306	2 MI W FROM OOLITIC ON SR54 TO GREEN LANE THEN 1 MI S		Wed Dec 09 1964	
Owner Contractor	Name	Address	Telephone	
Well Owner	JESSE STANLEY	86 OOLITIC RD BEDFORD		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD		
Equipment Operator	EUGENE & CHARLES UMPHRESS	License		
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 100 0	Pump setting depth	Water quality	
Casing	Length 46 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 4 0 gpm for hrs	
	Drawdown ft	Static water level 76 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE	Township 6N Range 1W	Topo map OOLITIC	
	Section SW 1/4 of the SW 1/4 of the SW 1/4 of Section 30			
	Field located by JRD	on Tue Aug 08 1978		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL 200	Ft F of WL 100	Ft S of NL
	Ground elevation 675 0	Depth to bedrock 39 0	Bedrock elevation 636 0	Aquifer elevation
	UTM Easting 537041 0		UTM Northing 4307704 0	
Well Log	Top	Bottom	Formation	
	0 0	39 0	BOLDERS & CLAY	
	39 0	58 0	GRAY LIMF MEDIUM	
	58 0	69 0	WH LS MEDIUM	
	69 0	87 0	GRAY LIMF	
	87 0	101 0	WH LIMF	
Comments	MC636 OWNER VERIFIED/15 FT SW OF HOUSE			

256

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217311	AP 1 MI W OF AVACA IND ON SR54		Fri Jun 10 1960	
Owner Contractor	Name	Address	Telephone	
Well Owner	GORDEN PORTER	SPRINGSVILLE RR 2		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD		
Equipment Operator	ERNIE UMPHRESS & SONS	License		
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 112 0	Pump setting depth	Water quality	
Casing	Length 50 7	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 25 gpm for 1 0 hrs	
	Drawdown ft	Static water level 43 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE		Township 6N Range 1W	
	Section SW 1/4 of the SE 1/4 of the SE 1/4 of Section 30		Topo map OOLITIC	
	Field located by BARNES		on Fri Jul 01 1960	
	Courthouse location by		on	
	Location accepted w/o verification by NO		on	
	Subdivision name		Lot number	
	Ft W of EL 1150	Ft N of SL 350	Ft E of WL	Ft S of NL
	Ground elevation 610 0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting 538357 0		UTM Northing 4307755 0	
Well Log	Top	Bottom	Formation	
	0 0	48 0	DIRT & LAYERS OF LS	
	48 0	112 0	GRAY IS NOT TO HARD	
Comments	MC			

Record of Water Well

257

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217316	3/4 MI W OF AVACO ON SR54	Tue Jul 12 1960

Owner Contractor	Name	Address	Telephone
Well Owner	ORDA O TURNER & PEARL	SPRINGSVILLE RR 2 IND	
Building Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD	
Drilling Contractor	ERNIE UMPHRESS & SONS	License	
Equipment Operator			

Construction Details	Use	Drilling method	Pump type
Well	HOME	CABLE TOOL	
	Depth	Pump setting depth	Water quality
	100 0		
Casing	Length	Material	Diameter
Screen	18 25		6 0
	Length	Material	Diameter
			18 25 Slot size
Well Capacity Test	Type of test	Test rate	Bail Test rate
	Drawdown ft	gpm for hrs	3 0 gpm for hrs
		Static water level	
		15 0 ft	

Grouting Information	Material	Depth
		from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material	Depth
		from to
	Installation Method	Number of bags used

Administrative	County	Township
	LAWRENCE	6N Range 1W
	Section	Topo map
	SE 1/4 of the SW 1/4 of the SE 1/4 of Section 30	OOLITIC
	Field located by	on
	H S	Wed Nov 01 1961
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL	Ft N of SL
	1700	200
	Ft E of WL	Ft S of NL
	Ground elevation	Bedrock elevation
	590 0	
	Depth to bedrock	Aquifer elevation
	UTM Easting	UTM Northing
	38193 0	4307724 0

Well Log	Top	Bottom	Formation
	0 0	5 0	DIRT
	5 0	15 0	SJELI IE LS
	15 0	30 0	HARD BLUE LS
	30 0	90 0	GRAY LS SOFT
	90 0	100 0	HARD BLUE LS

Comments	MC585 CHEM ANALYSIS
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Record of Water Well

258

Indiana Department of Natural Resources

Reference Number 217321	Driving directions to well APP 2 MI W OF NEEDMORE IND	Date completed Fri May 24 1963
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name MAUDE HOTZ ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address RR #4 BEDFORD IND BEDFORD IND RR 6 License
		Telephone
Construction Details		
Well	Use HOME	Drilling method CABLE TOOL
	Depth 165 0	Pump setting depth
Casing	Length 77 0	Material
Screen	Length	Material
		Pump type
		Water quality
		Diameter 6 0
		Diameter Slot size
Well Capacity Test	Type of test	Test rate gpm for hrs
	Drawdown ft	Static water level 60 0 ft
		Bail Test rate 0 5 gpm for hrs
Grouting Information	Material	Depth from to
	Installation Method	Number of bags used
Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used
Administrative	County LAWRENCE	Township 6N Range 1W
	Section SW 1/4 of the NE 1/4 of the NW 1/4 of Section 29	Topo map OOLITIC
	Field located by JCH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL	Ft N of SL
	Ground elevation 690 0	Depth to bedrock
	UTM Easting 539142 0	Bedrock elevation 661 0
		Aquifer elevation
		UTM Northing 4308878 0
Well Log	Top	Bottom
	0 0	33 0
	33 0	71 0
	71 0	90 0
	90 0	122 0
	122 0	165 0
		Formation
		DIRT
		BOULDER & MUD HOLES
		WH LS HARD
		BLUE LS HARD
		WH LS SOFT
Comments	MC 660	

259

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217326	Driving directions to well APP 1 1/2 MI NE OF AVOCA IND ON N PIKE RD		Date completed Fri, Apr 10, 1964	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ARTHUR SYKES ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address SPRINGVILLE IND. R 2 BEDFORD IND RR 6 License.	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 161.0	Pump setting depth:	Water quality:	
Casing	Length:	Material:	Diameter: 6.0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.1 gpm for 1 0 hrs	
	Drawdown: ft	Static water level: 66 0 ft		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NW 1/4 of the NW 1/4 of the SW 1/4 of Section 29		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL: 2400	Ft E of WL: 100	Ft S of NL:
	Ground elevation: 665 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 538722 0		UTM Northing: 4308383 0	
Well Log	Top	Bottom	Formation	
	0 0	101 0	BLANK	
	101 0	125 0	WH LS SOFT	
	125 0	143 0	BLUE LS HARD	
	143 0	159 0	GRAY LS HARD	
	159 0	161.0	BLUE LS HARD	
Comments	MC			

Record of Water Well

260

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217331	5 MI W AVOCA FISH HATCHERY ON EURICA RD	Sun Apr 24 1960

Owner Contractor	Name	Address	Telephone
Well Owner	ELMER PATON	AVOCA IN	
Building Contractor			
Drilling Contractor	ELMER ATFORD	MITCHELL IN	
Equipment Operator	ELMER ATFORD	License	

Construction Details	Use	Drilling method	Pump type
Well	HOME	CABLE TOOL	
	Depth 91 0	Pump setting depth	Water quality
Casing	Length	Material	Diameter
Screen	Length	Material	Diameter Slot size
Well Capacity Test	Type of test PUMPING	Test rate 11 0 gpm for hrs	BailTest rate gpm for 0 5 hrs
	Drawdown ft	Static water level 18 0 ft	

Grouting Information	Material	Depth from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used

Administrative	County LAWRENCE	Township 6N Range 1W
	Section NW 1/4 of the SW 1/4 of the SW 1/4 of Section 31	Topo map OOLITIC
	Field located by BARNES	on Fri Jul 01 1960
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL 600	Ft N of SL 1000
	Ft E of WL	Ft S of VL
	Ground elevation 650 0	Depth to bedrock
	Bedrock elevation	Aquifer elevation
	UTM Easting 538524 0	UTM Northing 4306371 0

Well Log	Top	Bottom	Formation
	0 0	57 0	CLAY & BOULDERS
	57 0	91 0	LIME GRAY

Comments

Record of Water Well

261

Indiana Department of Natural Resources

Reference Number

217336

Driving directions to well

APPROX STARTING AT THE JCT OF SR58 & GREEN LANE WELL LIES 1.2 MI S OF
SR58 103 FT E OF THE CENTER OF GREEN LANE

Date completed

Sat, Jul 23, 1960

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

KEITH S DAVIS

Address

RR #2 SPRINGVILLE

Telephone

ERNIE UMPHRESS & SONS RR 6 BOX 13 BEDFORD

ERNIE UMPHRESS

License

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 103.0

Pump setting depth:

Water quality:

Casing

Length: 95.0

Material:

Diameter: 6.0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

Bail Test rate: 10.0 gpm for 1.0 hrs

Drawdown: ft

Static water level: 63.0 ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: SW 1/4 of the NW 1/4 of the SW 1/4 of Section 31

Topo map: OOLITIC

Field located by: S&H

on: Tue, Nov 01, 1960

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 1400

Ft E of WL: 100

Ft S of NL:

Ground elevation: 670.0

Depth to bedrock

Bedrock elevation:

Aquifer elevation:

UTM Easting: 537055.0

UTM Northing: 4306503.0

Well Log

Top

Bottom

Formation

0.0

95.0

MUD HOLES & LS & BOULDERS

95.0

103.0

WH IS SOFT

Comments

MC

262

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217337	5 MI N OF BEDFORD ON PEERLESS RD 1 MI NW OF MT PLEASANT CHURCH	

Owner-Contractor	Name	Address	Telephone
Well Owner	DON STULTZ	BEDFORD RR 4 IND	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	R #4 BEDFORD IND	
Equipment Operator	FLOYD STULTZ	License	

Construction Details	Use	Drilling method	Pump type
Well	HOME	CABLE TOOL	
	Depth	Pump setting depth	Water quality
Casing	Length 10 0	Material	Diameter 6 0
Screen	Length	Material	Diameter Slot size

Well Capacity Test	Type of test	Test rate 1 0 gpm for 8 0 hrs	BailTest rate gpm for hrs
	Drawdown ft	Static water level 20 0 ft	

Grouting Information	Material	Depth from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used

Administrative	County LAWRENCE	Township 6N Range 1W
	Section SW 1/4 of the NW 1/4 of the SE 1/4 of Section 28	Topo map OOLITIC
	Field located by JCH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL 2600	Ft N of SL 1900
	Ground elevation 650 0	Depth to bedrock
	UTM Easting 641112 0	Bedrock elevation
		Aquifer elevation
		UTM Northing 4308247 0

Well Log	Top	Bottom	Formation
	0 0	10 0	CLAY
	10 0	105 0	HARD LS

Comments

263

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217341	Driving directions to well ON SR 54 IT IS ON THE L SIDE OF TOWN ON THE HILL		Date completed	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name GEORGE SARGENT HAROLD JACKSON	Address SPRINGVILLE 1516 E TIPTON, SYCAMORE, IN License:	Telephone	
Construction Details Well	Use: HOME Depth: 114 0	Drilling method: CABLE TOOL Pump setting depth:	Pump type:	
Casing	Length: 45 0	Material:	Water quality:	
Screen	Length:	Material:	Diameter: 4.5 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: ft.	BailTest rate: gpm for hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SE 1/4 of the NE 1/4 of the NE 1/4 of Section 31 Field located by: JCH Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 200 Ground elevation: 575 0 UTM Easting: 538656 0		Township: 6N Range: 1W Topo map: OOLITIC on: Mon, Aug 01, 1966 on: on: Lot number: Ft E of WL: Bedrock elevation: 530 0 UTM Northing: 4307408 0	
Well Log	Top	Bottom	Formation	
	0 0	45 0	RED CLAY	
	45 0	75 0	WHITE LIME	
	75 0	114 0	BLUE LIME & SH	
Comments	MC 530			

264

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217342	NEEDMORE ON HIGHWAY 37 S OF NEEDMORE	Wed Jun 26 1963

Owner Contractor	Name	Address	Telephone
Well Owner	DELBERT STEWART		
Building Contractor			
Drilling Contractor	FLOYD STULTZ	BEDFORD IND RR 4	
Equipment Operator	FLOYD STULTZ	License	

Construction Details	Use	Drilling method	Pump type
Well	HOME	CABLE TOOL	
	Depth 174 0	Pump setting depth	Water quality
Casing	Length 22 0	Material	Diameter 6 0
Screen	Length	Material	Diameter Slot size

Well Capacity Test	Type of test	Test rate gpm for hrs	Bail Test rate 5 0 gpm for 8 0 hrs
	Drawdown ft	Static water level 70 0 ft	

Grouting Information	Material	Depth from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material	Depth from to
	Installation Method	Number of bags used

Administrative	County LAWRENCE	Township 6N Range 1W
	Section NE 1/4 of the NE 1/4 of the SW 1/4 of Section 28	Topo map OOLITIC
	Field located by JCH	on Mon Aug 01 1966
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of FL	Ft N of SL 2000
	Ground elevation 650 0	Ft E of WL 2000
	UTM Easting 541075 0	Bedrock elevation
		Aquifer elevation
		UTM Northing 4708284 0

Well Log	Top	Bottom	Formation
	0 0	22 0	CLAY
	22 0	112 0	SOFT LS
	112 0	174 0	HARD LS

Comments

Record of Water Well

Indiana Department of Natural Resources

265
Reference Number
223245

Driving directions to well

20' W OF N PIKE RD 100' E OF SR 54

Date completed

Wed, Sep 20, 1961

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

HARVEY G HOLMES

Address

AVOCA, IN

Telephone

ERNIE UMPHRESS & SONS RR6, BEDFORD, IN

ERNIE UMPHRESS

License

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 79 0

Pump setting depth:

Water quality:

Casing

Length: 24 0

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: 6 0 gpm for 7 0 hrs

Drawdown: ft

Static water level: 39 0 ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used.

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used.

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: NE 1/4 of the NE 1/4 of the NE 1/4 of Section 31

Topo map: OOLITIC

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on

Subdivision name:

Lot number:

Ft W of EL: 100

Ft N of SL:

Ft E of WL

Ft S of NL: 400

Ground elevation: 640 0

Depth to bedrock

Bedrock elevation:

Aquifer elevation:

UTM Easting: 538675 0

UTM Northing: 4307517 0

Well Log

Top

Bottom

Formation

0 0

6 0

DIRT

6 0

20 0

WHEELER LS

20 0

79 0

WHITE LS

Comments

Record of Water Well

266

Indiana Department of Natural Resources

Reference Number **223250** Driving directions to well Date completed Tue, Jul 20, 1954

Owner-Contractor Name Address Telephone
Well Owner WENDELL TURNER
Building Contractor
Drilling Contractor HOMER ALFORD RR3 MITHCELL
Equipment Operator License:

Construction Details
Well Use: HOME Drilling method: CABLE TOOL Pump type:
Depth: 95 0 Pump setting depth: Water quality:
Casing Length: 17.0 Material: Diameter: 6 0
Screen Length: Material: Diameter: Slot size:

Well Capacity Test Type of test: Test rate: gpm for hrs. BailTest rate: 3 0 gpm for hrs
Drawdown: ft. Static water level: 45 0 ft

Grouting Information Material: Depth: from to
Installation Method: Number of bags used:

Well Abandonment Sealing material: Depth: from to
Installation Method: Number of bags used:

Administrative County: LAWRENCE Township: 6N Range: 1W
Section: NW 1/4 of the SE 1/4 of the NE 1/4 of Section 31 Topo map: OOLITIC
Field located by: JRD on: Tue, Aug 08, 1978
Courthouse location by: on:
Location accepted w/o verification by: on:
Subdivision name: Lot number:
Ft W of EL: 700 Ft N of SL: Ft E of WL: Ft S of NL: 1400
Ground elevation: 615 0 Depth to bedrock: 15 0 Bedrock elevation: 600 0 Aquifer elevation
UTM Easting: 538486 0 UTM Northing: 4307218 0

Well Log	Top	Bottom	Formation
	0 0	15 0	OVERBURDEN CLAY ROCK
	15 0	17 0	SOLID ROCK
	17 0	95 0	LS

Comments MC600, WELL HAS 100 GAL RESERVE CAP. OWNER VERIFIED/15' S OF HOUSE

Record of Water Well

267

Indiana Department of Natural Resources

Reference Number

223255

Driving directions to well

25' W OF BIOLOGIST'S RESIDENCE

Date completed

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

DNR AVOCA FISH
HATCHERY

Address

AVOCA, IN

Telephone

License:

Construction Details

Well

Use:

Depth: 130 0

Drilling method:

Pump setting depth:

Pump type:

Water quality:

Casing

Length:

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Drawdown: ft.

Test rate: 6 0 gpm for hrs

Static water level: 25 0 ft

BailTest rate: gpm for hrs

Grouting Information

Material:

Installation Method:

Depth: from to

Number of bags used:

Well Abandonment

Sealing material:

Installation Method:

Depth: from to

Number of bags used:

Administrative

County: LAWRENCE

Section: 1/4 of the 1/4 of the SW 1/4 of Section 32

Field located by:

Courthouse location by:

Location accepted w/o verification by:

Subdivision name:

Ft W of EL:

Ground elevation:

UTM Easting: 539177 0

Ft N of SL:

Depth to bedrock:

Township: 6N Range: 1W

Topo map: OOLITIC

on:

on:

on:

Lot number:

Ft E of WL:

Bedrock elevation:

UTM Northing: 4306598 0

Ft S of NL:

Aquifer elevation:

Well Log

Top

Bottom

Formation

0 0

0 0

NO INFORMATION

Comments

CHEMICAL ANALYSIS

Record of Water Well

268

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
223260			Thu, May 31, 1951	
Owner-Contractor	Name	Address	Telephone	
Well Owner	BARRETT	SOUTH AVOCA		
Building Contractor				
Drilling Contractor	HOMER ALFORD	RR3 MITHCELL		
Equipment Operator		License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 98 0	Pump setting depth:	Water quality:	
Casing	Length: 44 5	Material:	Diameter: 5 63	
Screen	Length:	Material:	Diameter: Slot size.	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 5 0 gpm for 0 5 hrs	
	Drawdown: ft	Static water level: 32 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NW 1/4 of the SE 1/4 of the SE 1/4 of Section 31		Topo map: OOLITIC	
	Field located by: JRD		on: Tue Aug 08, 1978	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL: 700	Ft N of SL: 850	Ft E of WL:	Ft S of NL:
	Ground elevation: 640 0	Depth to bedrock: 44 0	Bedrock elevation: 596 0	Aquifer elevation:
	UTM Easting: 538506 0		UTM Northing: 4306322 0	
Well Log	Top	Bottom	Formation	
	0 0	44 5	OVERBURDERN CLAY BOUL DERS	
	44 5	98 0	LS	
Comments	MC596 WELL HAS RESERVE CAP OF 100 GAL , PREVIOUS OWNER VERIFIED/SW OFHOUSE			

269

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
223265	AP 2 MI W OF AVOCA IND		Tue Jun 07 1960	
Owner Contractor	Name	Address	Telephone	
Well Owner	GAROLD BRENT (ASK E TURNER)	SPRINGVILLE IND RR 6		
Building Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD		
Drilling Contractor	ERNIE UMPHRESS & SONS	License		
Equipment Operator				
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 121 0	Pump setting depth	Water quality	
Casing	Length 66 7	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 5 gpm for 1 0 hrs	
	Drawdown ft	Static water level 71 0 ft		
Grouting Information	Material	Depth from to	Number of bags used	
	Installation Method			
Well Abandonment	Sealing material	Depth from to	Number of bags used	
	Installation Method			
Administrative	County LAWRENCE	Township 6N Range 1W	Topo map OOLITIC	
	Section SE 1/4 of the NW 1/4 of the NE 1/4 of Section 31			
	Field located by BARNES	on Fri Jul 01 1960		
	Courthouse location by	on		
	Location accepted w/o verification by NO	on		
	Subdivision name	Lot number		
	Ft W of EL. 1800	Ft N of SL.	Ft E of WL	Ft S of NL 1100
	Ground elevation 650 0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting 538145 0		UTM Northing 4707273 0	
Well Log	Top	Bottom	Formation	
	0 0	65 0	DIRT & LAYERS OF LS	
	65 0	101 0	BUFF LS SOFT	
	101 0	121 0	WH LS HARD	
Comments	MK			

270

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
223270	APP 2 MI W OF AVOCA IND ON US HIGHWAY 54 TO 1ST RD S TOWNSHIP RD APP 1/2 MI S ON E SIDE OF RD		Wed, Nov 11, 1964	
Owner-Contractor	Name	Address	Telephone	
Well Owner	DOYLE JONES	SPRINGVILLE RR 1		
Building Contractor				
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD		
Equipment Operator	EUGENE & CHARLES UMPHRESS	License		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 108 0	Pump setting depth:	Water quality:	
Casing	Length: 69 5	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 9 gpm for hrs	
	Drawdown: ft	Static water level: 68 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: SW 1/4 of the NW 1/4 of the NW 1/4 of Section 31		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 100	Ft S of NL: 1200
	Ground elevation: 670 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 538675 0		UTM Northing: 4307274 0	
Well Log	Top	Bottom	Formation	
	0 0	5 0	DIRT	
	5 0	70 0	1 S BOULDERS & MUD HOLES	
	70 0	79 0	BLUE IS HARD	
	79 0	85 0	GRAY IS SOFT	
	85 0	108 0	BLUE IS HARD	
Comments				

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 223275	Driving directions to well AVOCA IND APP. 2 BLOCKS N OF US POST OFFICE ON SR54 E SIDE OF RD		Date completed Wed, Sep 25, 1963	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CLOVIS MAY ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address AVOCA IND RR 6 BOX 13 BEDFORD IND. License:	Telephone	
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 128 0	Pump setting depth:	Water quality:	
Casing	Length: 6.3	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 1 0 gpm for hrs.	
	Drawdown: ft.	Static water level: 20 0 ft		
Grouting Information	Material:		Depth: from to	
	Installation Method:		Number of bags used:	
Well Abandonment	Sealing material:		Depth: from to	
	Installation Method:		Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NE 1/4 of the SW 1/4 of the NW 1/4 of Section 32		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 700	Ft S of NL: 1830
	Ground elevation: 560 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 538919.0		UTM Northing: 4307085 0	
Well Log	Top	Bottom	Formation	
	0 0	3 0	DIRT	
	3 0	12 0	BLUE LS HARD	
	12 0	37 0	GRAY LS SOFT	
	37 0	48 0	BLUE LS SOFT	
	48 0	61 0	GRAY LS SOFT	
	61 0	99 0	BLUE LS SOFT	
	99 0	128 0	GRAY LS HARD	
Comments				

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Record of Water Well

Indiana Department of Natural Resources

Reference Number 223280	Driving directions to well ADJOINING AVOCA STATE FISH HATCHERY ON EAST	Date completed Fri, Jul 29, 1960
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Owner-Contractor	Name	Address	Telephone
Well Owner	HOMER ROLLINS	AVOCA IND	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD IND.	
Equipment Operator	ERNIE UMPHRESS & SONS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 119.0	Pump setting depth:	Water quality:
Casing	Length: 10.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0.5 gpm for 1.0 hrs
	Drawdown: ft.	Static water level: 14.0 ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 6N Range: 1W
	Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 32	Topo map: OOLITIC
	Field located by: S & H	on: Tue, Nov 01, 1960
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 2500
	Ground elevation: 565.0	Ft E of WL: 1000
	UTM Easting: 539017.0	Ft S of NL:
		Depth to bedrock:
		Bedrock elevation:
		Aquifer elevation
		UTM Northing: 4306860.0

Well Log	Top	Bottom	Formation
	0.0	3.0	DIRT
	3.0	8.0	SHELLIE LS
	8.0	40.0	BLUE LS
	40.0	100.0	WH LS
	100.0	119.0	BLUE LS HARD

Comments	MC
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273

Record of Water Well

Indiana Department of Natural Resources

Reference Number 223285	Driving directions to well E SIDE OF AVOCA 1/4 MI FROM H WAY 54 IN AVOCA		Date completed Thu, Dec 01, 1966	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name MAURICE GRAVES RAY E ALFORD RAY E ALFORD	Address AVOCA RR 2 MITCHELL License	Telephone	
Construction Details Well Casing Screen	Use: HOME Depth: 117 0 Length: 28 0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality Diameter: 6 63 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: ft	BailTest rate: 7 0 gpm for hrs	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section SE 1/4 of the NW 1/4 of the NW 1/4 of Section 32 Field located by: JRD Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation 615 0 UTM Easting: 538992 0		Township: 6N Range: 1W Topo map OOLITIC on: Tue Aug 08, 1978 on: on: Lot number Ft E of WL: 1000 Bedrock elevation 607 0 UTM Northing: 4307359 0	
Well Log	Top 0 0 8 0 28 0 87 0	Bottom 8 0 28 0 87 0 117 0	Formation SOIL CLAY SHELLY LIME & SS GRAY LIME MD WH LIME MD	
Comments	MC 60" OWNER VERIFIED/NE CORNER OF HOUSE			

274

Record of Water Well

Indiana Department of Natural Resources

Reference Number 223290	Driving directions to well AVOCA SR54 ACROSS FROM BRANCH EAST STATE FISH HATCHERY		Date completed Mon, Oct 05, 1959																		
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name LEX FRANKLIN ERNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS License:	Address AVOCA IND. RR 6 BOX 13 BEDFORD IND.	Telephone																		
Construction Details Well Casing Screen	Use: HOME Depth: 89 0 Length: 9 0 Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: 6 0 Diameter: Slot size:																		
Well Capacity Test	Type of test: Drawdown: 68.0 ft.	Test rate: gpm for hrs. Static water level: 81.0 ft.	BailTest rate: 1 2 gpm for 1 0 hrs.																		
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																			
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																			
Administrative	County: LAWRENCE Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 32 Field located by: BARNES Courthouse location by: Location accepted w/o verification by: NO Subdivision name: Ft W of EL: 3650 Ground elevation: 560 0 UTM Easting: 539231 0		Township: 6N Range: 1W Topo map: OOLITIC on: Fri, Jul 01, 1960 on: on: Lot number: Ft E of WL: Bedrock elevation: UTM Northing: 4306622 0																		
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0 0</td> <td>3 0</td> <td>DIRT</td> </tr> <tr> <td>3 0</td> <td>7 0</td> <td>BROKEN LS</td> </tr> <tr> <td>7 0</td> <td>40 0</td> <td>GRAY LIME SOFT</td> </tr> <tr> <td>40 0</td> <td>60 0</td> <td>BLUE LIME SOFT</td> </tr> <tr> <td>60 0</td> <td>89 0</td> <td>BUFF SOFT</td> </tr> </tbody> </table>	Top	Bottom	Formation	0 0	3 0	DIRT	3 0	7 0	BROKEN LS	7 0	40 0	GRAY LIME SOFT	40 0	60 0	BLUE LIME SOFT	60 0	89 0	BUFF SOFT		
Top	Bottom	Formation																			
0 0	3 0	DIRT																			
3 0	7 0	BROKEN LS																			
7 0	40 0	GRAY LIME SOFT																			
40 0	60 0	BLUE LIME SOFT																			
60 0	89 0	BUFF SOFT																			
Comments	MC580																				

Record of Water Well

Indiana Department of Natural Resources

275

Reference Number 223295	Driving directions to well ACROSS THE STREET FROM AVOCA BAPTIST CHURCH PARSONAGE		Date completed Wed, May 04, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	RUSSEL TURNER			
Building Contractor				
Drilling Contractor	WINFRED PHILLIPS	RR #5 BEDFORD IND.		
Equipment Operator	WINFRED PHILLIPS	License:		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 88 0	Pump setting depth:	Water quality:	
Casing	Length: 28 0	Material:	Diameter: 5 63	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: gpm for hrs	
	Drawdown: ft.	Static water level: 35 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: SE 1/4 of the SW 1/4 of the NW 1/4 of Section 32		Topo map: OOLITIC	
	Field located by: BARNES		on: Fri, Jul 01, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by: NO		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 1200	Ft S of NL: 2100
	Ground elevation: 590 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 539078 0		UTM Northing: 4306994 0	
Well Log	Top	Bottom	Formation	
	0 0	28 0	RED CLAY	
	28 0	45 0	BLUE LIME	
	45 0	65 0	BR LIME	
	65 0	88 0	SOFT WH LIME	
Comments	MC, I COULD NOT LOWER WATER IN THIS WELL WITH 6 GAL BAILER			

Record of Water Well

276

Indiana Department of Natural Resources

Reference Number 223300	Driving directions to well APP 5 MI NE OF AVOCA POST OFFICE AT AVOCA IND		Date completed Thu Oct 21 1965	
Owner-Contractor	Name	Address	Telephone	
Well Owner	ROBERT & THOMAS BUNCH	AVOCA IND		
Building Contractor	FRNIE UMPHRESS & SONS	RR 6 BOX 13 BEDFORD		
Drilling Contractor	EUGENE & CHARLES UMPHRESS	License		
Equipment Operator				
Construction Details	Use	Drilling method	Pump type	
Well	HOME	CABLE TOOL		
	Depth 103 0	Pump setting depth	Water quality	
Casing	Length 75 0	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate gpm for hrs	
	Drawdown ft	Static water level 90 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE	Township 6N	Range 1W	
	Section NE 1/4 of the NW 1/4 of the NW 1/4 of Section 32	Topo map COOLITIC		
	Field located by JCH	on Mon Aug 01 1966		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of EL	Ft N of SL	Ft F of WL 1200	Ft S of NL 600
	Ground elevation 640 0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting 539065 0		UTM Northing 4307482 0	
Well Log	Top	Bottom	Formation	
	0 0	14 0	DIRT	
	14 0	70 0	BOULDERS & MUD HOLES	
	70 0	97 0	GRAY IS HARD	
	97 0	103 0	BLUE IS HARD	
Comments	MC630			

277

Record of Water Well

Indiana Department of Natural Resources

Reference Number 223315	Driving directions to well IN AVOCA ON LOTS 55 & 56 OF BRIDWELL ADD. APPROX 1 BLOCK OFF STATE HWY 54 & 58		Date completed Thu, Sep 06, 1962	
Owner-Contractor	Name	Address	Telephone	
Well Owner	ROBERT OR LINDA CHARELS	ANOCA, IN		
Building Contractor	ERNIE UMPHRESS & SONS	RR6, BEDFORD, IN		
Drilling Contractor	EUGENE & CHARLES UMPHRESS	License		
Equipment Operator				
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 217 0	Pump setting depth:	Water quality:	
Casing	Length: 27.5	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail Test rate: 0 1 gpm for hrs.	
	Drawdown: ft	Static water level: 97 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE	Township: 6N	Range: 1W	
	Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 32	Topo map: OOLITIC		
	Field located by: JCH	on: Mon, Aug 01, 1966		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL: 2300	Ft E of WL: 1400	Ft S of NL:
	Ground elevation: 580 0	Depth to bedrock	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 539139 0		UTM Northing: 4306775 0	
Well Log	Top	Bottom	Formation	
	0 0	16 0	DIRT	
	16 0	52 0	BLUE LS HARD	
	52 0	97 0	GRAY LS HARD	
	97 0	115 0	GRAY LS SOFT	
	115 0	130 0	BLUE LS HARD	
	130 0	175 0	GRAY LS HARD	
	175 0	206 0	BLUE LS SOFT	
	206 0	217 0	BLUE SH SOFT	
Comments				

278

Record of Water Well

Indiana Department of Natural Resources

Reference Number 223320	Driving directions to well 1 1/2 MI N OF OOLITIC ON NEW HIGHWAY 37 1/4 MI N OF AVOCA BLINKER LIGHT ON NEW HIGHWAY 37 ON E SIDE OF HIGHWAY 37 PART OF THE JAMES MILLER LAND		Date completed Wed, Dec 04, 1974																					
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name CHARLES MILLER RAY E. ALFORD RAY E. ALFORD	Address BEDFORD IND. RR MITCHELL IND RR 2 License:	Telephone																					
Construction Details Well Casing Screen	Use: HOME Depth: 200.0 Length: Length:	Drilling method: CABLE TOOL Pump setting depth: Material: Material:	Pump type: Water quality: Diameter: Diameter: Slot size:																					
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 34.0 ft	Bail Test rate: 1.0 gpm for 1.0 hrs.																					
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																						
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																						
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 32 Field located by: JRD Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1800 Ft N of SL: Ft E of WL: Ft S of NL: 2400 Ground elevation: 660.0 Depth to bedrock: 42.0 Bedrock elevation: 618.0 Aquifer elevation: UTM Easting: 539779.0 UTM Northing: 4306928.0																							
Well Log	<table border="1"> <thead> <tr> <th>Top</th> <th>Bottom</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0.0</td> <td>42.0</td> <td>SOIL & CLAY</td> </tr> <tr> <td>42.0</td> <td>53.0</td> <td>HARD GRAY LIME HARD</td> </tr> <tr> <td>53.0</td> <td>64.0</td> <td>BR BL FH LIME SOFT</td> </tr> <tr> <td>64.0</td> <td>170.0</td> <td>GRAY LIME MD LITTLE WATER</td> </tr> <tr> <td>170.0</td> <td>174.0</td> <td>YEL SOAPSTONE LITTLE W</td> </tr> <tr> <td>174.0</td> <td>200.0</td> <td>HARD WH LIME</td> </tr> </tbody> </table>	Top	Bottom	Formation	0.0	42.0	SOIL & CLAY	42.0	53.0	HARD GRAY LIME HARD	53.0	64.0	BR BL FH LIME SOFT	64.0	170.0	GRAY LIME MD LITTLE WATER	170.0	174.0	YEL SOAPSTONE LITTLE W	174.0	200.0	HARD WH LIME		
Top	Bottom	Formation																						
0.0	42.0	SOIL & CLAY																						
42.0	53.0	HARD GRAY LIME HARD																						
53.0	64.0	BR BL FH LIME SOFT																						
64.0	170.0	GRAY LIME MD LITTLE WATER																						
170.0	174.0	YEL SOAPSTONE LITTLE W																						
174.0	200.0	HARD WH LIME																						
Comments	MC618, NEIGHBOR VERIFIED																							

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Record of Water Well

Indiana Department of Natural Resources

Reference Number

223325

Driving directions to well

ACROSS FROM AVOCA FISH HATCHERY

Date completed

Wed, May 13, 1964

Owner-Contractor

Well Owner
Building Contractor
Drilling Contractor
Equipment Operator

Name

EVA CRULS

Address

AVOCA IND

Telephone

ERNIE UMPHRESS & SONS RR 6 BOX 13 BEDFORD IND.
EUGENE & CHARLES
UMPHRESS License.

Construction Details

Well

Use: HOME

Drilling method: CABLE TOOL

Pump type:

Depth: 166 0

Pump setting depth:

Water quality:

Casing

Length: 54.0

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs.

BailTest rate: 1 5 gpm for hrs

Drawdown: ft

Static water level: 93 0 ft

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1W

Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 32

Topo map: OOLITIC

Field located by: JCH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL:

Ft N of SL: 2450

Ft E of WL: 1100

Ft S of NL:

Ground elevation 565 0

Depth to bedrock:

Bedrock elevation:

Aquifer elevation:

UTM Easting: 539042 0

UTM Northing: 4306823 0

Well Log

Top

Bottom

Formation

0 0

24 0

DIRT

24 0

53 0

BOULDERS & MUD HOLES

53 0

104 0

GRAY LS HARD

104 0

139 0

BLUE LS SOFT

139 0

166 0

WH LS HARD

Comments

Record of Water Well

280

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217287	LOGAN 8 MI N OF BEDFORD ON MONON RR FORMERLY CALL GRAYSON	Wed, Aug 05, 1964

Owner-Contractor	Name	Address	Telephone
Well Owner	CARL HARTMAN	BEDFORD IND RR 3	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	BEDFORD IND RR 4	
Equipment Operator	FLOYD STULTZ	License:	

Construction Details	Use:	Drilling method:	Pump type:
Well	HOME		
	Depth: 220 0	Pump setting depth:	Water quality:
Casing	Length: 9 0	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: 0 05 gpm for 8 0 hrs	BailTest rate: gpm for hrs
	Drawdown: ft	Static water level: ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 6N Range: 1W
	Section: NE 1/4 of the NW 1/4 of the SE 1/4 of Section 22	Topo map: OOLITIC
	Field located by: JCH	on: Mon, Aug 01, 1966
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL: 2800
	Ground elevation: 580 0	Ft E of WL: 3900
	UTM Easting 543041 0	Depth to bedrock:
		Bedrock elevation:
		Aquifer elevation:
		UTM Northing 4310049 0

Well Log	Top	Bottom	Formation
	0 0	9 0	CLAY
	9 0	45 0	LS
	45 0	220 0	SOAPSTONE

Comments

281

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217292	AT LOGAN OR GRAYSON 7 MI N OF BEDFORD ON RR 3		Mon, Nov 04, 1963	
Owner-Contractor	Name	Address	Telephone	
Well Owner	IRA SHERRILL	BEDFORD IND. RR 3		
Building Contractor				
Drilling Contractor	FLOYD STULTZ	BEDFORD IND. RR 4		
Equipment Operator	FLOYD STULTZ	License:		
Construction Details	Use: STOCK	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 190 0	Pump setting depth:	Water quality:	
Casing	Length: 13 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	Bail/Test rate: 0.5 gpm for 8 0 hrs.	
	Drawdown: ft.	Static water level: 40 0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: SW 1/4 of the SW 1/4 of the NE 1/4 of Section 22		Topo map: OOLITIC	
	Field located by: JCH		on: Mon, Aug 01, 1966	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 2800	Ft S of NL: 2200
	Ground elevation: 590 0	Depth to bedrock:	Bedrock elevation: 580 0	Aquifer elevation:
	UTM Easting: 542730 0		UTM Northing: 4310207 0	
Well Log	Top	Bottom	Formation	
	0 0	13 0	CLAY	
	13 0	190 0	SOAPSTONE	
Comments	MC580			

282

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217297	1 MI N OF NEEDMORE ON SR37		Thu, Jul 14, 1960	
Owner-Contractor	Name	Address	Telephone	
Well Owner	LARRY STEWART	BEDFORD IND RR 3		
Building Contractor				
Drilling Contractor	FLOYD STULTZ	BEDFORD, IND RR 4 BOX 72		
Equipment Operator	FLOYD STULTZ	License		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 175 0	Pump setting depth:	Water quality:	
Casing	Length: 27 0	Material:	Diameter: 6 0	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: gpm for 8 0 hrs	
	Drawdown: ft	Static water level: 70 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 6N Range: 1W	
	Section: NE 1/4 of the SW 1/4 of the NW 1/4 of Section 21		Topo map: OOLITIC	
	Field located by: S & H		on: Tue, Nov 01, 1960	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation: 615 0	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting: 540462 0	UTM Northing: 4310453 0		
Well Log	Top	Bottom	Formation	
	0 0	26 0	CLAY	
	26 0	175 0	LS HARD	
Comments	MC590			

Record of Water Well

283

Indiana Department of Natural Resources

Reference Number 217317		Driving directions to well 8 MI N OF BEDFORD RR 4 JUDAH LOGAN RD		Date completed Sat, Apr 11, 1964	
Owner-Contractor		Name	Address	Telephone	
Well Owner		RALPH LUALLEN	BEDFORD IND RR 4		
Building Contractor					
Drilling Contractor		FLOYD STULTZ	RR 4 BOX 72 BEDFORD INDIANA		
Equipment Operator		FLOYD STULTZ	License		
Construction Details					
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:		
	Depth: 135 0	Pump setting depth:	Water quality:		
Casing	Length: 9 0	Material:	Diameter: 6 0		
Screen	Length:	Material:	Diameter: Slot size:		
Well Capacity Test		Type of test:	Test rate: gpm for hrs	Bail Test rate: 0 3 gpm for 8 0 hrs	
		Drawdown: ft	Static water level: 60 0 ft		
Grouting Information		Material:	Depth: from to		
		Installation Method:	Number of bags used		
Well Abandonment		Sealing material:	Depth: from to		
		Installation Method:	Number of bags used:		
Administrative		County: LAWRENCE	Township: 6N Range: 1W		
		Section: NW 1/4 of the NE 1/4 of the SW 1/4 of Section 24	Topo map: BARTLETTSVILLE		
		Field located by: JCH	on: Mon, Aug 01, 1966		
		Courthouse location by:	on:		
		Location accepted w/o verification by	on:		
		Subdivision name:	Lot number		
		Ft W of EL:	Ft N of SL	Ft E of WL: 1900	Ft S of NL: 2700
		Ground elevation: 645 0	Depth to bedrock: 10 0	Bedrock elevation: 635 0	Aquifer elevation
		UTM Easting: 545704 0	UTM Northing: 4310119 0		
Well Log		Top	Bottom	Formation	
		0 0	8 0	CLAY	
		8 0	75 0	LS	
		75 0	135 0	SOAPSTONE	
Comments		MC635			

284

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217322	FRANK GOODMAN PLACE 7 MI N OF BEDFORD ON LOGAN RD		En, Jun 15, 1962
Owner-Contractor	Name	Address	Telephone
Well Owner	CLOYD PRINCE	BEDFORD RR 4	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	RR 4 BOX 72 BEDFORD INDIANA	
Equipment Operator	FLOYD STULTZ	License:	
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 90.0	Pump setting depth:	Water quality:
Casing	Length: 3.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 1.0 gpm for 10.0 hrs.
	Drawdown: ft.	Static water level: 30.0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 6N Range: 1W	
	Section: NE 1/4 of the NW 1/4 of the SW 1/4 of Section 24	Topo map: BARTLETTSVILLE	
	Field located by: U	on: Mon, Jul 01, 1963	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL: 2100	Ft E of WL: 700 Ft S of NL:
	Ground elevation: 690.0	Depth to bedrock:	Bedrock elevation: Aquifer elevation:
	UTM Easting: 545362.0		UTM Northing: 4309955.0
Well Log	Top	Bottom	Formation
	0.0	3.0	CLAY
	3.0	80.0	HARD LS
Comments	MC685		

285

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217327	LOGAN COMMUNITY (OR GRAYSON) 8 MI N OF BEDFORD & E OF LITTLE SALT CREEK AT OLD HOUSE SITE		Sat, Aug 24, 1963
Owner-Contractor	Name	Address	Telephone
Well Owner	RALPH ALLEN	BEDFORD RR 4	
Building Contractor			
Drilling Contractor	FLOYD STULTZ	RR 4 BOX 72 BEDFORD INDIANA	
Equipment Operator	FLOYD STULTZ	License:	
Construction Details	Use: STOCK	Drilling method: CABLE TOOL	Pump type:
Well	Depth: 100 0	Pump setting depth:	Water quality:
Casing	Length: 12 0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 1 0 gpm for 8.0 hrs.
	Drawdown: ft.	Static water level: 50 0 ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE	Township: 6N Range: 1W	
	Section: SW 1/4 of the NE 1/4 of the SW 1/4 of Section 24	Topo map: BARTLETTSVILLE	
	Field located by: U	on: Tue, Oct 01, 1963	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL: 1800	Ft E of WL: 1500 Ft S of NL:
	Ground elevation: 655 0	Depth to bedrock:	Bedrock elevation: Aquifer elevation:
	UTM Easting: 545582 0		UTM Northing: 4309918 0
Well Log	Top	Bottom	Formation
	0 0	12 0	CLAY
	12 0	100 0	HARD LS
Comments	MC645. NEIGHBOR		

286

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
217332	ON THE PEERLESS & JUDAH RD ON R #3 BEDFORD INDIANA		Wed Jul 08 1959	
Owner Contractor	Name	Address	Telephone	
Well Owner	DON BLACKWELL	R #3 BEDFORD IND		
Building Contractor	FLOYD STULTZ	RR 4 BOX 72 BEDFORD INDIANA		
Drilling Contractor	FLOYD STULTZ	License		
Equipment Operator				
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 100.0	Pump setting depth	Water quality	
Casing	Length 12.5	Material	Diameter 6.0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 0.3 gpm for hrs	
	Drawdown ft	Static water level 50.0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE		Township 6N Range 1W	
	Section NE 1/4 of the SE 1/4 of the SW 1/4 of Section 22		Topo map OOLITIC	
	Field located by BARNES		on Mon Aug 01 1960	
	Courthouse location by		on	
	Location accepted w/o verification by		on	
	Subdivision name		Lot number	
	Ft W of EL	Ft N of SL 1000	Ft E of WL 7000	Ft S of VL
	Ground elevation 630.0	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting 542499.0		UTM Northing 4309615.0	
Well Log	Top	Bottom	Formation	
	0.0	12.0	CLAY	
	12.0	100.0	HARD IS	
Comments	MC620			

Record of Water Well

287

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217671	2 MILES SOUTH OF HELTONVILLE AND ABOUT 1/4 MI W OF TODD LANE	Fri, May 04, 1962

Owner-Contractor	Name	Address	Telephone
Well Owner	ROBERT FLEETWOOD	HELTONVILLE	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6, BEDFORD IN	
Equipment Operator	E. & C. UMPHRESS	License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 170.0	Pump setting depth:	Water quality:
Casing	Length: 16.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for hrs.
	Drawdown: ft.	Static water level: ft.	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 6N Range: 1E
	Section: SE 1/4 of the SE 1/4 of the NE 1/4 of Section 33	Topo map: BARTLETTSVILLE
	Field located by: UHL	on: Sat, Jun 01, 1963
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 25	Ft N of SL:
	Ground elevation: 670.0	Ft E of WL:
	UTM Easting: 551623.0	Bedrock elevation: 657.0
		Ft S of NL: 2500
	Depth to bedrock: 13.0	Aquifer elevation:
		UTM Northing: 4306912.0

Well Log	Top	Bottom	Formation
	0.0	13.0	DIRT
	13.0	170.0	BLUE SHALE

Comments	MC660, DRY HOLE
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Record of Water Well

288

Indiana Department of Natural Resources

Reference Number 217701	Driving directions to well 4 MI WEST OF HELTONVILLE 6 MI NE OF BEDFORD. ONE QUARTER NORTH OF PLEASANT RUN CHURCH		Date completed Fri, Oct 05, 1962
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name EARL M. STIPP ERNIE UMPHRESS & SONS EUGENE & CHARLES UMPHRESS	Address BEDFORD, IND RR 3 BEDFORD IND RR6 License:	Telephone
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 140.0	Pump setting depth:	Water quality:
Casing	Length: 17.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test: BAILING	Test rate: gpm for hrs.	Bail Test rate: gpm for hrs
	Drawdown: ft	Static water level: 100.0 ft	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1E
	Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 29		Topo map: BARTLETTSVILLE
	Field located by: UHL	on: Sat, Jun 01, 1963	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL: 100 Ft S of NL: 1400
	Ground elevation: 730.0	Depth to bedrock: 14.0	Bedrock elevation: 716.0 Aquifer elevation:
	UTM Easting: 548406.0	UTM Northing: 4308874.0	
Well Log	Top	Bottom	Formation
	0.0	5.0	DIRT
	5.0	14.0	BROKEN LS & HOLES
	14.0	20.0	BLUE LS - HARD
	20.0	29.0	WHITE LS - HARD
	29.0	50.0	BR LS - SOFT
	50.0	75.0	WHITE LS - HARD
	75.0	86.0	BLUE LS - HARD
	86.0	120.0	WHITE LS - HARD
	120.0	126.0	BLUE LS - HARD
	126.0	132.0	WHITE LS
	132.0	140.0	BLUE LS
Comments	MC715		

Record of Water Well

289

Indiana Department of Natural Resources

Reference Number 217706	Driving directions to well 8 MILES NORTH EAST OF BEDFORD 2-1/2 MILES SOUTHWEST OF HELTONVILLE		Date completed Thu, Aug 04, 1960
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HAROLD DENISTON PAUL SCOTT PAUL SCOTT	Address RR 4, BEDFORD IN RR 4, BLOOMINGTON License:	Telephone
Construction Details			
Well	Use: Depth: 110.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type: Water quality:
Casing	Length: 12.0	Material:	Diameter: 6.0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 16.0 ft.	Bail Test rate: 75.0 gpm for 1.0 hrs.
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:	
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:	
Administrative	County: LAWRENCE Section: SW 1/4 of the NE 1/4 of the NE 1/4 of Section 28 Field located by: N-3 Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 900 Ground elevation: 745.0 UTM Easting: 551327.0		Township: 6N Range: 1E Topo map: BARTLETTSVILLE on: Fri, Nov 04, 1960 on: on: Lot number: Ft E of WL: Bedrock elevation: 733.0 UTM Northing: 4308943.0
Well Log	Top 0.0 12.0 60.0	Bottom 12.0 60.0 110.0	Formation BLANK GRAY LIME MEDIUM BLUE SOAPSTONE SOFT
Comments	MC735		

Record of Water Well

290

Indiana Department of Natural Resources

Reference Number 217711	Driving directions to well 3 MILES FROM HELTONVILLE ON PLEASANT RUN ROAD WEST		Date completed Mon Feb 12 1962	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HERMAN DECKARD FRNIE UMPHRESS & SONS ERNIE UMPHRESS & SONS	Address HELTONVILLE IN RR 6, BEDFORD IN License	Telephone	
Construction Details Well	Use HOME Depth 100 0	Drilling method CABLE TOOL Pump setting depth	Pump type	Water quality
Casing	Length 16 5	Material	Diameter 6 0	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test Drawdown ft	Test rate gpm for hrs Static water level 30 0 ft	BailTest rate 4 0 gpm for hrs	
Grouting Information	Material Installation Method	Depth from to Number of bags used		
Well Abandonment	Sealing material Installation Method	Depth from to Number of bags used		
Administrative	County LAWRENCE Section NE 1/4 of the SW 1/4 of the NW 1/4 of Section 28 Field located by UHL Courthouse location by Location accepted w/o verification by Subdivision name Ft W of FL 1500 Ground elevation 765 0 UTM Easting 551175 0		Township 6N Range 1E Topo map BARTLETTSVILLE on Sat Jun 01 1963 on on Lot number Ft E of WL Bedrock elevation 750 0 UTM Northing 4308824 0	
Well Log	Top	Bottom	Formation	
	0 0	12 0	DIRT	
	12 0	15 0	LIMESTONE BOULDER	
	15 0	40 0	LIMESTONE BLUE HARD	
	40 0	43 0	LIMESTONE WHITE SOFT	
	43 0	54 0	LIMESTONE BLUE HARD	
	54 0	60 0	LIMESTONE BROWN HARD	
	60 0	76 0	LIMESTONE BLUE HARD	
	76 0	100 0	SHALE BLUE SOFT	
Comments	None			

291

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217608	Driving directions to well 8 MILES NORTH OF BEDFORD BARTLETTSVILLE ROAD		Date completed Thu, Jul 28, 1960	
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name ROBERT TURNER PAUL SCOTT PAUL SCOTT	Address RR 3, BEDFORD IN RR 4, BLOOMINGTON IN License:	Telephone	
Construction Details				
Well	Use: STOCK Depth: 95.0	Drilling method: CABLE TOOL Pump setting depth:	Pump type:	
Casing	Length: 11.0	Material:	Water quality:	
Screen	Length:	Material:	Diameter: 6.5 Diameter: Slot size:	
Well Capacity Test	Type of test: Drawdown: ft.	Test rate: gpm for hrs. Static water level: 15.0 ft.	Bail Test rate: 60.0 gpm for 0.5 hrs.	
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:		
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:		
Administrative	County: LAWRENCE Section: SW 1/4 of the SW 1/4 of the NW 1/4 of Section 20 Field located by: HS Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: Ground elevation: 535.0 UTM Easting: 548398.0		Township: 6N Range: 1E Topo map: BARTLETTSVILLE on: Fri, Nov 04, 1960 on: on: Lot number: Ft E of WL: Ft S of NL: Bedrock elevation: Aquifer elevation: UTM Northing: 4310285.0	
Well Log	Top	Bottom	Formation	
	0.0	10.0	BLANK	
	10.0	65.0	BLUE SOAPSTONE SOFT	
	65.0	95.0	WHITE LIME MEDIUM	
Comments	MC			

Record of Water Well

292

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217613	APP 1-1/4 MI NE OF PLEASANT RUN CHURCH	Tue, Dec 11, 1962

Owner-Contractor	Name	Address	Telephone
Well Owner	JOHN HEARTH	BEDFORD IN	
Building Contractor			
Drilling Contractor	ERNIE UMPHRESS & SONS	RR 6 ,BEDFORD IN	
Equipment Operator	E. & C UMPHRESS	License	

Construction Details

Well	Use: STOCK	Drilling method: CABLE TOOL	Pump type:
	Depth: 260 0	Pump setting depth:	Water quality:
Casing	Length: 10 0	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 0 1 gpm for hrs.
	Drawdown: ft	Static water level: 155 0 ft	

Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:

Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:

Administrative	County: LAWRENCE	Township: 6N Range: 1E
	Section: SW 1/4 of the SW 1/4 of the SE 1/4 of Section 20	Topo map: BARTLETTSVILLE
	Field located by: UHB	on: Sat, Jun 01, 1963
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL: 2100	Ft N of SL: 150
	Ground elevation: 770 0	Depth to bedrock: 8 0
	UTM Easting: 549348 0	UTM Northing: 4309398 0

Well Log	Top	Bottom	Formation
	0 0	5 0	DIRT
	5 0	8 0	BOULDERS & HOLES
	8 0	20 0	BLUE LIMESTONE HARD
	20 0	36 0	GRAY LIMESTONE SOFT
	36 0	54 0	BLUE LIMESTONE HARD
	54 0	58 0	BROWN LIMESTONE HARD
	58 0	63 0	BLUE SHALE SOFT
	63 0	76 0	BLUE LIMESTONE HARD
	76 0	91 0	BROWN LIMESTONE HARD
	91 0	94 0	MUCHY SHALE SOFT
	94 0	115 0	GRAY LIMESTONE HARD
	115 0	137 0	BLUE LIMESTONE SOFT
	137 0	260 0	BLUE SHALE SOFT

Comments

MC760

Record of Water Well

293

Indiana Department of Natural Resources

Reference Number

217618

Driving directions to well

BARTLETTSVILLE & BEDFORD ROAD BAT HOLLOW LAKE

Date completed

Sat, Feb 08, 1964

Owner-Contractor

Well Owner

Building Contractor

Drilling Contractor

Equipment Operator

Name

ROY SCHERSCHEL

FLOYD STULTZ

FLOYD STULTZ

Address

RR 3 BEDFORD IN

RR 4, BEDFORD IN

License:

Telephone

Construction Details

Well

Use: HOME

Depth: 200 0

Drilling method: CABLE TOOL

Pump setting depth:

Pump type:

Water quality:

Casing

Length: 5 0

Material:

Diameter: 6 0

Screen

Length:

Material:

Diameter: Slot size:

Well Capacity Test

Type of test:

Test rate: gpm for hrs

BailTest rate: -1 0 gpm for 8 0 hrs.

Drawdown: ft

Static water level: 150 0 ft.

Grouting Information

Material:

Depth: from to

Installation Method:

Number of bags used:

Well Abandonment

Sealing material:

Depth: from to

Installation Method:

Number of bags used:

Administrative

County: LAWRENCE

Township: 6N Range: 1E

Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 19

Topo map:

BARTLETTSVILLE

Field located by: JVH

on: Mon, Aug 01, 1966

Courthouse location by:

on:

Location accepted w/o verification by:

on:

Subdivision name:

Lot number:

Ft W of EL: 2300

Ft N of SL:

Ft E of WL:

Ft S of VL: 1600

Ground elevation: 640 0

Depth to bedrock: 5 0

Bedrock elevation:

635 0

Aquifer elevation

UTM Easting: 547659 0

UTM Northing: 4310429 0

Well Log

Top

Bottom

Formation

0 0

5 0

CLAY

5 0

95 0

LIMESTONE

95 0

200 0

SOAPSTONE

Comments

MC635

294

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed
217623	1 MI SOUTH OF BARTLETT IN ON TOP OF HILL AT HAIR PIN CURVE 160 FT W OF TURN IN ROAD IN FRONT YD OF 3-BD NEW HOME ABOUT 30' E OF N END OF HOME		Thu, Jun 15, 1961
Owner-Contractor	Name	Address	Telephone
Well Owner	LEBERT STARR	RR 3 BEDFORD IN	
Building Contractor			
Drilling Contractor	ALBERT LENTZ	BOX 83, SMITHVILLE IN	
Equipment Operator	B ERIE 20W	License:	
Construction Details			
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 260 0	Pump setting depth:	Water quality:
Casing	Length: 30.0	Material:	Diameter: 6 0
Screen	Length:	Material:	Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: gpm for hrs
	Drawdown: ft	Static water level: ft.	
Grouting Information	Material:	Depth: from to	
	Installation Method:	Number of bags used:	
Well Abandonment	Sealing material:	Depth: from to	
	Installation Method:	Number of bags used:	
Administrative	County: LAWRENCE		Township: 6N Range: 1E
	Section: NW 1/4 of the SW 1/4 of the NE 1/4 of Section 18		Topo map: BARTLETTSVILLE
	Field located by: UHL	on: Sat, Jun 01, 1963	
	Courthouse location by:	on:	
	Location accepted w/o verification by:	on:	
	Subdivision name:	Lot number	
	Ft W of EL: 2300	Ft N of SL:	Ft E of WL: Ft S of NL: 1700
	Ground elevation: 610 0	Depth to bedrock:	Bedrock elevation: Aquifer elevation
	UTM Easting: 547633 0	UTM Northing: 4311958 0	
Well Log	Top	Bottom	Formation
	0 0	0 0	NO INFORMATION
Comments	MO 580		

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217346	AVOCA	Fr, Apr 02, 1954

Owner-Contractor	Name	Address	Telephone
Well Owner	HILLTOP PENTECOSTAL CHURCH		
Building Contractor			
Drilling Contractor	HOMER ALFORD	RR3 MITHCELL	
Equipment Operator		License	

Construction Details	Use	Drilling method	Pump type
Well	HOME	CABLE TOOL	
	Depth 130 0	Pump setting depth	Water quality
Casing	Length 30 0	Material	Diameter 5 63
Screen	Length	Material	Diameter Slot size

Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 0 gpm for hrs
	Drawdown ft	Static water level 30 0 ft	

Grouting Information	Material	Depth from to
	Installation Method	Number of bags used

Well Abandonment	Sealing material.	Depth from to
	Installation Method	Number of bags used

Administrative	County LAWRENCE	Township 6N Range 1W
	Section 1/4 of the 1/4 of the 1/4 of Section 31	Topo map OOLITIC
	Field located by	on
	Courthouse location by	on
	Location accepted w/o verification by	on
	Subdivision name	Lot number
	Ft W of EL	Ft N of SL
	Ft F of WL	Ft S of NL
	Ground elevation	Depth to bedrock
	Bedrock elevation	Aquifer elevation
	UTM Easting 538584 0	UTM Northing 4306798 0

Well Log	Top	Bottom	Formation
	0 0	25 0	OVERBURDEN CLAY ROCKS
	25 0	30 0	SOLID ROCK
	30 0	130 0	LS

Comments	WELL HAS RESERVE OF 60 GAL SOME SULPHUR WATER 89 90
-----------------	---

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well	Date completed
217351	NEAREST TOWN AVOCA	

Owner-Contractor	Name	Address	Telephone
Well Owner	DR. BENHAM		
Building Contractor			
Drilling Contractor	HOMER ALFORD	RR3 MITHCELL	
Equipment Operator		License:	

Construction Details

Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:
	Depth: 131.0	Pump setting depth:	Water quality:
Casing	Length: 15.0	Material:	Diameter: 5.63
Screen	Length:	Material:	Diameter: Slot size:

Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 12.0 gpm for hrs
	Drawdown: ft.	Static water level: 36.0 ft	

Grouting Information

Material:	Depth: from to
Installation Method:	Number of bags used:

Well Abandonment

Sealing material:	Depth: from to
Installation Method:	Number of bags used:

Administrative

County: LAWRENCE	Township: 6N	Range: 1W	Topo map: OOLITIC
Section: 1/4 of the 1/4 of the 1/4 of Section 31			
Field located by:	on:		
Courthouse location by:	on:		
Location accepted w/o verification by:	on:		
Subdivision name:	Lot number:		
Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
UTM Easting: 538724.0		UTM Northing: 4307097.0	

Well Log

Top	Bottom	Formation
0.0	12.0	OVERBURDEN CLAY ROCKS
12.0	15.0	SOLID ROCK
15.0	131.0	LS

Comments

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
291792	4 MI S E BEDFORD			
Owner-Contractor	Name	Address	Telephone	
Well Owner	COUNTY PROPERTY	OLD POOR FARM		
Building Contractor				
Drilling Contractor	HOMER ALFORD			
Equipment Operator		License		
Construction Details				
Well	Use: DOMESTIC	Drilling method: CABLE TOOL	Pump type:	
	Depth: 145 0	Pump setting depth:	Water quality:	
Casing	Length: 30 0	Material:	Diameter: 6 25	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 2 0 gpm for 6 0 hrs	
	Drawdown: ft	Static water level: 24 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: 1/4 of the 1/4 of the 1/4 of Section 30		Topo map:	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL	Ft N of SL	Ft E of WL	Ft S of NL
	Ground elevation:	Depth to bedrock: 122 0	Bedrock elevation:	Aquifer elevation:
	UTM Easting		UTM Northing	
Well Log	Top	Bottom	Formation	
	0 0	23 0	CLAY & BOULDERS	
	23 0	145 0	LIME	
Comments				

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
294237	TAKE 50 E TOWARD BEDFORD GO N ON HWY30 AS SOON AS YOU CROSS WHITE RIVER TURN BACK E (SANDPORT RD) GO TO ICE RD GO N APPROX 2 MI TURN ON (SEE COMMENTS)		Fri, May 26, 1995	
Owner-Contractor	Name	Address	Telephone	
Well Owner	BILL HENDERSON	2904 TED JONES DR , APT. D, BEDFORD, IN 47421		
Building Contractor				
Drilling Contractor	S&S DRILLING INC	R1 BOX 507, MONTGOMERY, IN 47558		
Equipment Operator	DEXTER SWARTZENTRUBER	License: 302		
Construction Details	Use: HOME	Drilling method: ROTARY	Pump type:	
Well	Depth: 300 0	Pump setting depth:	Water quality:	
Casing	Length: 30 0	Material: PVC	Diameter: 6 0	
Screen	Length: 280 0	Material: PVC	Diameter: 4 5 Slot size:	
Well Capacity Test	Type of test:	Test rate: 1 5 gpm for hrs	Bail Test rate: gpm for hrs	
	Drawdown: ft	Static water level: 100 0 ft		
Grouting Information	Material: BNSL	Depth: from 30 0 to 0 0		
	Installation Method: PUMP	Number of bags used: 2 0		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1E	
	Section: 1/4 of the 1/4 of the 1/4 of Section 29		Topo map: BEDFORD EAST	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0 0	30 0	CLAY, MUD SEAMS, SAND	
	30 0	122 0	LIME & LIME BRKS	
	122 0	200 0	LIME SHALE BRK	
Comments	SEE MAP DEAD END ROAD TO EAST, 1ST HOUSE ON NORTH SD OF RD			

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
220914			Wed Oct 20 1954	
Owner Contractor	Name	Address	Telephone	
Well Owner	ADAMSON	EUREKA		
Building Contractor				
Drilling Contractor	HOMER ALFORD	R3 MITCHELL		
Equipment Operator		License		
Construction Details				
Well	Use HOME	Drilling method CABLE TOOL	Pump type	
	Depth 161 0	Pump setting depth	Water quality	
Casing	Length 62 0	Material	Diameter 5 62	
Screen	Length	Material	Diameter Slot size	
Well Capacity Test	Type of test	Test rate gpm for hrs	BailTest rate 1 5 gpm for 0 5 hrs	
	Drawdown ft	Static water level 70 0 ft		
Grouting Information	Material	Depth from to		
	Installation Method	Number of bags used		
Well Abandonment	Sealing material	Depth from to		
	Installation Method	Number of bags used		
Administrative	County LAWRENCE	Township 5N	Range 1W	
	Section 1/4 of the 1/4 of the 1/4 of Section 18	Topo map BEDFORD WEST		
	Field located by	on		
	Courthouse location by	on		
	Location accepted w/o verification by	on		
	Subdivision name	Lot number		
	Ft W of FI	Ft N of SL	Ft E of WL	Ft S of SL
	Ground elevation	Depth to bedrock	Bedrock elevation	Aquifer elevation
	UTM Easting	UTM Northing		
Well Log	Top	Bottom	Formation	
	0 0	62 0	OVERBURDEN CLAY BEDS	
	62 0	161 0	LS	
Comments	WELL PUMPED DRY DURING TESTPage 9788			

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
220909			Thu, Aug 19, 1954	
Owner-Contractor	Name	Address	Telephone	
Well Owner	MRS PINKSTON	EUREKA		
Building Contractor				
Drilling Contractor	HOMER ALFORD	R2 MITCHELL		
Equipment Operator		License:		
Construction Details				
Well	Use: HOME	Drilling method: JET	Pump type:	
	Depth: 164 0	Pump setting depth:	Water quality:	
Casing	Length: 49.5	Material:	Diameter: 5 62	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	BailTest rate: 1 0 gpm for 0 5 hrs.	
	Drawdown: ft	Static water level: 76 0 ft		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 5N Range: 1W	
	Section: 1/4 of the 1/4 of the 1/4 of Section 18		Topo map: BEDFORD WEST	
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number.		
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing.		
Well Log	Top	Bottom	Formation	
	0 0	49 5	OVERBURDEN,CLAY BLDRS LS	
	49 5	164 0	LS	
Comments	WELL PUMPED DRY DURING TEST			

Record of Water Well

Indiana Department of Natural Resources

Reference Number 217890	Driving directions to well SR158 5 MI S ON SR450	Date completed Sat, Nov 25, 1967																					
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name JOHNSON MUMMA DRLG INC DEAN K MUMMA	Address 312 INDIANA AVE, OOLITIC IN WASHINGTON & LYONS IN License:																					
		Telephone																					
Construction Details																							
Well	Use: HOME Depth: 186 0	Drilling method: OTHER Pump setting depth:																					
Casing	Length:	Pump type: Water quality																					
Screen	Length:	Diameter: 6 62 Diameter: Slot size:																					
Well Capacity Test	Type of test: Drawdown: ft	Test rate: gpm for hrs Static water level: 109 0 ft																					
Grouting Information	Material: Installation Method:	Depth: from to Number of bags used:																					
Well Abandonment	Sealing material: Installation Method:	Depth: from to Number of bags used:																					
Administrative	County: LAWRENCE Section: SE 1/4 of the SW 1/4 of the NE 1/4 of Section 21 Field located by: JRD Courthouse location by: Location accepted w/o verification by: Subdivision name: Ft W of EL: 1700 Ground elevation: 675 0 UTM Easting: 541414 0	Township: 5N Range: 1W Topo map: BEDFORD WEST on: Wed, Aug 09, 1978 on: on: Lot number Ft E of WL: Bedrock elevation 639 0 UTM Northing 4300572 0																					
Well Log	<table border="0"> <tr> <td>Top</td> <td>Bottom</td> <td>Formation</td> </tr> <tr> <td>0 0</td> <td>36 0</td> <td>CLAY</td> </tr> <tr> <td>36 0</td> <td>58 0</td> <td>LIME</td> </tr> <tr> <td>58 0</td> <td>63 0</td> <td>MUD & BREAKS OF LIME</td> </tr> <tr> <td>63 0</td> <td>158 0</td> <td>LIME</td> </tr> <tr> <td>158 0</td> <td>180 0</td> <td>BREAKS OF LIME WATER</td> </tr> <tr> <td>180 0</td> <td>186 0</td> <td>LIME</td> </tr> </table>	Top	Bottom	Formation	0 0	36 0	CLAY	36 0	58 0	LIME	58 0	63 0	MUD & BREAKS OF LIME	63 0	158 0	LIME	158 0	180 0	BREAKS OF LIME WATER	180 0	186 0	LIME	
Top	Bottom	Formation																					
0 0	36 0	CLAY																					
36 0	58 0	LIME																					
58 0	63 0	MUD & BREAKS OF LIME																					
63 0	158 0	LIME																					
158 0	180 0	BREAKS OF LIME WATER																					
180 0	186 0	LIME																					
Comments	MC 639 OWNER VERIFIED 40 N OF HOUSE 7 10 0 IRON 20 GRAMS HARDNES.																						

Record of Water Well

Indiana Department of Natural Resources

Reference Number 219643	Driving directions to well NEAREST TOWN MITCHELL	Date completed Fri, Apr 19, 1957
Owner-Contractor Well Owner Building Contractor Drilling Contractor Equipment Operator	Name HOWARD WOODS HOMER ALFORD	Address RR #3 MITCHELL IN License
Telephone		
Construction Details		
Well	Use: HOME	Drilling method: CABLE TOOL
	Depth: 125 0	Pump setting depth:
Casing	Length: 22 0	Material:
Screen	Length:	Material:
		Pump type:
		Water quality:
		Diameter: 6 25
		Diameter: Slot size:
Well Capacity Test	Type of test:	Test rate: gpm for hrs
	Drawdown: ft	Static water level: ft
Grouting Information	Material:	Depth: from to
	Installation Method:	Number of bags used:
Well Abandonment	Sealing material:	Depth: from to
	Installation Method:	Number of bags used:
Administrative	County: LAWRENCE	Township: 4N Range: 1W
	Section: 1/4 of the 1/4 of the 1/4 of Section 4	Topo map: MITCHELL
	Field located by:	on:
	Courthouse location by:	on:
	Location accepted w/o verification by:	on:
	Subdivision name:	Lot number:
	Ft W of EL:	Ft N of SL:
	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:
	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:
Well Log	Top	Bottom
	0 0	18 0
	18 0	22 0
	22 0	125 0
	125 0	0 0
		FORMATION
		OVRBRN CLAY BI DRS BRKN LS
		SOLID ROCK
		LS*
		SOAPSTONE
Comments	WELL HAD RESERVE CAP OF 300 GAL MAY BE IN NAME OF GUS WOODS	

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
219648	BEDFORD		Sat, Jul 07, 1951	
Owner-Contractor	Name	Address	Telephone	
Well Owner	HARLEY CLARK	OLD HWY 37		
Building Contractor				
Drilling Contractor	HOMER ALFORD	R #3 MITCHELL		
Equipment Operator		License:		
Construction Details				
Well	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
	Depth: 108.0	Pump setting depth:	Water quality:	
Casing	Length:	Material:	Diameter: 5.63	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0.25 gpm for hrs.	
	Drawdown: ft.	Static water level: 42.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 4N Range: 1W	
	Section: 1/4 of the 1/4 of the 1/4 of Section 3		Topo map: BEDFORD WEST	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation:	Aquifer elevation:
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0.0	5.0	OVRBRDN CLAY ROCKS BRKN LS	
	5.0	108.0	LS*	
Comments	APPROX LOC WELL HAS 120 GAL RESERVE CAP MAY BE APPLE ACRES FARM			

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
219653			Sat, Jul 07, 1951	
Owner-Contractor	Name	Address	Telephone	
Well Owner	HARLEY CLARK	NEW SR 37		
Building Contractor				
Drilling Contractor	HOMER ALFORD	R #3 MITCHELL		
Equipment Operator		License:		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 131.0	Pump setting depth:	Water quality:	
Casing	Length: 21.0	Material:	Diameter: 5.63	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs.	BailTest rate: 0 5 gpm for hrs.	
	Drawdown: ft.	Static water level: 61.0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 4N Range: 1W	
	Section: 1/4 of the 1/4 of the 1/4 of Section 3		Topo map: BEDFORD WEST	
	Field located by:	on:		
	Courthouse location by:	on:		
	Location accepted w/o verification by:	on:		
	Subdivision name:	Lot number:		
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation: Aquifer elevation:	
	UTM Easting:	UTM Northing:		
Well Log	Top	Bottom	Formation	
	0 0	17 0	OVRBRDN CLAY ROCKS BRKN LS	
	17 0	21 0	SOLID ROCK	
	21 0	131 0	LS*	
Comments	APPROX LOC WELL HAS 100GAL RESERVE CAPPage 9702			

Record of Water Well

Indiana Department of Natural Resources

Reference Number	Driving directions to well		Date completed	
219658			Mon, Sep 08, 1952	
Owner-Contractor	Name	Address	Telephone	
Well Owner	OTHA SMITH	RR #2 MITCHELL ST RD 37 & 50 S		
Building Contractor				
Drilling Contractor	HOMER ALFORD			
Equipment Operator		License.		
Construction Details	Use: HOME	Drilling method: CABLE TOOL	Pump type:	
Well	Depth: 293 0	Pump setting depth:	Water quality:	
Casing	Length: 23 0	Material:	Diameter: 5 63	
Screen	Length:	Material:	Diameter: Slot size:	
Well Capacity Test	Type of test:	Test rate: gpm for hrs	Bail Test rate: 1 0 gpm for 0 5 hrs	
	Drawdown: ft	Static water level: 62 0 ft.		
Grouting Information	Material:	Depth: from to		
	Installation Method:	Number of bags used:		
Well Abandonment	Sealing material:	Depth: from to		
	Installation Method:	Number of bags used:		
Administrative	County: LAWRENCE		Township: 4N Range: 1W	
	Section: 1/4 of the 1/4 of the NE 1/4 of Section 3		Topo map: BEDFORD WEST	
	Field located by:		on:	
	Courthouse location by:		on:	
	Location accepted w/o verification by:		on:	
	Subdivision name:		Lot number:	
	Ft W of EL:	Ft N of SL:	Ft E of WL:	Ft S of NL:
	Ground elevation:	Depth to bedrock:	Bedrock elevation	Aquifer elevation
	UTM Easting:	UTM Northing		
Well Log	Top	Bottom	Formation	
	0 0	23 0	OVRBRDN CLAY BLDRS BRKN LS	
	23 0	293 0	LS	
Comments	APPROX LOC WELL HAS RESERVE CAP OF 375 GAL 9 66 ACRES AT HWY Y FIELD LOCATE			

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: _____

Congressional township: 5 N Range: 1 W Number of section: 14

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Bidford

Name of owner: Bidford Fdry. & Machine Co. Address: _____

Name of Well Drilling Contractor: _____

Address: _____

Name of Drilling Equipment Operator: _____

INFORMATION ON THE WELL

Completed depth of well: 130 ft. Date well was completed: 11-53

Diameter of outside casing or drive pipe: 6 Length: 20

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☐ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) _____ ft.

Bailer Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ f. (Difference between static level and water level at end of test)

Pumping Test: Hours tested _____ Rate 5 (est) g.p.m. Drawdown _____ ft. level at end of test)

Signature Roberts

Date USGS

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)

COUNTY: Lawrence

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill in)

Chem

Machine: Handy

TWP. 5N RGE. 1W 1/4 NW 1/4 NE 1/4 SEC. 14

Topo Map: Bedford East 22

Well log classified By Date
Courthouse located By Date
Field located By Date
Acc. w/o verification By Date

Ft W of EL. Ground elevation
Ft N of SL. Depth to bedrock
Ft E of WL. Bedrock elevation
Ft S of NL. Aquifer elevation

From

To

Silica	PPM	12	EPM	.17	.009
Iron					
Calcium		114		5.689	
Magnesium		27		2.220	
Sodium		32		1.391	
Potassium		1.2		.031	
Bicarbonate		334		5.474	
Sulfate		134		2.790	
Chloride		27		.761	
Fluoride		.1		.005	
Nitrate		15		.242	
pH		7.7			
Color		1.			
Dissolved Solids		527			
Residue 180°C		531			
Hardness					
Calcium, Magnesium		396			
Noncarbonate		122			

REMARKS:

58° Water Temp

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information. It may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water

4-23-1962
2-2-1962
super boring.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

Colitic Quac
Reference 10
(476FR31233)

WATER WELL RECORD

1

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawswick
Congressional township: 5 N. Range: 1 W Number of section: 3
(Fill in as completely as possible) LOT #30
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: East Coltic - 1 mile East of Coltic

Name of owner: Wilmer Hubbard Address: Bellford Ind. RR 2
Name of Well Drilling Contractor: Ernie Humphreys & Sons
Address: Bellford Ind. RR 6
Name of Drilling Equipment Operator: Eugene & Charles Humphreys

INFORMATION ON THE WELL

Completed depth of well: 100 ft. Date well was completed: 7/26/62
Diameter of outside casing or drive pipe: 6" Length: 20' 6"
Diameter of inside casing or liner: 5 5/8" Length: _____
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 40 ft.
Bailer Test: Hours tested _____ Rate 3 g.p.m. Drawdown 60 ft. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Eugene H. Humphreys
Date 7/26/62

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation, 311 West Washington Street, Indianapolis, Indiana.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawswick

Congressional township: LOT-10411 Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: APP. ONE MILE NORTH OF

BEDFORD, IND. ONE BLOCK WEST OF PEARLESS
ROAD, KNOWN AS WALNUT HEIGHTS

Name of owner: PULLIS CHILDERS Address: BEDFORD, IND.

Name of Well Drilling Contractor: ERNE UMPHRESS & SONS

Address: BEDFORD, IND. RR6

Name of Drilling Equipment Operator: EUGENE & CHARLES UMPHRESS

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 11/30/62

Diameter of outside casing or drive pipe: 6" Length: UNKNOWN

Diameter of inside casing or liner: 5 3/8" Length: DRILLED DEEPER

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 135 ft.

Bailer Test: Hours tested _____ Rate 3 g.p.m. Drawdown 65 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Eugene Umphress

Date 11/30/62

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

Sico (2) - 7

Topo Map: Davidson

_____ Ft W of EL. Ground elevation _____
 _____ Ft N of SL. Depth to bedrock _____
 _____ Ft E of WL. Bedrock elevation _____
 _____ Ft S of NL. Aquifer elevation _____
 NW SW Sec 2
 SE NE SE Sec 3

INSTRUCTIONS

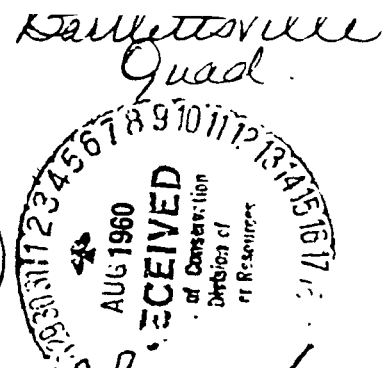
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Larrence Civil Township: Shawnee

Congressional township: _____ Range: _____ Number of section: 2
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Brackenridge Road
one mile north Bedford City Limits

Name of owner: Jessie Stigall Address: Bedford RR 4

Name of Well Drilling Contractor: Paul S. Gatt

Address: RR 4 Bloomington Ind

Name of Drilling Equipment Operator: Paul S. Gatt

INFORMATION ON THE WELL

Completed depth of well: 140 ft. Date well was completed: 7. 21. 60

Diameter of outside casing or drive pipe: 6 in Length: 6 ft

Diameter of inside casing or liner: 5 1/2 in. Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) _____ ft.

Bailer Test: Hours tested _____ Rate 19 g.p.m. Drawdown 0 ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Paul S. Gatt
Date 7. 30. 60

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Jacobs Civil Township: Shawswick

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Two miles north Bedford Ind. Buckenridge road near Vine School House.

Baker's Highland Blk. D, Lot 1
North MS

Name of owner: Howard Espino Address: RR 4, Bedford Ind.

Name of Well Drilling Contractor: Ernie Dwyer & Son

Address: RR 4 Box 13 Bedford Ind.

Name of Drilling Equipment Operator: Ernie Dwyer & Son

INFORMATION ON THE WELL

Completed depth of well: 150 ft. Date well was completed: Jan 24 1960

Diameter of outside casing or drive pipe: _____ Length: not known

Diameter of inside casing or liner: 5 1/2 Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 50 ft.

Bailer Test: Hours tested 1 Rate 3 g.p.m. Drawdown 100 ft. (Difference between static level and water

Pumping Test: Hours tested 2 Rate _____ g.p.m. Drawdown 100 ft. level at end of test)

Signature Ernie Dwyer & Son

Date Jan 24 1960

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

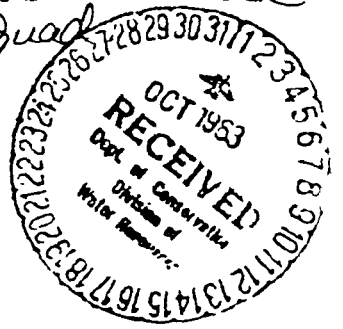
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: SHAWSWICK

Congressional township: E 5 Range: 1 WEST Number of section: 1
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 1 mile north of Ind. H.Way 58 on Mt. Pleasant Road R.R. 4. Bedford Indiana

Name of owner: Ray S. Weaver Address: R.R. 4. Bedford Indiana

Name of Well Drilling Contractor: Ernie Humphress & Sons

Address: Bedford, Ind. RR 4

Name of Drilling Equipment Operator: Eugene & Charles Humphress

INFORMATION ON THE WELL

Completed depth of well: 250 ft. Date well was completed: 9/10/63

Diameter of outside casing or drive pipe: 6" Length: 23'

Diameter of inside casing or liner: 5 5/8" Length: 23'

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 170 ft.

Bailer Test: Hours tested _____ Rate 5 g.p.m. Drawdown 80 ft. (Difference between

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. static level and water level at end of test)

Signature Eugene Humphress

Date 9/10/63

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MELORE 3-6757



WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawswick
Congressional township: 5 N Range: 1 E Number of section: 5
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: APP. 3 Miles East of Bedford, Ind.
ON U. S. Highway #58

Name of owner: Noel Gene Mitchell Address: Bedford, Ind. RR 1
Name of Well Drilling Contractor: Ernie Umphress & Sons
Address: Bedford, Ind. RR 6
Name of Drilling Equipment Operator: Eugene Charles Umphress

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 1/5/66
Diameter of outside casing or drive pipe: 6 " Length: 21.6 "
Diameter of inside casing or liner: 5 3/5 " Length: 21.6 "
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 90 ft.
Bailer Test: Hours tested _____ Rate 1/2 g.p.m. Drawdown 110 ft. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature

Eugene Umphress

Date

1/8/66

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Bedford

Congressional township: 5 Range: 1 E Number of section: 8
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Three miles north-east of Bedford on
State road fifty eight

stand for new house; trails thru now

Name of owner: Lawrence Rong Address: RR # 3 Bedford Ind

Name of Well Drilling Contractor: Umpires & Sons

Address: Bedford Ind. RR 6

Name of Drilling Equipment Operator: Eugene & Charles Umpires

INFORMATION ON THE WELL

Completed depth of well: 100 ft. Date well was completed: 11/27/62

Diameter of outside casing or drive pipe: 6" Length: 31' 6"

Diameter of inside casing or liner: 5 7/8" Length: 31' 6"

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 45 ft.

Bailer Test: Hours tested _____ Rate 36 g.p.m. Drawdown 55 ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Eugene Umpires

Date 11/27/62

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Larimer Civil Township: Pleasant Run

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: Northeast of Bedford between the

W. Pleasant Road & Pleasant Run Road.

Name of owner: Louise Fisher Address: T.R. 13

Name of Well Drilling Contractor: Floyd Stucky

Address: Bedford Ind. T.R. 4

Name of Drilling Equipment Operator: Floyd Stucky

INFORMATION ON THE WELL

Completed depth of well: 125 ft. Date well was completed: Sept. 15, 1960

Diameter of outside casing or drive pipe: 6 in. Length: 19 ft.

Diameter of inside casing or liner: 5 5/8 Length: 19 ft.

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☒

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 30 ft.

Bailer Test: Hours tested 8 Rate 26 g.p.m. Drawdown _____ ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Floyd Stucky

Date Sept. 15, 1960

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: LANKFORD Civil Township: SHANSHUICK

Congressional township: 5 North Range: 1 East Number of section: 7
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: APP. 3 Miles East of Bedford, Ind
on U.S. Highway No. 58 North side of Road

Name of owner: ROBERT WATSON Address: Bedford, Ind.

Name of Well Drilling Contractor: ERNIE UMPHRESS & Sons

Address: Bedford, Ind. RR 6

Name of Drilling Equipment Operator: Eugene & Charles UMPHRESS

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 8/26/65

Diameter of outside casing or drive pipe: 6" Length: 12'

Diameter of inside casing or liner: 5-5/8" Length: 12'

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 40 ft.

Bailer Test: Hours tested _____ Rate 1/2 g.p.m. Drawdown 160 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Eugene Umphress

Date 8/26/65

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA

WATER WELL RECORD



Handwritten initials 'K' inside a circle.

INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: SITTLES

Congressional township: 5 Range: 1E Number of section: 1

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 3 MILES EAST OF BEDFORD ON STATE ROAD #58

Name of owner: TERRY NEHL Address: 1321 5th STREET, BEDFORD

Name of Well Drilling Contractor: ERNE HUMPHRESS SONS

Address: BEDFORD IND. RR6

Name of Drilling Equipment Operator: EUGENE CHARLES HUMPHRESS

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 7/17/63

Diameter of outside casing or drive pipe: 6" Length: 16'

Diameter of inside casing or liner: 5 5/8" Length: 16'

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 50 ft.

Bailer Test: Hours tested _____ Rate 1 g.p.m. Drawdown 150 ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Eugene Humphress

Date 7/17/63

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

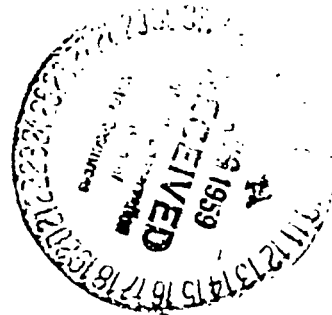
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Marion Civil Township: Hammond

Congressional township: 5 Range: 1 East Number of section: 7
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Located near State Rd. 58 east of
Redford about 1 1/2 miles east of city limits
on Bondville road.

Name of owner: Harvey W. Bond Address: 1111 1/2 S. Bedford St.

Name of Well Drilling Contractor: Bond Drilling Co.

Address: P.O. Box 12 Redford Ind.

Name of Drilling Equipment Operator: George W. Bond

INFORMATION ON THE WELL

Completed depth of well: 193 ft. Date well was completed: July 14 1959

Diameter of outside casing or drive pipe: 6 in Length: 16 ft 11 in

Diameter of inside casing or liner: 5 in Length:

Diameter of Screen: Length: Slot size:

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☒

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 46 ft ft.

Bailer Test: Hours tested 1 Rate 24 g.p.m. Drawdown 10.9 ft. (Difference between

Pumping Test: Hours tested none Rate g.p.m. Drawdown ft. level at end of test)

Signature Donie Ambrose & Sons

Date July 14 1959

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shaverwick
Congressional township: 5 North Range: 1 (one) Number of section: 18
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: Southeast quarter of section 18 Townsh
5 north, Range 1 at the Northwest cor
of said quarter section, south of Leesville gr
oad 18 poles and 17 links 2 1/2 miles E
of Bedford Ind.
Name of owner: J. Lloyd Oliver Address: R. R. 6
Name of Well Drilling Contractor: ...
Address: ...
Name of Drilling Equipment Operator: ...

INFORMATION ON THE WELL

Completed depth of well: 100 ft. Date well was completed: ...
Diameter of outside casing or drive pipe: 4 Length: 8
Diameter of inside casing or liner: 5 Length: ...
Diameter of Screen: ... Length: ... Slot size: ...
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other ...
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 42 ft.
Bailer Test: Hours tested 1 Rate 12 g.p.m. Drawdown 58 ft. (Difference between
static level and water
Pumping Test: Hours tested none Rate ... g.p.m. Drawdown 58 ft. level at end of test)

Signature ...
Date Dec 19

[illegible]

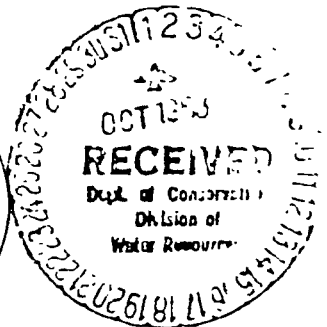
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: SHAWSWICK

Congressional township: 5 NORTH Range: 1 EAST Number of section: 18
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: APP. 1 MILE EAST OF BEDFORD IND.

Name of owner: GLENN D WOODY Address: RR #6 BEDFORD, INDIANA

Name of Well Drilling Contractor: ERVIE UMPHRESS & SONS

Address: BEDFORD, IND.

Name of Drilling Equipment Operator: EUGENE & CHARLES UMPHRESS

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 8/6/63

Diameter of outside casing or drive pipe: 6" Length: 6'

Diameter of inside casing or liner: 5 3/8" Length: 6'

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 100 ft.

Bailer Test: Hours tested _____ Rate 1/2 g.p.m. Drawdown 100 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Glenn D Woody

Date 8/6/63

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

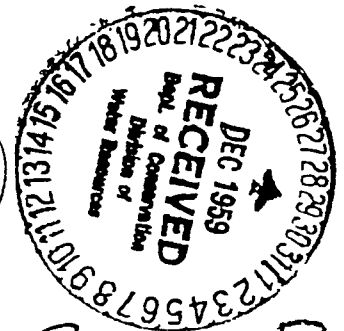
[illegible]

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An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA



WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Clasartown Civil Township: Shawwich

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 3 mi. northeast of Bedford Ind.

on R.R. 4

Name of owner: Ronald Fish Address: Bedford Ind R.R. 1

Name of Well Drilling Contractor: Floyd Stultz

Address: Bedford Ind. R.R. 4

Name of Drilling Equipment Operator: Floyd Stultz

INFORMATION ON THE WELL

Completed depth of well: 70 ft. Date well was completed: 10 December, 1959

Diameter of outside casing or drive pipe: 6 in. Length: 14 ft.

Diameter of inside casing or liner: 0-8 in Length: 14 ft.

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☒

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) _____ ft.

Bailer Test: Hours tested 3 hr. Rate 29 g.p.m. Drawdown _____ ft. (Difference between

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature: Floyd Stultz

Date: Dec. 28, 1959

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

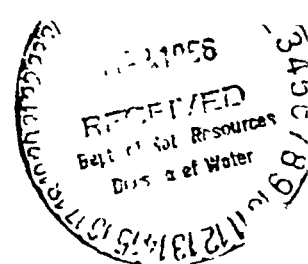
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawsnee

Congressional township: 5 Range: 1-W Number of section: 21
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: West of Bedford 1 mi

1 1/4 mi south on Williams Road east side

Name of owner: Gordon Lee Hamilton Address: Bedford R.R.

Name of Well Drilling Contractor: Ray E. Alford

Address: Mitchell R.R. 2

Name of Drilling Equipment Operator: Samuel A. Lane

INFORMATION ON THE WELL

Completed depth of well: 150 Ft. Date well was completed: Sept 25-65

Diameter of outside casing or drive pipe: 6 5/8 Length: 39 1/2

Diameter of inside casing or liner: 6 1/4 Length: 39 1/2

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 76 Ft.

Bailer Test: Hours tested _____ Rate 1 g.p.m. Drawdown 1 Ft. (Difference between

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ Ft. level at end of test)

Signature Ray E. Alford

Date Sept 25-65

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

(Well driller does not fill out)

COUNTY: Lawrence TWP. 5 N RGE. 1 W SW & SW & NE & NE SEC. 21

Topo Map: Bedford West 7 1/2 2450 Ft W of EL. Ground elevation 615
50 Ft N of SL. Depth to bedrock 50
500 Ft E of WL. Bedrock elevation 615
500 Ft S of NL. Aquifer elevation 615

Well log classified By MPH Date _____
 Courthouse located By _____ Date _____
 Field located By SW Date 7-
 Acc. w/o verification By _____ Date _____

WELL LOG - P. 1 - P. 2 - P. 3 - P. 4 - P. 5 - P. 6 - P. 7 - P. 8 - P. 9 - P. 10 - P. 11 - P. 12 - P. 13 - P. 14 - P. 15 - P. 16 - P. 17 - P. 18 - P. 19 - P. 20 - P. 21 - P. 22 - P. 23 - P. 24 - P. 25 - P. 26 - P. 27 - P. 28 - P. 29 - P. 30 - P. 31 - P. 32 - P. 33 - P. 34 - P. 35 - P. 36 - P. 37 - P. 38 - P. 39 - P. 40 - P. 41 - P. 42 - P. 43 - P. 44 - P. 45 - P. 46 - P. 47 - P. 48 - P. 49 - P. 50 - P. 51 - P. 52 - P. 53 - P. 54 - P. 55 - P. 56 - P. 57 - P. 58 - P. 59 - P. 60 - P. 61 - P. 62 - P. 63 - P. 64 - P. 65 - P. 66 - P. 67 - P. 68 - P. 69 - P. 70 - P. 71 - P. 72 - P. 73 - P. 74 - P. 75 - P. 76 - P. 77 - P. 78 - P. 79 - P. 80 - P. 81 - P. 82 - P. 83 - P. 84 - P. 85 - P. 86 - P. 87 - P. 88 - P. 89 - P. 90 - P. 91 - P. 92 - P. 93 - P. 94 - P. 95 - P. 96 - P. 97 - P. 98 - P. 99 - P. 100 - P. 101 - P. 102 - P. 103 - P. 104 - P. 105 - P. 106 - P. 107 - P. 108 - P. 109 - P. 110 - P. 111 - P. 112 - P. 113 - P. 114 - P. 115 - P. 116 - P. 117 - P. 118 - P. 119 - P. 120 - P. 121 - P. 122 - P. 123 - P. 124 - P. 125 - P. 126 - P. 127 - P. 128 - P. 129 - P. 130 - P. 131 - P. 132 - P. 133 - P. 134 - P. 135 - P. 136 - P. 137 - P. 138 - P. 139 - P. 140 - P. 141 - P. 142 - P. 143 - P. 144 - P. 145 - P. 146 - P. 147 - P. 148 - P. 149 - P. 150 - P. 151 - P. 152 - P. 153 - P. 154 - P. 155 - P. 156 - P. 157 - P. 158 - P. 159 - P. 160 - P. 161 - P. 162 - P. 163 - P. 164 - P. 165 - P. 166 - P. 167 - P. 168 - P. 169 - P. 170 - P. 171 - P. 172 - P. 173 - P. 174 - P. 175 - P. 176 - P. 177 - P. 178 - P. 179 - P. 180 - P. 181 - P. 182 - P. 183 - P. 184 - P. 185 - P. 186 - P. 187 - P. 188 - P. 189 - P. 190 - P. 191 - P. 192 - P. 193 - P. 194 - P. 195 - P. 196 - P. 197 - P. 198 - P. 199 - P. 200 - P. 201 - P. 202 - P. 203 - P. 204 - P. 205 - P. 206 - P. 207 - P. 208 - P. 209 - P. 210 - P. 211 - P. 212 - P. 213 - P. 214 - P. 215 - P. 216 - P. 217 - P. 218 - P. 219 - P. 220 - P. 221 - P. 222 - P. 223 - P. 224 - P. 225 - P. 226 - P. 227 - P. 228 - P. 229 - P. 230 - P. 231 - P. 232 - P. 233 - P. 234 - P. 235 - P. 236 - P. 237 - P. 238 - P. 239 - P. 240 - P. 241 - P. 242 - P. 243 - P. 244 - P. 245 - P. 246 - P. 247 - P. 248 - P. 249 - P. 250 - P. 251 - P. 252 - P. 253 - P. 254 - P. 255 - P. 256 - P. 257 - P. 258 - P. 259 - P. 260 - P. 261 - P. 262 - P. 263 - P. 264 - P. 265 - P. 266 - P. 267 - P. 268 - P. 269 - P. 270 - P. 271 - P. 272 - P. 273 - P. 274 - P. 275 - P. 276 - P. 277 - P. 278 - P. 279 - P. 280 - P. 281 - P. 282 - P. 283 - P. 284 - P. 285 - P. 286 - P. 287 - P. 288 - P. 289 - P. 290 - P. 291 - P. 292 - P. 293 - P. 294 - P. 295 - P. 296 - P. 297 - P. 298 - P. 299 - P. 300 - P. 301 - P. 302 - P. 303 - P. 304 - P. 305 - P. 306 - P. 307 - P. 308 - P. 309 - P. 310 - P. 311 - P. 312 - P. 313 - P. 314 - P. 315 - P. 316 - P. 317 - P. 318 - P. 319 - P. 320 - P. 321 - P. 322 - P. 323 - P. 324 - P. 325 - P. 326 - P. 327 - P. 328 - P. 329 - P. 330 - P. 331 - P. 332 - P. 333 - P. 334 - P. 335 - P. 336 - P. 337 - P. 338 - P. 339 - P. 340 - P. 341 - P. 342 - P. 343 - P. 344 - P. 345 - P. 346 - P. 347 - P. 348 - P. 349 - P. 350 - P. 351 - P. 352 - P. 353 - P. 354 - P. 355 - P. 356 - P. 357 - P. 358 - P. 359 - P. 360 - P. 361 - P. 362 - P. 363 - P. 364 - P. 365 - P. 366 - P. 367 - P. 368 - P. 369 - P. 370 - P. 371 - P. 372 - P. 373 - P. 374 - P. 375 - P. 376 - P. 377 - P. 378 - P. 379 - P. 380 - P. 381 - P. 382 - P. 383 - P. 384 - P. 385 - P. 386 - P. 387 - P. 388 - P. 389 - P. 390 - P. 391 - P. 392 - P. 393 - P. 394 - P. 395 - P. 396 - P. 397 - P. 398 - P. 399 - P. 400 - P. 401 - P. 402 - P. 403 - P. 404 - P. 405 - P. 406 - P. 407 - P. 408 - P. 409 - P. 410 - P. 411 - P. 412 - P. 413 - P. 414 - P. 415 - P. 416 - P. 417 - P. 418 - P. 419 - P. 420 - P. 421 - P. 422 - P. 423 - P. 424 - P. 425 - P. 426 - P. 427 - P. 428 - P. 429 - P. 430 - P. 431 - P. 432 - P. 433 - P. 434 - P. 435 - P. 436 - P. 437 - P. 438 - P. 439 - P. 440 - P. 441 - P. 442 - P. 443 - P. 444 - P. 445 - P. 446 - P. 447 - P. 448 - P. 449 - P. 450 - P. 451 - P. 452 - P. 453 - P. 454 - P. 455 - P. 456 - P. 457 - P. 458 - P. 459 - P. 460 - P. 461 - P. 462 - P. 463 - P. 464 - P. 465 - P. 466 - P. 467 - P. 468 - P. 469 - P. 470 - P. 471 - P. 472 - P. 473 - P. 474 - P. 475 - P. 476 - P. 477 - P. 478 - P. 479 - P. 480 - P. 481 - P. 482 - P. 483 - P. 484 - P. 485 - P. 486 - P. 487 - P. 488 - P. 489 - P. 490 - P. 491 - P. 492 - P. 493 - P. 494 - P. 495 - P. 496 - P. 497 - P. 498 - P. 499 - P. 500 - P. 501 - P. 502 - P. 503 - P. 504 - P. 505 - P. 506 - P. 507 - P. 508 - P. 509 - P. 510 - P. 511 - P. 512 - P. 513 - P. 514 - P. 515 - P. 516 - P. 517 - P. 518 - P. 519 - P. 520 - P. 521 - P. 522 - P. 523 - P. 524 - P. 525 - P. 526 - P. 527 - P. 528 - P. 529 - P. 530 - P. 531 - P. 532 - P. 533 - P. 534 - P. 535 - P. 536 - P. 537 - P. 538 - P. 539 - P. 540 - P. 541 - P. 542 - P. 543 - P. 544 - P. 545 - P. 546 - P. 547 - P. 548 - P. 549 - P. 550 - P. 551 - P. 5

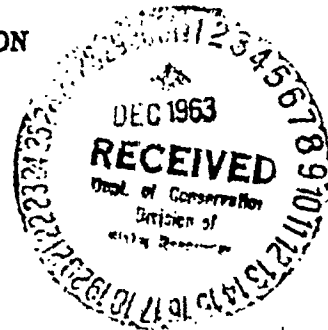
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As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: SEABROOK
Congressional township: _____ Range: _____ Number of section: _____
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
distinctive landmarks: FROM BEDFORD GOING WEST ON 16TH ST
TURN LEFT ON 450. GO APPROX 1/2 MI TURN LEFT
AT 2ND CURVE.

Name of owner: GENE BECK Address: _____
Name of Well Drilling Contractor: LOUIE D. SMITH
Address: RH 1 BEDFORD
Name of Drilling Equipment Operator: SAME

INFORMATION ON THE WELL

Completed depth of well: 170 ft. Date well was completed: Dec. 9, 1963
Diameter of outside casing or drive pipe: 6 1/4 Length: 48
Diameter of inside casing or liner: _____ Length: _____
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 95 ft.
Bailer Test: Hours tested 1 Rate 5 g.p.m. Drawdown 163 ft. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Gene E. Smith
Date Dec. 14, 1963

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To	COUNTY: <u>St Lawrence</u> TWP. <u>51</u> RGE. <u>12</u> NW <u>26</u> S <u>21</u> NE <u>21</u> SEC. <u>21</u>			
			Topo Map: <u>Badgley's Map 75</u> Well log classified By <u>244</u> Date <u>7/70</u> Courthouse located By <u>244</u> Date <u>7/70</u> Field located By <u>244</u> Date <u>8-17-71</u> Acc. w/o verification By <u>244</u> Date <u>8-17-71</u>			
clay	0	16	2200 Ft W of EL. Ground elevation <u>680</u> Ft N of SL. Depth to bedrock <u>16</u> Ft E of WL. Bedrock elevation <u>614</u> Ft S of NL. Aquifer elevation <u>614</u>			
Broken Limestone	16	38				
Limestone	38	75				
Hard Limestone	75	81				
Soft Limestone	81	135				
			U.S. GEOLOGICAL SURVEY WATER RESOURCES DIVISION WASHINGTON, D.C. 20506			
REMARKS:						

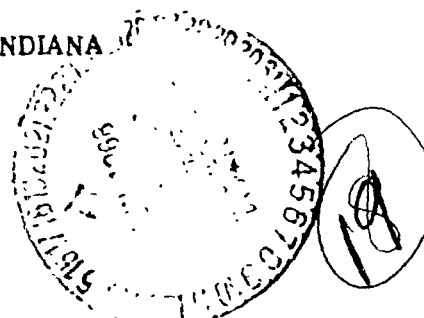
INSTRUCTIONS

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DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MEloose 3-6757
WATER WELL RECORD



1045
12-115
INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shenick

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: from Bedford turn again about 2 mi
turn left on 450 go about 1/2 mi to Bep lots.
well be 4th house on Right

Name of owner: Elen Craig Address: Bedford

Name of Well Drilling Contractor: Daniel O. Smith

Address: RT 1 Bedford

Name of Drilling Equipment Operator: Same

INFORMATION ON THE WELL

Completed depth of well: 125 ft. Date well was completed: May 15, 1968

Diameter of outside casing or drive pipe: 6 1/4 Length: 52'

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 125 ft.

Bailer Test: Hours tested 2 Rate 2 g.p.m. Drawdown 120 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Daniel O. Smith

Date May 18, 1968

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Clay	0	36
Lime	36	58
Mud & Breaks of Lime	58	63
Lime	63	158
Breaks of Lime Water	158	180
Lime	180	186
7.7 PH.		
0.1 Iron		
20 grams hardest		
Well is 35 ft. from house		
The well was Switched		
Set pump 175 ft.		
REMARKS:		

COUNTY: Lawrence TWP. 5N RGE. 1W SE & SW & NE & SEC. 21

Topo Map: Bedford West 71

Well log classified By WLB Date 2/68

Courthouse located By J. R. H. Date 8-9-78

Field located By J. R. H. Date 8-9-78

Acc. w/o verification By Date

FOR ADMIN. ACTIVE USE ONLY

(Well driller does not fill out)

1700 Ft W of EL. Ground elevation 675'

 Ft N of SL. Depth to bedrock 36'

2100 Ft E of WL. Bedrock elevation 639'

 Ft S of NL. Aquifer elevation

Owner Varified / 40 ft. North of House

INSTRUCTIONS

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DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757
WATER WELL RECORD

NO FOR R

INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: _____
Congressional township: _____ Range: _____ Number of section: _____
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: S.R. 158 1/2 Mile South on S.R. 450
maybe Section 21
SW 1/4

Name of owner: Johnson Larry D. McGent Address: 312 Indiana Ave. Oolitic, Ind
Name of Well Drilling Contractor: MUMMA DRILLING, INC.
Address: Washington & Lyons, Indiana
Name of Drilling Equipment Operator: Dean K. Mumma

INFORMATION ON THE WELL

Completed depth of well: 186 ft. Date well was completed: 11-25-67
Diameter of outside casing or drive pipe: 6 5/8 Length: 65 ft.
Diameter of inside casing or liner: _____ Length: _____
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☐ Rotary ☒ ^{Air} Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 100 ft.
Bailer Test: Hours tested _____ Rate 5 1/2 g.p.m. Drawdown 185 f. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Ralph J. Venter, Secretary
Date 12-4-67

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MEIrose 3-6757

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: LAWRENCE Civil Township: SPANE ROCK

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: From Bedford going west on 16th

turn left on 450 go approx. 1/4 MI. 1st ROAD

Left (Box Edition)

Name of owner: Warren Wilman Address: R#1 Bedford.

Name of Well Drilling Contractor: Louis Smith

Address: R#1 Bedford

Name of Drilling Equipment Operator: SAME

INFORMATION ON THE WELL

Completed depth of well: 135 ft. Date well was completed: JUNE 19, 1970

Diameter of outside casing or drive pipe: 6 1/4 Length: 42

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 75 ft.

Bailer Test: Hours tested 2 Rate 15 g.p.m. Drawdown 125 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Louis S. Smith

Date June 19, 1970

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

[illegible]

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An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation, 311 West Washington Street, Indianapolis, Indiana.

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MEIrose 3-6757
WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Laurens Civil Township: _____

Congressional township: Linn Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: From Bedford going west turn

left on 450 go approx 1/2 mile Stone house
on left (Thomas Chestnut place)

Name of owner: Thomas Chestnut Address: R# 1 Bedford

Name of Well Drilling Contractor: Jesse Smith

Address: R# 1 Bedford

Name of Drilling Equipment Operator: Same

INFORMATION ON THE WELL

Completed depth of well: 179 ft. Date well was completed: Dec 15, 1968

Diameter of outside casing or drive pipe: _____ Length: _____

Diameter of inside casing or liner: 6 1/4 Length: 60

Diameter of Screen: _____ Length: _____ Slot size: 1/8

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 130 ft.

Bailer Test: Hours tested 2 Rate 1 1/2 g.p.m. Drawdown 177 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Jesse B. Smith

Date Dec 22, 1968

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FOR ADMINISTRATIVE USE ONLY
(Cell Driller does not fill out)

1706 - 7106
2550 W 9 EL

COUNTY:

T.P.S.N

RGE.

NW₁SW

No

SEC.

21

Topo. Map:

al

Loc. accepted w/o verification

Yes

No

El. of grnd. surface at well:

450

Courthouse Loc.

By

Date _____

Depth to bedrock:

460

Field Located

By

Date _____

all log processed by:

Lt 9-11

Placed in Master Well Log File

ely

Date _____

BR

610

[illegible]

INSTRUCTIONS

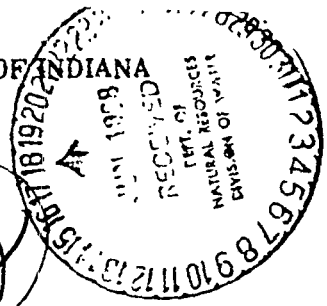
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As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation, 311 West Washington Street, Indianapolis, Indiana.

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD



INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawsminick

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: From Bedford going west turn left

on SR 450 go about 1/2 mi turn left at Ref's

homestead 1st house on left

Name of owner: Roy Baker Address: R 1 Bedford

Name of Well Drilling Contractor: Louis O. Smith

Address: R#1 Bedford

Name of Drilling Equipment Operator: Same

INFORMATION ON THE WELL

Completed depth of well: 145 ft. Date well was completed: Nov. 17, 1967

Diameter of outside casing or drive pipe: 6 1/4 Length: 45'

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) _____ ft.

Bailer Test: Hours tested 1 Rate 8 g.p.m. Drawdown 95 ft. (Difference between
static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown 135 ft. level at end of test)

Signature Louis O. Smith

Date Nov. 20, 1967

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

ATIONS (Color, type of material, hardness, etc.)

From

To

COUNTY:

Topo. Map:

El. of Grnd. surface at well:
Depth to bedrock:

Well log processes

d by: Wick 4/16/47

Courthouse Loc.
Field located
Placed in Maste

By	Date
By	Date
Log File	Date

Loc. accepted w/o verification Yes ___ No ___

TWP. SN RGE. 1W NE SW SW

SEC. 21

FOR ADMINISTRATIVE USE ONLY
(Well Driller does not fill out)

INSTRUCTIONS

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

23

INFORMATION ON WELL LOCATION

County in which well was drilled: LARANCE Civil Township: SHARWICK

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: FROM BEDFORD GOING WEST

TURN LEFT ON 450 TO 1ST HOUSE ON

LEFT.

Ronald T. 262

Name of owner: Wayne Tiley Address: R#1 BEDFORD

Name of Well Drilling Contractor: Louie O. Smith

Address: R#1 BEDFORD

Name of Drilling Equipment Operator: - SAME -

INFORMATION ON THE WELL

Completed depth of well: 150 ft. Date well was completed: Nov. 6, 1961

Diameter of outside casing or drive pipe: 6 1/4 Length: 32'

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 100 ft.

Bailer Test: Hours tested 1 Rate 1 g.p.m. Drawdown _____ ft. (Difference between

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Louie O. Smith

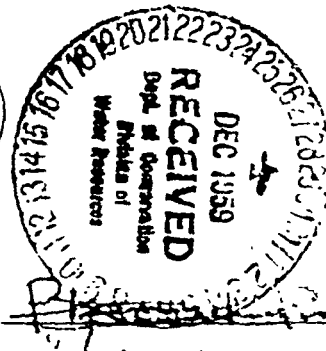
Date Dec. 30 1961

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

Lawrence Co
INFORMATION ON WELL LOCATION



County in which well was drilled: Lawrence Co Civil Township: Bedford

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 3 mi. northeast of Bedford Ind.
on Mt. Pleasant Road.

Name of owner: Elmer Fish Address: Bedford Ind RR4

Name of Well Drilling Contractor: Floyd Stultz

Address: Bedford Ind RR4

Name of Drilling Equipment Operator: Floyd Stultz

INFORMATION ON THE WELL

Completed depth of well: 86 ft. Date well was completed: Dec. 22nd - 1959

Diameter of outside casing or drive pipe: 6 inches Length: 11 ft.

Diameter of inside casing or liner: 5 1/2 Length: 11 ft.

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☐ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☐ For public supply ☐ Stock ☒

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) _____ ft.

Bailer Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. (Difference between static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature: Floyd Stultz

Date: Dec. 28, 1959

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

COUNTY: Lewis
Topo. Map: Battle Hill TWP. S N RGE. 1 W SEC. 6 E

E.L. of grnd. surface at well: 700 Loc. accepted w/o verification Yes ___ No X
Depth to bedrock: _____
Well log processed by: H.C. Kost Courthouse Loc. By P.B. Date 8/60
Field located By P.B. Date 9/60
Placed in Master Well Log File Date _____

FORMATIONS (Color, type of material, hardness, etc.) From To
14 ft. clay
56 ft. limestone

REMARKS:


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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

0011710 Quad



WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawswick
Congressional township: _____ Range: Lot 30 Number of section: _____
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: East Ooltic

Name of owner: LARRY CHENault Address: Redford Tnd. RR
Name of Well Drilling Contractor: ERnie UNPHRESS & SONS
Address: Redford Tnd. RR 6
Name of Drilling Equipment Operator: Eugene & Charles Unphress

INFORMATION ON THE WELL

Completed depth of well: 200 ft. Date well was completed: 9/20/62
Diameter of outside casing or drive pipe: _____ Length: 22 ft
Diameter of inside casing or liner: 5 1/2" Length: _____
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 120 ft.
Bailer Test: Hours tested _____ Rate 3 g.p.m. Drawdown 20 ft. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Some people get
salt water. &
fetter water.

Signature Eugene & Charles Unphress
Date 9/20/62

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

1500 E. of W.L.; 1900 S. of N.L.

Topo. Map: Politic Loc. accepted w/o verification Yes ☐ No ☐

El. of grnd. surface at well: 540 Courthouse Loc. By _____ Date _____
Depth to bedrock: _____ Field Located By u Date 7-63
Well Log processed by: H. L. 10/30/62 Placed in Master Well Log File Date _____

[illegible]

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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

156

new. house
2 tons. white &
brown

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shawswick
~~Congressional~~ township: Let Range: 14
(Fill in as completely as possible)
Describe in your own words the well location with respect to nearby towns, roads, streets
or distinctive landmarks: located in East Colitic on lot 19

Name of owner: James W. & Eva A. Anderson Address: RR 2 Bedford Ind.
Name of Well Drilling Contractor: Ernie Anderson SONS
Address: Bedford IND. Rte 12
Name of Drilling Equipment Operator: Ernie Anderson

INFORMATION ON THE WELL

Completed depth of well: 165 ft. Date well was completed: 8/4/62
Diameter of outside casing or drive pipe: 6" Length: 35' 9"
Diameter of inside casing or liner: 5 3/8" Length: _____
Diameter of Screen: _____ Length: _____ Slot size: _____
Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____
Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐
Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐
Static water level in completed well (Distance from ground to water level) 117 ft.
Bailer Test: Hours tested _____ Rate 4 g.p.m. Drawdown 42 ft. (Difference between
static level and water
Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Ernie Anderson

Date 8/4/62

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

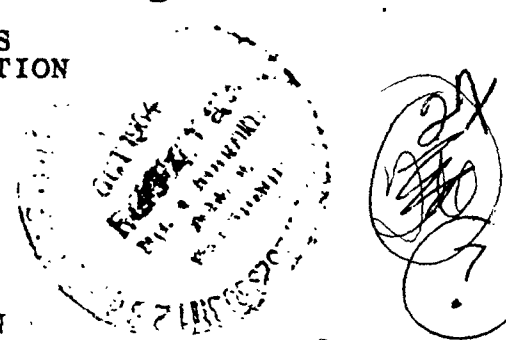
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DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA



WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Laurens Civil Township: Shawswick

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: East Oolitic

731mers E.R. Lot 54

Name of owner: Felix Chenault Address: Bedford Ind. RR3

Name of Well Drilling Contractor: Floyd Stultz

Address: Bedford Ind. RR4

Name of Drilling Equipment Operator: Floyd Stultz

INFORMATION ON THE WELL

Completed depth of well: 120 ft. Date well was completed: Sept. 21st 1964

Diameter of outside casing or drive pipe: 6 in. Length: 12 ft.

Diameter of inside casing or liner: 5 5/8 Length: 12 "

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 50 ft.

Bailer Test: Hours tested 8 Rate 1 g.p.m. Drawdown _____ ft. (Difference between static level and water

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. level at end of test)

Signature Floyd Stultz

Date Oct. 4, 1964

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

MATERIALS (Color, type of material, hardness, etc.)		From	To	By		Date		Ground elevation		Depth to bedrock		Bedrock elevation		Aquifer elevation		Yes		No	
Clay		0	12																
Limestone		12	50																
Soapstone		50	150																

COUNTY: Lawrence TWP. 5N RGE. 1W 0000 SEC. 3
 Topo Map: Polite 72 Loc. accepted w/o verification
 Well log classified By Wek Date 10/19/64
 Courthouse located By Wek Date 10/19/64
 Field located By Wek Date 10/19/64
 Placed in master well log file Date 10/19/64
 Aquifer elevation Ft S of NL
 Ground elevation Ft W of EL
 Depth to bedrock Ft N of SL
 Bedrock elevation Ft E of WL

REMARKS:

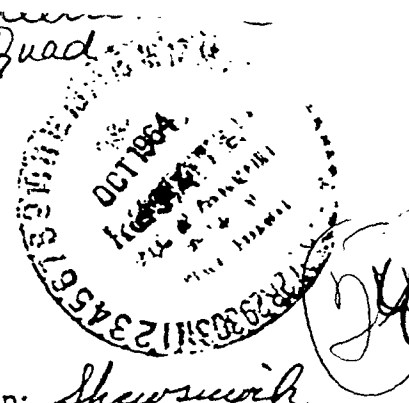
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3

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS 9, INDIANA



WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Lawrence Civil Township: Shaws Fork

Congressional township: _____ Range: _____ Number of section: _____

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets

or distinctive landmarks: On state Road 58, 1 mile east of
Bedford, RR 3

Name of owner: Mrs. Joseph A. Myers Address: Bedford RR 3

Name of Well Drilling Contractor: Floyd Stultz

Address: Bedford Ind. RR 41

Name of Drilling Equipment Operator: Floyd Stultz

INFORMATION ON THE WELL

Completed depth of well: 144 ft. Date well was completed: Oct. 5, 1964

Diameter of outside casing or drive pipe: 6 in. Length: 40

Diameter of inside casing or liner: 5 5/8 Length: 40

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 60 ft.

Bailer Test: Hours tested 8 Rate 40 g.p.m. Drawdown _____ ft. (Difference between

Pumping Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. static level and water level at end of test)

Signature: Floyd Stultz
Date: Oct. 5, 1964

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FOR ADMINISTRATIVE USE ONLY
(Well Driller does not fill out)

COUNTY: Lawrence

TWP. SN

RGE. 1W

NE 1/4 Sec. 56

SEC. 12

Topo Map: Barletttsville

Loc. accepted w/o verification

Yes ☒ No ☐

Well log classified By WLB Date 10/19/64 Ground elevation 720 Ft W of EL
 Courthouse located By SCW Date 8-16-66 Depth to bedrock 21 Ft N of SL
 Field located By SCW Date 8-16-66 Bedrock elevation 700 Ft E of WL
 Placed in master well log file Date 8-16-66 Aquifer elevation 700 Ft S of NL

From

To

0 40
40 144

FORMATIONS (Color, type of material, hardness, etc.)

Rock + clay
Limestone

REMARKS:

INSTRUCTIONS

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MAY 25, 2001

APPENDIX C.2
2000 FISH CONSUMPTION ADVISORY

Angling Indiana - 2000 FISH CONSUMPTION ADVISORY

Group 1 = Unrestricted consumption (at-risk population - limit consumption to 1 meal/week)*

Group 2 = Limit consumption to 1 meal/week (at-risk population - limit to 1 meal/month)*

Group 3 = Limit consumption to 1 meal/month (at-risk population - **DO NOT EAT**)*

Group 4 = Limit consumption to 1 meal/2 months (at-risk population - **DO NOT EAT**)*

Group 5 = **DO NOT EAT**

*At-risk populations include children under 15, pregnant or nursing women, and those women planning to have children within 6 years

County Name River, Stream, Lake, or Reservoir Name	Fish Species	Fish Length (inches)	Contaminant ■ = PCBs ○ = Mercury	Group (1-5)
Lawrence County				
All Indiana Rivers and Streams (unless otherwise specified)	Carp	15-20	■○	3
		20-25	■○	4
		25+	■○	5
East Fork of White River	Carp	22+	■○	5
	Channel Catfish	15-21	■○	4
		21+	■○	5
	Freshwater Drum	12-15	■	4
		15+	■	5
	Bigmouth Buffalo	18+	○	4
	Flathead Catfish	10-16	■	3
		16+	■	4
	Largemouth Bass	11-14	■	4
		14+	■	5
	River Carpsucker	13+	■	5
	Sauger	14+	■○	3
	Shorthead Redhorse	14-16	■	4
		16+	■	5

	Smallmouth Buffalo	15+	■	5
	Spotted Bass	10+	■○	2
	Spotted Sucker	17+	■	3
	Striped Bass	22+	■	4
Pleasant Run Creek	ALL SPECIES	ALL	■	5

Table of Contents

2000 INDIANA FISH ADVISORY STREAMS AND RIVERS

○ = Mercury

■ = PCBs

Group 2 = 1 meal/week Group 3 = 1 meal/month

Group 4 = 1 meal/2 months Group 5 = DO NOT EAT

(Women and children see advisory groups)

Location	Species	Fish Size (inches)	Contaminant	Group
All Indiana Rivers and Streams				
<i>All Counties</i> (unless otherwise specified)	Carp	15-20	■○	3
		20-25	■○	4
		25+	■○	5
Big Blue River				
<i>Henry County</i>	Creek Chubs	6-7	■	3
		7+	■	4
	Rock Bass	4-7	■	3
		7+	■	4
	White Suckers	8-10	■	3
		10+	■	4
<i>Rush County</i>	Creek Chubs	6+	■	3
<i>Shelby County</i>	Black Redhorse	11+	■	3
	Golden Redhorse	18+	■	4

<i>Johnson County</i>	Northern Hogsucker	9-10	■	3
		10+	■	4
	Rock Bass	4-7	■	3
	Longear Sunfish	5+	■	3
	Northern Hogsucker	8-10	■	3
		10+	■	4
	Rock Bass	7+	■	3
	Smallmouth Bass	5-8	■	3
		8+	■	4

Big Pine Creek

<i>Warren County</i>	Black Redhorse	13-16	○	2
		16+	○	3
	Channel Catfish	12-17	■	2
	Smallmouth Bass	10-11	■	2
		11+	■	3

Big Raccoon Creek

<i>Parke County</i>	Carp	19-22	○	2
		22+	○	3
	Black Redhorse	11-17	○	2
		17+	○	3
	Channel Catfish	17-22	■	3
		22+	■	4
	Spotted Bass	10-14	○	2
		14+	○	3

Big Walnut Creek

<i>Putnam County</i>	Black Redhorse	11-14	○	2
		14+	○	3
	River Carp sucker	9-14	○	2
		14+	○	3
	Spotted Bass	9-12	○	2
		12+	○	3

Blue River

<i>Harrison County</i>	Carp	28-29	○	2
		29+	○	3
	Channel Catfish	15+	■	3
	Rock Bass	5-7	■	2
		7+	■	3
	Shorthead Redhorse	14-17	■	3
		17+	■	4

Brandywine Creek

<i>Hancock County</i>	Northern Hogsucker	8-11	○	2
		11+	○	3

Buck Creek

<i>Delaware County</i>	Longear Sunfish	5-6	■	3
		6+	■	4
	Rock Bass	6-9	■	3
		9+	■	4
	Smallmouth Bass	8-11	■○	3
		11+	■○	4

Clear Creek

<i>Monroe County</i>	ALL SPECIES	ALL	■	5
----------------------	--------------------	------------	---	----------

Deer Creek

<i>Carroll County</i>	Black Redhorse	13-19	○	2
		19+	○	3
	Carp	Up to 19	■	2
		19+	■	3
	Carpsucker	15-17	○	2
		17+	○	3
	Smallmouth Bass	10	■	2
		10+	■	3

East Fork of White Lick Creek

<i>Hendricks County</i>	Creek Chub	6-9	■	2
		9+	■	3
	Northern Hogsucker	8-11	■	2
		11+	■	3
	Yellow Bullhead	8-10	■	2
		10+	■	3

East Fork of the White River

<i>Bartholomew County</i>	Golden Redhorse	8-13	■	2
		13+	■	3
	Silver Redhorse	16-18	■	3
		18+	■	4

<i>Jackson County</i>	Freshwater Drum	17-18 18+	○ ○	2 3
	Golden Redhorse	14-16 16+	■ ■	3 4
	Silver Redhorse	20-22 22+	■ ■	2 3
	Smallmouth Buffalo	19-26 26+	■ ■	3 4
	Bigmouth Buffalo	18+	■○	3
<i>Lawrence County</i>	Carp	22+	■○	5
	Channel Catfish	15-21 21+	■○ ■○	4 5
	Freshwater Drum	12-15 15+	■ ■	4 5
	Bigmouth Buffalo	18+	○	4
	Flathead Catfish	10-16 16+	■ ■	3 4
	Largemouth Bass	11-14 14+	■ ■	4 5
	River Carpsucker	13+	■	5
	Sauger	14+	■○	3
	Shorthead Redhorse	14-16 16+	■ ■	4 5
	Smallmouth Buffalo	15+	■	5

	Spotted Bass	10+	■○	2
	Spotted Sucker	17+	■	3
	Striped Bass	22+	■	4
<i>Martin County</i>	Channel Catfish	12-14	■	3
		14+	■	4
	Freshwater Drum	10-12	■	3
		12+	■	4
	Longear Sunfish	6+	■	3
	Shorthead Redhorse	14-16	■	4
		16+	■	5
	Smallmouth Buffalo	19+	■	3

East Fork of Whitewater River

<i>Wayne County</i>	Channel Catfish	12-18	■	3
		18+	■	4
	Smallmouth Bass	8-11	■	4
		11+	■	5
<i>Union County</i>	Creek Chub	4-5	○	2
		5+	○	3

Eel River (West Fork White River Basin)

<i>Greene County</i>	Bigmouth Buffalo	18-20	○	2
		20+	○	3
	Channel Catfish	18+	■○	2

Freshwater	14-16	○	2
Drum	16+	○	3
Sauger	18+	■	3

Eel River (Upper Wabash River Basin)

<i>Whitley County</i>	Bluegill	4-6	■	3
		6+	■	4
	Carp	11-20	■○	2
		20+	■○	3
	Northern Hogsucker	7-10	■	3
		10+	■	4
	Rock Bass	7-8	○	2
		8+	○	3
	White Sucker	8-12	■	2
		12+	■	3
<i>Wabash County</i>	Northern Hogsucker	8+	■	3
<i>Miami County</i>	Northern Hogsucker	9-12	○	2
		12+	○	3
	Rock Bass	6-7	○	2
		7+	○	3
	Smallmouth Bass	10+	■	3
<i>Cass County</i>	Northern Hogsucker	8-11	○	2
		11+	○	3
	Rock Bass	7-9	○	2
		9+	○	3

Elkhart River

Elkhart County	Rock Bass	7-9 9+	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	3 4
	Smallmouth Bass	5-6	<div> <div></div> </div>	3
	White Sucker	8-13 13+	<div> <div></div> <div></div> </div>	3 4
Elliot Ditch				
Tippecanoe County	ALL SPECIES	ALL	<div> <div></div> </div>	5
Fall Creek				
Madison County	Black Redhorse	13-17 17+	<div> <div></div> <div></div> </div>	2 3
	Carp	19-22 22+	<div> <div> <div></div> <div></div> </div> <div> <div></div> <div></div> </div> </div>	3 4
	Channel Catfish	Up to 22 22+	<div> <div></div> <div></div> </div>	3 4
	Rock Bass	5-7 7+	<div> <div></div> <div></div> </div>	2 3
	Smallmouth Bass	6-14 15-17 17+	<div> <div></div> <div></div> <div></div> </div>	2 3 4
	White Sucker	12-16 16+	<div> <div></div> <div></div> </div>	2 3
	Hamilton County	Carp	16-23 23+	<div> <div></div> <div></div> </div>	2 3
Largemouth Bass		12-16 16+	<div> <div></div> <div></div> </div>	2 3

Flatrock River

<i>Rush County</i>	Northern Hogsucker	8-13	○	2
		13+	○	3
	Longear Sunfish	4-6	○	2
		6+	○	3
	Rock Bass	5-8	○	2
		8+	○	3
<i>Shelby County</i>	Rock Bass	5-8	■○	2
		8+	■○	3

Grassy Creek

<i>Kosciusko County</i>	Largemouth Bass	Up to 14	○	2
		14+	○	3

Great Miami River

<i>Dearborn County</i>	Carp	16-20	■	4
		20+	■	5
	Channel Catfish	15+	■	5
	Largemouth Bass	15-18	■○	2
		18+	■○	3
	White Crappie	8-11	■	3
		11+	■	4

Greens Fork

<i>Wayne County</i>	Creek Chub	7+	○	2
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Honey Creek

<i>White County</i>	Largemouth Bass	Up to 20	■○	2
		20+	■○	3

Iroquois River

Jasper County Carp 28+ ■ 3

Newton County Carp 28+ ■ 3

Juday Creek

St. Joseph County White Sucker 12-17 ■ 2
17+ ■ 3

Kankakee River

LaPorte County Bigmouth 16-22 ○ 2
Buffalo 22+ ○ 3

Channel 17+ ■ 3
Catfish

Northern Pike 15+ ■ 2

Quillback 15-16 ■ 3

Shorthead 13-17 ■○ 3
Redhorse 17+ ■○ 4

Lake County Bigmouth 18-24 ■○ 2
Buffalo 24+ ■○ 3

Carp 20-22 ■ 2
22+ ■ 3

Northern Pike 31+ ■ 2

Quillback 13-15 ■ 2
15+ ■ 3

Shorthead 14-16 ■ 2
Redhorse 16-19 ■ 3
19+ ■ 4

	Silver	18-20	■	2
	Redhorse	20+	■	3
	Smallmouth	18-22	■○	2
	Buffalo	22-28	■○	3
		28-32	■○	4
		32+	■○	5

Killbuck Creek

<i>Madison County</i>	Largemouth Bass	16+	○	3
	Longear Sunfish	5-6	■	3
		6+	■	4

Kokomo Creek

<i>Howard County</i>	ALL SPECIES	ALL	■	5
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Little Blue River

<i>Shelby County</i>	Northern Hogsucker	8-11	■	2
		11+	■	3

Little Mississinewa River

<i>Randolph County</i>	ALL SPECIES	ALL	■	5
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Little Sugar Creek/Walnut Fork (Middle Wabash Basin)**

<i>Montgomery County</i>	ALL SPECIES	ALL	■○	5
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*** Fish tissue samples have not been taken from Walnut Fork. However, fish tissue samples taken from Little Sugar Creek (Montgomery Co.) and Sugar Creek (Montgomery Co., I-74 to SR-32) are at No Consumption advisory levels. These two bodies of water are connected by Walnut Fork in Montgomery Co., approximately one river mile in length. Based on these data, a No Consumption advisory will be placed on Walnut Fork to protect human health. Future sampling of Walnut Fork is planned for more comprehensive results.*

Little Sugar Creek (East Fork White River Basin)

<i>Hancock County</i>	Creek Chub	ALL	■○	3
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Maumee River

<i>Allen County</i>	Channel Catfish	14-16	■	3
		16+	■	4
	Largemouth Bass	9+	■	3
	River Redhorse	12-14	■○	3
		14+	■○	4
	Rock Bass	7-8	■	3
		8+	■	4
	Sauger	15-24	■○	2
		24+	■○	3
	Shorthead Redhorse	14-16	■○	3
		16+	■○	4

Mississinewa River

<i>Randolph County</i>	Carp	17+	■	5
	Channel Catfish	15+	■	5

	Green Sunfish	3+	■	5
	Longear Sunfish	3-5	■	3
		5+	■	4
	White Crappie	8-10	■	3
		10+	■	4
<i>Delaware County</i>	Bluegill	6+	■	2
	Green Sunfish	4-6	■	2
		6+	■	3
	Rock Bass	6-7	■○	2
		7+	■○	3
<i>Grant County</i>	Channel Catfish	11-13	■○	2
		13+	■○	3
	Largemouth Bass	8-11	■	2
		11+	■	3
	White Crappie	8-11	○	2
		11+	○	3
	Carp	14-19	■	3
<i>Miami County</i>	Carp	19-20	■	2
Muddy Fork of Sand Creek				
<i>Decatur County</i>	Black Redhorse	12-15	○	2
		15+	○	3
	Largemouth Bass	6-11	■	3
		11+	■	4

	Northern Hogsucker	6-10	■	3
		10+	■	4
	White Sucker	10-13	○	2
		13+	○	3

Muscatatuck River

<i>Washington County</i>	Bigmouth Buffalo	17-26	■○	2
		26+	■○	3
	Smallmouth Buffalo	22-23	■○	2
		23+	■○	3

Otter Creek

<i>Vigo County</i>	Black Redhorse	10-14	■	2
		14+	■	3
	Golden Redhorse	14+	■○	2
	Spotted Bass	8-13	○	3
		13+	○	4

Patoka River

<i>Dubois County</i>	Bigmouth Buffalo	16-21	○	2
		21+	○	3
	Carp	15-20	■	2
		20+	■	3
	Freshwater Drum	13-17	○	2
		17+	○	3

<i>Pike County</i>	Bigmouth	16-21	○	2
	Buffalo	21+	○	3
	Freshwater	21-22	■○	2
	Drum	22+	■○	3
<i>Gibson County</i>	Black Buffalo	24-25	■○	2
		25+	■○	3
	Channel	16-18	■	2
	Catfish	18+	■	3
	Flathead	12-18	■○	2
	Catfish	18+	■○	3
	Freshwater	14-16	○	2
	Drum	16+	○	3

Pigeon Creek (St. Joseph River Basin)

<i>Steuben County</i>	Carp	21-25	■	3
		25+	■	4
	White Sucker	11-14	○	2
		14+	○	3

Pigeon Creek (Ohio River Basin)

<i>Vanderburgh County</i>	Channel	15-18	■	4
	Catfish	18+	■	5
	Largemouth Bass	13+	■	2
	White Crappie	12+	■	2

Pipe Creek

<i>Madison County</i>	Longear Sunfish	4+	■	2
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	White Sucker	10-15	■○	2
		15+	■○	3

Pleasant Run Creek

<i>Lawrence County</i>	ALL SPECIES	ALL	■	5
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Richland Creek

<i>Monroe County</i>	Creek Chub	6-7	■	3
		7+	■	4

	Rock Bass	4-8	■○	2
		8+	■○	3

	White Sucker	8-11	■○	3
		11+	■○	4

<i>Owen County</i>	Creek Chub	5-9	■○	3
		9+	■○	4

	Longear Sunfish	4-6	■○	2
		6+	■○	3

	Rock Bass	6-7	■○	2
		7+	■○	3

Salt Creek

<i>Monroe County</i> ** (tailwaters of Monroe Reservoir)	Bluegill	7+	■	2
	Freshwater Drum	16+	■	5

Dam to Clear Creek)	Striped Bass	12+	■	3
	Walleye	15-21	■	3
		21+	■	4
	White Crappie	7+	■	2
	Yellow Bass	8+	■	2
Monroe County (confluence of Clear Creek to Lawrence Co.)	ALL SPECIES	ALL	■○	5
Lawrence County	ALL SPECIES	ALL	■○	5

*** This listing is based on limited data. It should be noted that fish migrate. Fish not sampled from these waters may migrate from the confluence of Clear Creek and Salt Creek, 1.3 miles south. Those water bodies have No Consumption advisories. Future sampling of the Salt Creek tailwaters below the Monroe Reservoir Dam is planned for more comprehensive results.*

Sand Creek

Decatur County	Black Redhorse	14+	○	2
	Northern Hogsucker	10-12	■	3
		12+	■	4
	Spotted Sucker	13-14	○	2
		14+	○	3
	White Sucker	8-11	○	2
		11+	○	3

	Yellow Bullhead	10-12 12+	■ ■	3 4
<i>Jennings County</i>	Rock Bass	6-9 9+	○ ○	2 3
	Spotted Bass	8-12 12+	○ ○	2 3
	Yellow Bullhead	8-11 11+	○ ○	2 3
Silver Creek				
<i>Union County</i>	Creek Chub	6-7 7+	○ ○	2 3
<i>Floyd County</i>	Carp	21-25 25+	■ ■	3 4
	Channel Catfish	17-20 20+	■ ■	3 4
	Freshwater Drum	15-18 18+	■○ ■○	2 3
	Smallmouth Bass	15+	■	2
Stoney Creek				
<i>Hamilton County</i>	ALL SPECIES	ALL	■	5
Stouts Creek				
<i>Monroe County</i>	Creek Chubs	4-8 8+	■○ ■○	2 3

St. Joseph River (Maumee River Basin)

<i>Allen County</i>	Black Crappie	9-11	■	3
		11+	■	4
	Black Redhorse	13-16	■	3
		16+	■	4
	Channel Catfish	20-24	■○	3
		25-26	■○	4
		26+	■○	5
	Golden Redhorse	12-13	■	3
		13+	■	4
	Rock Bass	7-9	■	3
		9+	■	4

St. Joseph River (St. Joseph River Basin)

<i>Elkhart County</i>	Black Redhorse	13-17	○	2
		17+	○	3
	Channel Catfish	20-24	■	3
		25-26	■	4
		26+	■	5
	Golden Redhorse	13-25	■	3
		25+	■	4
	Largemouth Bass	11-12	○	2
		12+	○	3
	Rock Bass	7-9	■	3
		9+	■	4
	Shorthead Redhorse	14-17	■○	3
		17+	■○	4

<i>St. Joseph County</i>	Smallmouth Bass	9-13 13+	○ ○	2 3
	Walleye	16-17 17+	○ ○	3 4
	Black Redhorse	14-17 17+	■○ ■○	3 4
	Carp	20+	■○	5
	Channel Catfish	22+	■○	4
	Golden Redhorse	13-22 22+	■ ■	3 4
	Largemouth Bass	15-16 16-18 18+	■○ ■○ ■○	3 4 5
	Shorthead Redhorse	15-19 19+	■○ ■○	3 4
	Smallmouth Bass	7-9 9+	■○ ■○	2 3
	Steelhead	25-26 26+	■ ■	3 4
	Quillback	18+	■	3
	White Sucker	14-16 16+	■ ■	3 4

St. Mary's River

<i>Allen County</i>	Bigmouth	20-25	■○	3
	Buffalo	25+	■○	4
	Black	12-15	■○	2
	Redhorse	15+	■○	3
	Channel	13-15	■	3
	Catfish	15+	■	4
	Largemouth	Up to 15	■○	3
	Bass	15+	■○	4
	Quillback	9-14	■○	2
		14+	■○	3
	Silver	17+	■○	3
	Redhorse			
	White Suckers	8-11	■○	2
		11+	■○	3

Sugar Creek (East Fork White River Basin)

<i>Hancock County</i>	Black	11-13	○	2
	Redhorse	13+	○	3
<i>Johnson County</i>	Carp	27+	■	3
	Flathead	17+	■	3
	Catfish			
	Spotted Bass	13+	○	2

Sugar Creek (Middle Wabash River Basin)

Montgomery County

(Crawfordsville 174 - SR32)	ALL SPECIES	ALL	■	5
(Shades State Park)	Black	14-16	■	4
	Redhorse	16+	■	5
	Rock Bass	7+	■	3
	Smallmouth Bass	7-11	■	2
		11-15	■	3
		15+	■	4
Parke County	Black	12-16	■	3
	Redhorse	16+	■	4
	Smallmouth Bass	8-11	■	2
		11+	■	3
	Channel Catfish	12-13	■	3
		13+	■	4
Tippecanoe River				
Kosciusko County	Bluegill	6+	○	2
	Redhorse	17-18	■	3
		18+	■	4
	River Redhorse	17+	○	3
Rock Bass	5+	○	2	
Marshall County	Rock Bass	9-10	○	2
		10+	○	3

<i>Fulton County</i>	Channel Catfish	12-23 23+	■○ ■○	2 3
	Northern Hogsucker	7-12 12+	○ ○	2 3
	Spotted Suckers	13+	○	2
	Golden Redhorse	15-16 16+	■○ ■○	2 3
	Carp	30-31	■○	2
<i>Pulaski County</i>	Black Redhorse	16-17 17+	■ ■	3 4
	Channel Catfish	11-12 12+	■○ ■○	2 3
	Longear Sunfish	3-5 5+	○ ○	2 3
	Northern Hogsucker	13-15 15+	○ ○	2 3
	Carp	21-22	■	2
Trail Creek				
<i>LaPorte County</i>	Carp	23-25	■	5
Wabash River				
<i>Adams County</i>	Carp	17-19	■	2

<i>Wells County</i>	Channel Catfish	13-19	■○	3
		19+	■○	4
	Golden Redhorse	18+	○	2
	Rock Bass	7-10	○	2
		10+	○	3
	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5
<i>Huntington County</i>	White Crappie	5-7	○	2
		7+	○	3
	Yellow Perch	6-7	○	2
		7+	○	3
	Blue Sucker	21-26	■	3
		26+	■	4
	Channel Catfish	13-16	■○	3
		16+	■○	4
	Freshwater Drum	12-18	■	3
		18+	■	4
	Largemouth Bass	12-14	○	3
		14+	○	4
	Carp	18-21	■○	2
	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5

<i>Wabash County</i>	Black Redhorse	16-19 19+	○ ○	2 3
	Blue Sucker	21-26 26+	■ ■	3 4
	Channel Catfish	13-19 19+	○ ○	2 3
	Freshwater Drum	12-18 18+	■ ■	3 4
	Quillback	12-16 16+	○ ○	2 3
	Sauger	13-19 19+	■ ■	4 5
	Smallmouth Buffalo	25+	■	5
	White Bass	11-21 21+	■○ ■○	3 4
	Blue Sucker	21-26 26+	■ ■	3 4
	Channel Catfish	13-19 19+	■○ ■○	2 3
<i>Miami County</i>	Freshwater Drum	12-18 18+	■ ■	3 4
	Quillback	13-17 17+	○ ○	2 3
	Sauger	13-19 19+	■ ■	4 5

	Smallmouth Buffalo	25+	■	5
<i>Cass County</i>	Black	16-19	○	2
	Redhorse	19+	○	3
	Blue Sucker	21-26	■	3
		26+	■	4
	Channel	13-19	■○	2
	Catfish	19+	■○	3
	Freshwater	12-18	■	3
	Drum	18+	■	4
	Quillback	13-19	○	2
		19+	○	3
	Sauger	13-19	■○	2
		19+	■○	3
	Smallmouth	12-16	○	2
	Bass	16+	○	3
	Smallmouth Buffalo	25+	■	5
	Walleye	16+	○	2
<i>Carroll County</i>	Blue Sucker	21-26	■	3
		26+	■	4
	Channel	13-19	■○	2
	Catfish	19+	■○	3
	Freshwater	12-18	■	3
	Drum	18+	■	4
	River	23-26	○	2
	Redhorse	26+	○	3

<i>Tippecanoe County</i>	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5
	Bigmouth Buffalo	17-20	■	2
		20+	■	3
	Blue Sucker	21-26	■	3
		26+	■	4
	Channel Catfish	16+	■○	5
	Flathead Catfish	15-24	■○	2
		24+	■○	3
	Freshwater Drum	12-18	■○	3
		18+	■○	4
	Golden Redhorse	20+	■	3
	Largemouth Bass	9-14	○	2
		14+	○	3
	Quillback	13-19	■	4
		19+	■	5
	River Redhorse	16-19	■○	2
		19+	■○	3
	Sauger	13-19	■○	4
		19+	■○	5
	Paddlefish	34+	■	3

<i>Fountain County</i>	Smallmouth Bass	9-12 12+	■ ■	3 4
	Smallmouth Buffalo	25+	■	5
	White Bass	6-11 11+	○ ○	2 3
	Blue Sucker	21-26 26+	■ ■	3 4
	Channel Catfish	13-19 19+	■ ■	3 4
	Freshwater Drum	12-18 18+	■ ■	3 4
	Sauger	13-19 19+	■ ■	4 5
	Smallmouth Buffalo	25+	■	5
	Bigmouth Buffalo	18+	■	3
	Bigmouth Buffalo	21-24 24+	■ ■	3 4
<i>Vermillion County</i>	Blue Sucker	21-26 26+	■○ ■○	3 4
	Carpsucker	10+	■○	2
	Channel Catfish	13-19 19+	■○ ■○	3 4
<i>Vigo County</i>				

<i>Sullivan County</i>	Flathead	10-20	■○	2
	Catfish	20+	■○	3
	Freshwater	12-18	■	3
	Drum	18+	■	4
	Sauger	13-19	■	4
		19+	■	5
	Shovelnose	30+	■	3
	Sturgeon			
	Smallmouth Buffalo	25+	■○	5
	White Bass	13+	■○	3
	Wiper	10-12	■	3
		12+	■	4
	Blue Sucker	21-26	■	3
		26+	■	4
	Channel	13-19	■○	3
	Catfish	19+	■○	4
	Flathead	16-31	■○	3
	Catfish	31+	■○	4
	Freshwater	12-18	■	2
	Drum	18+	■	3
	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5

<i>Knox County</i>	Blue Sucker	21-26	■	3
		26+	■	4
	Channel Catfish	13-19	■	2
		19+	■	3
	Freshwater Drum	12-18	■○	3
		18+	■○	4
	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5
<i>Gibson County</i>	Blue Sucker	21-26	■	3
		26+	■	4
	Channel Catfish	13-19	■○	2
		19+	■○	3
	Freshwater Drum	12-18	■○	2
		18+	■○	3
	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5
<i>Posey County</i>	Blue Sucker	21-26	■	3
		26+	■	4
	Channel Catfish	13-19	■	2
		19+	■	3
	Flathead Catfish	11-19	■○	2
		19+	■○	3

	Sauger	13-19	■	4
		19+	■	5
	Smallmouth Buffalo	25+	■	5
	White Bass	11-21	■○	3
		21+	■○	4
	Wiper	13+	■	3
Wea Creek				
<i>Tippecanoe County</i>	ALL SPECIES	ALL	■	5
West Fork of the White River				
<i>Randolph County</i>	Bluegill	6+	○	2
	Carp	15-21	■	2
		21-25	■	3
		25+	■	4
	Carpsucker	13-18	■	3
		18+	■	4
	Channel Catfish	14-16	■	3
		16+	■	4
	Creek Chub	7-8	■○	2
		8+	■○	3
	Largemouth Bass	8+	■	2
	Longear Sunfish	3-5	■	2
		5+	■	3

<i>Delaware County</i>	Spotted Sucker	11-13	■	3
		13+	■	4
	White Sucker	4-7	○	2
		7+	○	3
	Black Bullhead	Up to 9	■	2
		9+	■	3
	Carp sucker	13-18	■	3
		18+	■	4
	Channel Catfish	14-16	■	3
		16+	■	4
<i>Madison County</i>	Largemouth Bass	9-15	■○	3
		15+	■○	4
	Smallmouth Bass	13-15	■○	2
		15+	■○	3
	Spotted Sucker	11-13	■	3
		13+	■	4
	Green Sunfish	4-6	■	2
		6+	■	3
	Longear Sunfish	5+	■	2
	Rock Bass	6+	■	2
	Spotted Suckers	11+	■	3

Hamilton County	Carp	17-20	■	4
		20+	■	5
	Carp sucker	13-18	○	3
		18+	○	4
	Largemouth Bass	11-17	■○	3
		17+	■○	4
	Longear Sunfish	4-9	■	3
		9+	■	4
Marion County	Bluegill	7+	■	2
	Carp	19+	■	5
	Channel Catfish	14-18	■	3
		18-24	■	4
		24+	■	5
	Flathead Catfish	13-15	■○	3
		15+	■○	4
	Largemouth Bass	11-13	■	2
		13+	■	3
	Quillback	13-18	■	4
		18+	■	5
	Spotted Sucker	11-13	■○	3
13+		■○	4	
Morgan County	Black Redhorse	15-16	■	3
		16+	■	4
	Carp	16-27	■	3
		27+	■	4

<i>Owen County</i>	Channel Catfish	14-16 16+	■○ ■○	3 4
	Flathead Catfish	11-17 17+	○ ○	2 3
	Gizzard Shad	10+	■	2
	Largemouth Bass	12+	■	3
	Quillback	13-18 18+	■ ■	3 4
	River Carpsucker	12-15 15+	■ ■	3 4
	Smallmouth Bass	13-15 15+	■ ■	3 4
	Spotted Sucker	11-13 13+	■ ■	3 4
	Bigmouth Buffalo	16-24 24+	■○ ■○	2 3
	Carpsucker	13-18 18+	■ ■	3 4
	Channel Catfish	14-16 16+	■ ■	3 4
	Spotted Sucker	11-13 13+	■ ■	3 4
	White Bass	14-15 15+	■○ ■○	3 4

<i>Greene County</i>	Bigmouth Buffalo	Up to 20	■	2
		20+	■	3
	Carpsucker	13-18	■	2
		18+	■	3
	Channel Catfish	14-16	■	3
		16+	■	4
	Spotted Sucker	11-13	■	3
		13+	■	4
	<i>Daviess County</i>	Bigmouth Buffalo	■○	2
	Carpsucker	13-18	■	3
		18+	■	4
	Channel Catfish	14-16	■	3
		16+	■	4
	Flathead Catfish	11-14	■○	2
		14+	■○	3
	Spotted Sucker	11-13	■	3
		13+	■	4
	White Bass	11-14	■○	3
		14+	■○	4
<i>Pike County</i>	Bigmouth Buffalo	21-25	■○	2
		25+	■○	3
	Carpsucker	13-18	■	3
		18+	■	4
	Channel Catfish	14-17	■	3
		17+	■	4

<i>Gibson County</i>	Flathead	9-16	■	2
	Catfish	16+	■	3
	Freshwater	12-14	■○	2
	Drum	14+	■○	3
	Quillback	14-15	○	3
		15+	○	4
	River	15-17	■	3
	Carp sucker	17+	■	4
	Smallmouth	7-12	○	2
	Bass	12+	○	3
	Spotted Bass	9+	■	3
	Spotted	11-13	■	3
	Sucker	13+	■	4
	Carp sucker	6-18	■○	3
		18+	■○	4
	Channel	14-17	■	3
	Catfish	17+	■	4
	Freshwater	12-14	■	2
	Drum	14+	■	3
	Largemouth	11-17	○	2
	Bass	17+	○	3
	Quillback	Up to 11	■	2
		11+	■	3
	River	16-18	■○	3
	Carp sucker	18+	■○	4

Spotted	11-13	■	3
Sucker	13+	■	4

West Fork of the Whitewater River

<i>Wayne County</i>	Creek Chub	5-7	○	2
		7+	○	3
<i>Fayette County</i>	Black Redhorse	11-14	■○	2
		14+	■○	3
	Largemouth Bass	15-17	○	3
		17+	○	4
	Quillback	15+	○	3
	Smallmouth Bass	7-9	■○	2
		9+	■○	3

White Lick Creek

<i>Hendricks County</i>	Channel Catfish	21-22	■○	2
		22+	■○	3
	Smallmouth Bass	8-14	■○	2
		14+	■○	3
<i>Morgan County</i>	Channel Catfish	20+	■○	2
	Smallmouth Bass	8-12	■	2
		12+	■	3

Whitewater River

<i>Dearborn County</i>	Black	14-16	■○	2
	Redhorse	16+	■○	3
	Channel	15-23	■○	3
	Catfish	23+	■○	4
	Freshwater	14-15	■○	2
	Drum	15+	■○	3

Wildcat Creek

<i>Howard County</i> (Downstream of the Waterworks Dam in Kokomo)	ALL SPECIES	ALL	■	5
<i>Carroll County</i>	ALL SPECIES	ALL	■	5
<i>Tippecanoe County</i>	Freshwater Drum	10-12	■	4
		12+	■	5
	Golden	12-14	■	3
	Redhorse	14+	■	4
	Quillback	12-13	■	3
		13+	■	4
	White Bass	7-8	■	2
		8+	■	3
	Channel Catfish	10-16	■	3
		16+	■	4
	Spotted Bass	8+	■	3

Young's Creek

	<i>Johnson</i>	Northern	7-10	■	2
	<i>County</i>	Hogsucker	10+	■	3

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Indiana

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SEARCH INDIANA

GO

MAY 25, 2001

APPENDIX C.3
WETLANDS INVENTORY MAP

DEEPWATER HABITAT

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

AERIAL PHOTOGRAPHY

1990

land areas but may include
as man-modified areas non
nd/or unintentional omissions

DATE 3 86 DATE _____
SCALE 1:58,000 SCALE _____
TYPE CIR TYPE _____

E - ESTUARINE										SYSTEM
2 - INTERTIDAL										SUBSYSTEM
RE - REEF	OW - OPEN WATER/ Unknown Bottom	AB - AQUATIC BED	RE - REEF	SB - STREAMBED	RS - ROCKY SHORE	US - UNCONSOLIDATED SHORE	EM - EMERGENT	SS - SCRUB SHRUB	FO - FORESTED	CLASS
1 Mollusc 2 Worm		1 Algal 2 Ruppia Vascular 3 Floating Vascular 4 Unknown Submergent 5 Unknown Surface	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Perennial 2 Nonperennial	1 Broad-Leaved 2 Deciduous 3 Needle-Leaved 4 Deciduous 5 Broad-Leaved 6 Evergreen 7 Needle-Leaved 8 Evergreen 9 Dead 10 Deciduous 11 Evergreen	1 Broad-Leaved 2 Deciduous 3 Needle-Leaved 4 Deciduous 5 Broad-Leaved 6 Evergreen 7 Needle-Leaved 8 Evergreen 9 Dead 10 Deciduous 11 Evergreen	Subclass
L - LACUSTRINE										SYSTEM
2 - LITTORAL										SUBSYSTEM
QUATIC ED	OW - OPEN WATER Unknown Bottom	RB - ROCK BOTTOM	UB - UNCONSOLIDATED BOTTOM	AB - AQUATIC BED	RS - ROCKY SHORE	US - UNCONSOLIDATED SHORE	EM - EMERGENT	OW - OPEN WATER Unknown Bottom		CLASS
1 Moss 2 Vascular 3 Vascular 4 Submergent 5 Surface		1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Ruppia Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Nonperennial			Subclass

MODIFIERS			
In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The termed modifier may also be applied to the ecological system.			
TER REGIME	WATER CHEMISTRY	SOIL	SPECIAL MODIFIERS
Tidal K Artificially Flooded L Subtidal M Irregularly Exposed N Regularly Flooded P Irregularly Flooded S Temporary Tidal R Seasonal Tidal T Semipermanent Tidal V Permanent Tidal U Unknown	Coastal Salinity 1 Hypersaline 2 Euxaline 3 Mesohaline (Brackish) 4 Polyhaline 5 Mesohaline 6 Oligohaline 7 Fresh Inland Salinity 7 Hypersaline 8 Euxaline 9 Mesohaline 0 Fresh pH Modifiers for all Fresh Water a Acid c Circumneutral Alkaline	g Organic n Mineral	b Bare d Partially Drained/Drained f Filled h Diked/Impounded Artificial Substrate s Spill x Excavated

*These water regimes are only used in tidally influenced freshwater systems

MAY 25, 2001

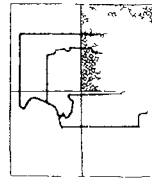
APPENDIX C.4
FLOOD INSURANCE RATE MAP

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
BEDFORD,
INDIANA
LAWRENCE COUNTY

PANEL 10 OF 20



PANEL LOCATION

COMMUNITY-PANEL NUMBER

180148 0010 B

EFFECTIVE DATE:

SEPTEMBER 4, 1987



Federal Emergency Management Agency

MAY 25, 2001

APPENDIX C.5
ENDANGERED SPECIES LIST

**Distribution of Federally
Threatened (T), Endangered (E), and Proposed (P) Species
in Indiana (1999)**

For more information about threatened and endangered species in Indiana, contact the
U.S. Fish & Wildlife Service office at 620 South Walker Street,
Bloomington, Indiana 47403-2121 (812/334-4261)

Species	Status	Counties	Habitat
Mammals			
Gray bat (<i>Myotis grisescens</i>)	Endangered	Clark, Crawford, Floyd, Harrison	Caves
Indiana bat (<i>Myotis sodalis</i>)	Endangered	Statewide CRITICAL HABITAT: Big Wyandotte Cave (Crawford County), Ray's Cave (Greene County)	Hibernaria = Caves and mines; Maternity and foraging habitat = small stream corridors with well developed riparian woods; upland forests
Birds			
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Threatened	Statewide	Wintering
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Threatened	Brown, DuBois, Greene, Martin, Monroe, Morgan, Orange, Owen, Parke	Recent Nesting & Wintering
Peregrine falcon (<i>Falco peregrinus</i>)	Endangered	Lake	Breeding
Peregrine falcon (<i>Falco peregrinus</i>)	Endangered	Allen and Marion	Hacking Site
Least Tern (<i>Sterna antillarum</i>)	Endangered	Gibson	Breeding
Reptiles			
Copperbelly water snake (<i>Nerodia erythrogaster neglecta</i>)	Threatened	Kosciusko, St. Joseph, Steuben	Wooded and permanently wet areas such as oxbows, sloughs, brushy ditches and floodplain woods
Mussels			
Clubshell (<i>Pleurobema clava</i>)	Endangered	Carroll, Dekalb, Fulton, Kosciusko, Marshall, Pulaski, Tippecanoe, White	Rivers

Species	Status	Counties	Habitat
Cracking pearlymussel (<i>Hemistena lata</i>)	Endangered	Knox (possibly extirpated)	Rivers
Fanshell (<i>Cyprogenia stegaria</i>)	Endangered	Carroll, Martin, Sullivan, Tippecanoe, Wabash, White	Rivers
Fat pocketbook (<i>Potamilus capax</i>)	Endangered	Gibson, Knox, and Posey	Rivers
Northern riffleshell (<i>Epioblasma torulosa rangiana</i>)	Endangered	Dekalb, Pulaski	Rivers
Orange-footed pearlymussel (<i>Plethobasus cooperianus</i>)	Endangered	Gibson (possibly extirpated)	Rivers
Pink mucket pearlymussel (<i>Lampsilis orbiculata</i>) (= <i>P. abrupta</i>)	Endangered	Posey	Rivers
Ring pink (<i>Obovaria retusa</i>)	Endangered	Fountain, Gibson, Harrison, Knox, Lawrence, Posey, Sullivan, Tippecanoe, Vermilion, Vigo, Warren, possibly extirpated from those counties	Rivers
Rough pigtoe (<i>Pleurobema plenum</i>)	Endangered	Martin	Rivers
Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	Endangered	Carroll, Fountain, Gibson, Fulton, Jackson, Knox, Posey, Pulaski, Sullivan, Tippecanoe, Vermilion, Vigo, Warren, possibly extirpated from those counties	Rivers
White cat's paw pearlymussel (<i>Epioblasma obliquata perobliqua</i>)	Endangered	Dekalb	Rivers
White warty-back pearlymussel (<i>Plethobasis cicatricosus</i>)	Endangered	Posey, Tippecanoe, Vermilion, Vigo, possibly extirpated from those counties	Rivers
Insects			
Mitchell's satyr (<i>Neonympha mitchelli</i>)	Endangered	LaGrange, LaPorte	Fens

Species	Status	Counties	Habitat
Karner blue butterfly (<i>Lycaeides melissa samuelis</i>)	Endangered	Lake, Porter	Pine barrens and oak savannas on sandy soils and containing wild lupines (<i>Lupinus perennis</i>) the only known food plant of larvae
Plants			
Mead's milkweed	Threatened	Lake	Prairies
Pitcher's thistle (<i>Cirsium pitcheri</i>)	Threatened	Lake, Porter	Lakeshores, stabilized dunes and blowout areas
Running buffalo clover (<i>Trifolium stoloniferum</i>)	Endangered	Dearborn, Ohio, Ripley, Switzerland	Disturbed bottomland meadows

**Distribution of Federally
Threatened (T), Endangered (E), and Proposed (P) Species
in Indiana (1999)**

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U S Fish & Wildlife Service office at 620 South Walker Street,
Bloomington, Indiana 47403-2121 (812/334-4261)

COUNTY	SPECIES	STATUS	HABITAT
Allen	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Bartholomew	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Blackford	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Boone	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Brown	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Carroll	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Fanshell pearly mussel (<i>Cyprogenia stegaria</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Cass	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Clark	Gray bat (<i>Myotis grisescens</i>)	E	Caves
	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Clay	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Clinton	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Crawford	Gray bat (<i>Myotis grisescens</i>)	E	Caves
	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
De Kalb	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Northern riffleshell (<i>Epioblasma torulosa rangiana</i>)	E	Rivers
	White cat's paw pearlymussel (<i>Epioblasma obliquata perobliqua</i>)	E	Rivers
Dearborn	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Running buffalo clover (<i>Trifolium stoloniferum</i>)	E	Disturbed bottomland meadows

COUNTY	SPECIES	STATUS	HABITAT
Delaware	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Dubois	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Elkhart	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Floyd	Gray bat (<i>Myotis grisescens</i>)	E	Caves
	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Fountain	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers

COUNTY	SPECIES	STATUS	HABITAT
Fulton	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Gibson	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Least Tern; interior population (<i>Sterna antillarum</i> <i>athalassos</i>)	E	
	Fat pocketbook (<i>Potamilus</i> <i>capax</i>)	E	Rivers
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Greene	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Hamilton	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Hancock	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Harrison	Gray bat (<i>Myotis grisescens</i>)	E	Caves
	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Hendricks	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Henry	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Howard	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Huntington	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Jackson	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers
Jasper	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Jay	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Jefferson	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Jennings	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Johnson	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Knox	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Fat pocketbook (<i>Potamilus capax</i>)	E	Rivers
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe / <i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers
Kosciusko	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Copperbelly water snake (<i>Nerodia erythrogaster neglecta</i>)	T	Wooded and permanently wet areas such as oxbows, sloughs, brushy ditches and floodplain woods
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers

COUNTY	SPECIES	STATUS	HABITAT
La Porte	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Mitchell's satyr butterfly (<i>Neonympha mitchelli mitchelli</i>)	E	Fens
Lagrange	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Mitchell's satyr butterfly (<i>Neonympha mitchelli mitchelli</i>)	E	Fens
Lake	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Karner blue butterfly (<i>Lycaeides melissa samuelis</i>)	E	Pine barrens and oak savannas on sandy soils and containing wild lupines (<i>Lupinus perennis</i>), the only known food plant of larvae
	Pitcher's thistle (<i>Cirsium pitcheri</i>)	T	Lakeshores, stabilized dunes and blowout areas
	Mead's milkweed (<i>Asclepias meadii</i>)	T	Praines
Lawrence	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers

COUNTY	SPECIES	STATUS	HABITAT
Madison	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Marion	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Marshall	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
Martin	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Fanshell pearly mussel (<i>Cyprogenia stegaria</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
Miami	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Monroe	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Montgomery	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Morgan	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Noble	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Ohio	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Running buffalo clover (<i>Trifolium stoloniferum</i>)	E	Disturbed bottomland meadows
Orange	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
Owen	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Parke	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Pike	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Porter	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Karner blue butterfly (<i>Lycaeides melissa samuelis</i>)	E	Pine barrens and oak savannas on sandy soils and containing wild lupines (<i>Lupinus perennis</i>), the only known food plant of larvae
	Pitcher's thistle (<i>Cirsium pitcheri</i>)	T	Lakeshores, stabilized dunes and blowout areas
Posey	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Fat pocketbook (<i>Potamilus capax</i>)	E	Rivers
	Pink mucket (<i>Lampsilis abrupta</i>)	E	Rivers

COUNTY	SPECIES	STATUS	HABITAT
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers
Pulaski	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Northern riffleshell (<i>Epioblasma torulosa rangiana</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers
Putnam	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Randolph	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	Y	Wintering
Ripley	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
	Running buffalo clover (<i>Trifolium stoloniferum</i>)	E	Disturbed bottomland meadow
Rush	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Shelby	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
St Joseph	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Copperbelly water snake (<i>Nerodia erythrogaster neglecta</i>)	T	Wooded and permanently wet areas such as oxbows, sloughs, brushy ditches and floodplain woods
Starke	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
Steuben	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Copperbelly water snake (<i>Nerodia erythrogaster neglecta</i>)	T	Wooded and permanently wet areas such as oxbows, sloughs, brushy ditches and floodplain woods

COUNTY	SPECIES	STATUS	HABITAT
Sullivan	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Fanshell pearly mussel (<i>Cyprogenia stegaria</i>)	E	Rivers
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Switzerland	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Running buffalo clover (<i>Trifolium stoloniferum</i>)	E	Disturbed bottomland meadow
Tippecanoe	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Fanshell pearlymussel (<i>Cyprogenia stegaria</i>)	E	Rivers
	Ring pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers

COUNTY	SPECIES	STATUS	HABITAT
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Vermillion	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E, possibly extirpated	Rivers
Vigo	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	E	Rivers
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa</i> <i>torulosa</i>)	E; possibly extirpated	Rivers
Wabash	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Fanshell pearlymussel (<i>Cyprogenia stegaria</i>)	E	Rivers

COUNTY	SPECIES	STATUS	HABITAT
Warren	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering
	Ring Pink (<i>Obovaria retusa</i>)	E	Rivers
	Rough pigtoe (<i>Pleurobema plenum</i>)	E	Rivers
	Tubercled-blossom pearlymussel (<i>Epioblasma torulosa torulosa</i>)	E, possibly extirpated	Rivers
Washington	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Rivers
Wayne	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Rivers
Wells	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Rivers
White	Indiana bat (<i>Myotis sodalis</i>)	E	Hibernaria = Caves and mines, Maternity and foraging habitat = small stream corridors with well developed riparian woods, upland forests
	Bald eagle (<i>Haliaeetus leucocephalus</i>)	T	Wintering

COUNTY	SPECIES	STATUS	HABITAT
	Clubshell (<i>Pleurobema clava</i>)	E	Rivers
	Fanshell pearlymussel (<i>Cyprogenia stegaria</i>)	E	Rivers

E = Endangered

T = Threatened

MAY 25, 2001

APPENDIX D.1
CITY OF BEDFORD ZONING DISTRICTS

MAY 25, 2001

APPENDIX D.2

REPORT OF THE SOIL AND FOUNDATION INVESTIGATION FOR THE PROPOSED WATER POLLUTION CLARIFICATION SYSTEM

CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA 47421

REPORT OF THE
SOIL AND FOUNDATION INVESTIGATION FOR
THE PROPOSED WATER POLLUTION CLARIFICATION
SYSTEM, BEDFORD, INDIANA

PREPARED BY
PITTSBURGH TESTING LABORATORY
November, 1972 IND 2239



PITTSBURGH TESTING LABORATORY

ESTABLISHED 1881

INSPECTING ENGINEERS AND CHEMISTS

2828 N. WEBSTER AVENUE

INDIANAPOLIS, INDIANA 46219

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Nov. 21, 1972

IND 2239

Central Foundry Division
General Motors Corporation
Bedford Plant
Bedford, Indiana 47421

Sub: Soil and Foundation Investigation
Proposed Water Pollution Clarification
System, Bedford, Indiana

Gentlemen:

In accordance with your authorization, we have completed a soil and foundation investigation at the subject site and are pleased to submit the following report on the results of the investigation:

PURPOSE AND SCOPE

The purpose of this report is to present the results of our findings along with our interpretation of these, and recommendations to aid design and construction of foundations for the proposed Water Pollution Clarification System. These recommendations were developed on the basis of the specific information obtained at the boring locations during this investigation. The general stratification of the subsurface conditions other and poorer than those encountered may exist between boring locations and require some adjustments during construction.

PROJECT CHARACTERISTICS

The project site is located adjacent to and south of the main GMC Central Foundry Facility in the City of Bedford, Indiana. This clarification System will consist of a Control Room with attached Hydraulic Storage Pit, a north and a south Clarithickener, and a Reactor Clarifier. Some of the more important information about these units follows:

Control Room With Attached Hydraulic Storage Pit

The Control Room is a one-story building covering an area 22 feet by 29 feet. Its finished floor elevation will reportedly be 696.00. Standard brick and block construction will be used. A basement is proposed with poured concrete walls. Maximum loads are expected to be relatively light.

A Hydraulic Storage Pit is to be located adjacent to the north wall of Control Room. It will cover an area 11 feet by 22 feet. The Pit bottom will reportedly be at elevation 681.00.

North and South Clarithickeners

Two clarithickeners are proposed for this facility. They will be 45 feet in diameter and 19'-6 3/4" deep. Their top elevation will be 696.5 and their bottom elevation will be 676.94.

Reactor Clarifier

The Reactor Clarifier will be 44 feet in diameter and will be 16'- 8" deep. Its top elevation will be 693.5 and its bottom elevation is proposed at 673.83.

Three ponds currently exist at the site. The water elevations are 690.9, 689.2 and 686.8 in ponds Nos. 1, 2 and 3 respectively. The proposed facilities will be located at least partially in the area of pond No. 1, and in some cases completely. It is our understanding that a parking area is proposed in the area of pond No.2.

Field Investigation

Four (4) borings were put down at the subject site at locations shown on the Location of Boring drawing contained in the Appendix to this report. The borings were generally drilled to depths ranging between about 7.5 and 22 feet below existing ground.

Borings were advanced by using a truck-mounted rotary drilling rig equipped to secure both disturbed and undisturbed soil samples. To determine the relative density of cohesionless soils, the consistency of cohesive soils, and to secure samples for visual identification of the soil types encountered, standard penetration tests were made in accordance with A.S.T.M. D-1586, at about 2.5 to 5.0 foot intervals of depth in each boring. Typical samples of the soils encountered were sealed in glass jars and sent to the laboratory.

Standard penetration tests are made by driving a standard 1-3/8" I.D. split barrel penetration spoon one-foot into undisturbed soil by

means of a 140 lb. drop weight free falling a distance of thirty inches.

A graphical representation of the logs of borings is given in the Appendix for reference. These sheets include:

1. The results of the standard penetration tests (N values).
2. Visual classifications of soils encountered at different depths.
3. Ground water level information where it was encountered.

FOUNDATION SUBSOIL CONDITIONS

The soil borings indicate that the foundation subsoil conditions at the site are somewhat variable. Surficial deposits in the area of borings 1 and 2 consist primarily of miscellaneous soil fill material. This material was extremely variable in both composition and condition. It generally extended to depths ranging between 7.5 and 20 feet below existing ground.

Below the miscellaneous fill at borings 1 and 2, and starting at the surface at borings 3 and 4 are various layers of medium stiff to very stiff clay or silty clay. These soils extended to the bottom of the borings. Auger refusal was encountered at depths of 22, 7.5 and 8 feet below existing ground at the location of borings 2, 3 and 4, respectively.

Free ground water level observations were made upon completion of the drilling. These observations indicate the water table was encountered at depths ranging between 5 and 10 feet below existing ground.

LABORATORY INVESTIGATION

All of the samples obtained in the field were brought to the laboratory for examination and testing. The field classifications were checked and modified if it was considered necessary.

Several unconfined compression tests were performed to assess the shear strength of the foundation soils. To obtain information about the soil index properties, natural moisture content and dry density determinations were performed. The results obtained from the various tests were tabulated and placed in the Appendix for reference.

ENGINEERING ANALYSES

Soil bearing capacity was computed as a function of depth below the lowest adjacent grade. The footings were considered to be at a minimum depth of 3 feet below final grade. The bearing capacity safety factor was on the order of 3 and was in some areas well above this limit. This safety factor was included in the recommended soil pressures.

The soil pressures recommended for use on this project were based on bearing capacity considerations and settlement evaluations of the foundation soils encountered. The settlements were estimated on the basis of the results of the field tests. The recommended soil pressure were adjusted so as to limit the estimated total settlements to about one (1) inch.

The evaluation was made on the basis of the least favorable soil conditions combined with the most severe loading conditions. It is therefore anticipated that the settlements in general will be less than the above limit, unless otherwise stated. Differential movements are expected to be on the order of three quarters of an inch maximum which is about 75 percent of the expected settlement. Most structures can readily tolerate such movements, however, it would be advisable to review the design of the proposed structure for this project considering the above mentioned settlement limits.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

1. The bottom of all excavations should be inspected at the time of construction by a representative of Pittsburgh Testing Laboratory to assure that all undesirable material has been removed, and the desired bearing material has been reached. The entire area should be proof-rolled with a heavy roller, in an attempt to locate soft surface areas. All soft soils, miscellaneous fill and organic soils should be removed and replaced with suitable fill material.
2. The materials used as backfill should be inspected by a soils engineer or his representative and approved prior to being used. A sufficient number of field density tests should be performed to assure that the specified compaction requirements are being fulfilled.
3. All soil placed under footings should be compacted to at least 100 percent of the maximum dry density as determined by A.S.T.M. Designation D-1557.
4. All soil placed around or above footings should be compacted to at least 93% of the maximum dry density as determined by A.S.T.M. Designation D-1557.

5. Rigid moisture control of soils should be maintained during construction of controlled backfills. The soils should be compacted at or near the optimum moisture content as determined by A.S.T.M. Designation D-1557.

6. If a compacted fill is used under footings at the site, it is recommended that the engineered compacted fill be constructed from a granular non-plastic, well-graded material. The fill should be compacted in layers not to exceed six to eight inches in compacted thickness. Pit run or bank run granular soils, road base material and other similar soils are usually good materials for this type of compacted fill.

The width of the compacted fill under the footings should be equal to the width of the footing plus a dimension equal to two times the thickness dimension of the engineered compacted fill under the bottom of the footing.

7. Extreme care should be taken not to allow weakening of the foundation soils because of prolonged atmospheric exposure, disturbance or an increase in water content of the foundation soils. Should a delay in concrete placement be anticipated, footing excavations should be finished about 6 inches high and subsequently cut to grade immediately before placement.

8. It is recommended that the floor slabs be supported on at least 12 inches of base course of relatively clean granular material such as sand, sand and gravel or crushed stone. This granular base course will help distribute concentrated loads and equalize moisture conditions beneath the slabs.

9. The floor slab should be floating, that is not structurally connected to the walls or foundations. This is to minimize the possibility of undue cracking of the floor slab because of differential movement between the slab and the foundation. Such movements may be excessive for rigid connections between the foundations and a ground supported slab.

10. All continuous (wall type) footings should be a minimum of 18 inches in width for bearing capacity considerations.

11. Adequate drainage should be provided at the site. All final grades, pavements and parking areas should be sloped away from the structure.

Specific

1. Due to the extremely variable nature and condition of the surficial fill material encountered at borings 1 and 2, it would be advisable to completely remove this material within the structure and any other paved areas, and replace it with an engineered compacted fill. Before backfilling, the area should be proof-rolled with a heavy roller and any soft areas disclosed by this operation should also be removed.

2. If proposed structures or paved areas are to be placed over existing ponds, the ponds should be drained, soft sediments should be removed down to stable soils, and backfilling should be accomplished with an engineered compacted fill. Proof rolling would be advisable in these areas also. These operations should be supervised by a representative of Pittsburgh Testing Laboratory.

3. If the above recommendations are followed, a net allowable bearing pressure of 2,000 psf can be used. When using net pressures, the weight of the footing and backfill over the footing need not be considered.

4. If the footings are designed as recommended above, the resulting settlements should be within tolerable limits.

5. Due to the depth of some proposed excavations, it is anticipated that dewatering problems will be encountered.

6. It is likely that bedrock will be encountered before reaching the anticipated bottom depth at the location of the south clarithickener and the Reactor Clarifier. The bedrock may also be encountered in some of the other deeper excavation locations, but additional borings would be needed to verify this.

7. The structures located below the water table will have to be designed to resist the uplift forces resulting from the high water table in the area.

We appreciate this assignment and trust the above information will provide the data required for design purposes. If we can be of any further assistance, please advise.

Respectfully submitted,
PITTSBURGH TESTING LABORATORY

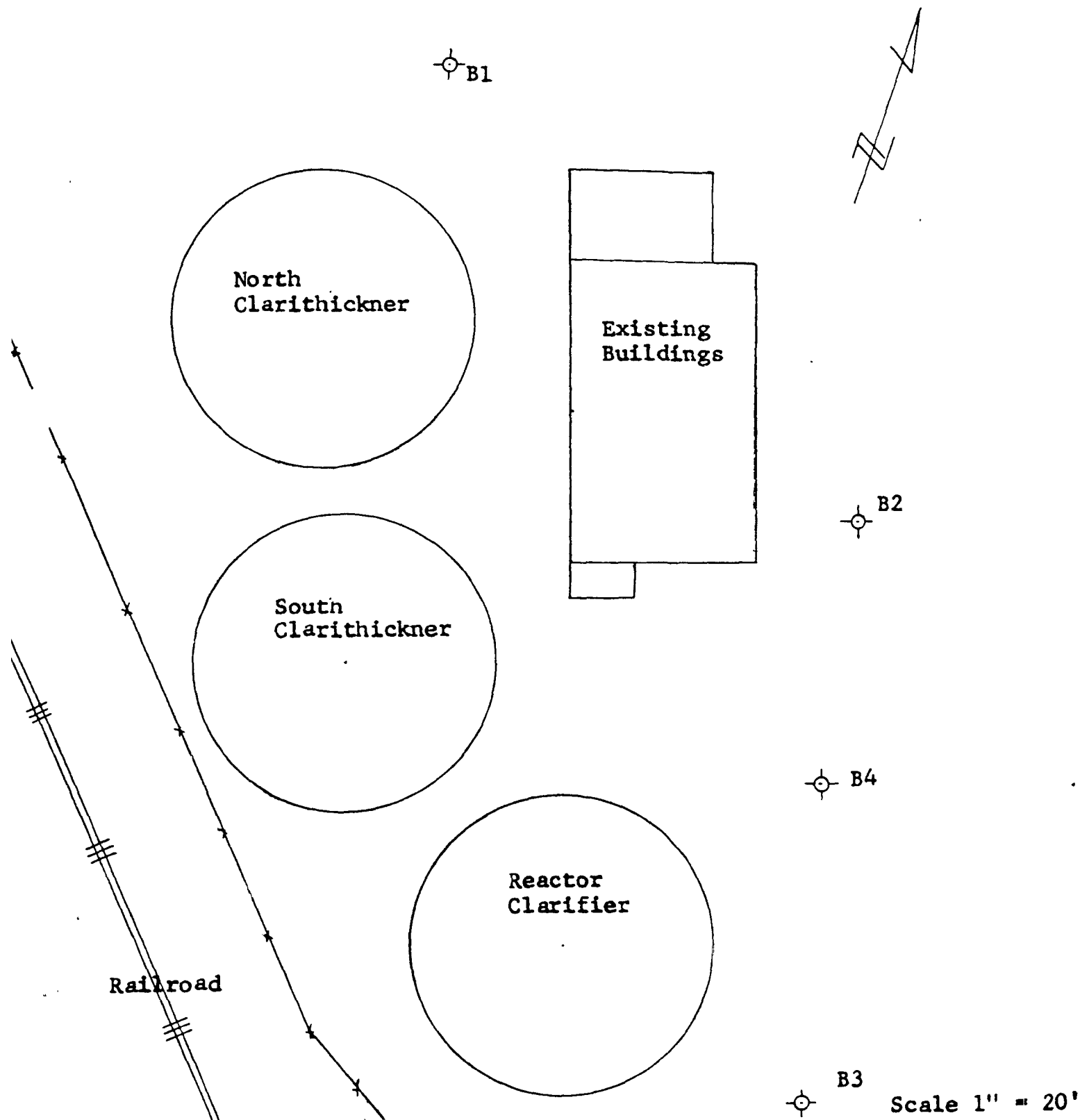

N. Ray Neel, Manager
Indianapolis District

Appendix

1. Map of Boring Locations
2. Chart of Soil Classification
3. Log of Borings
4. Chart of Unconfined Compressive Strength of Soils

101 & 1972

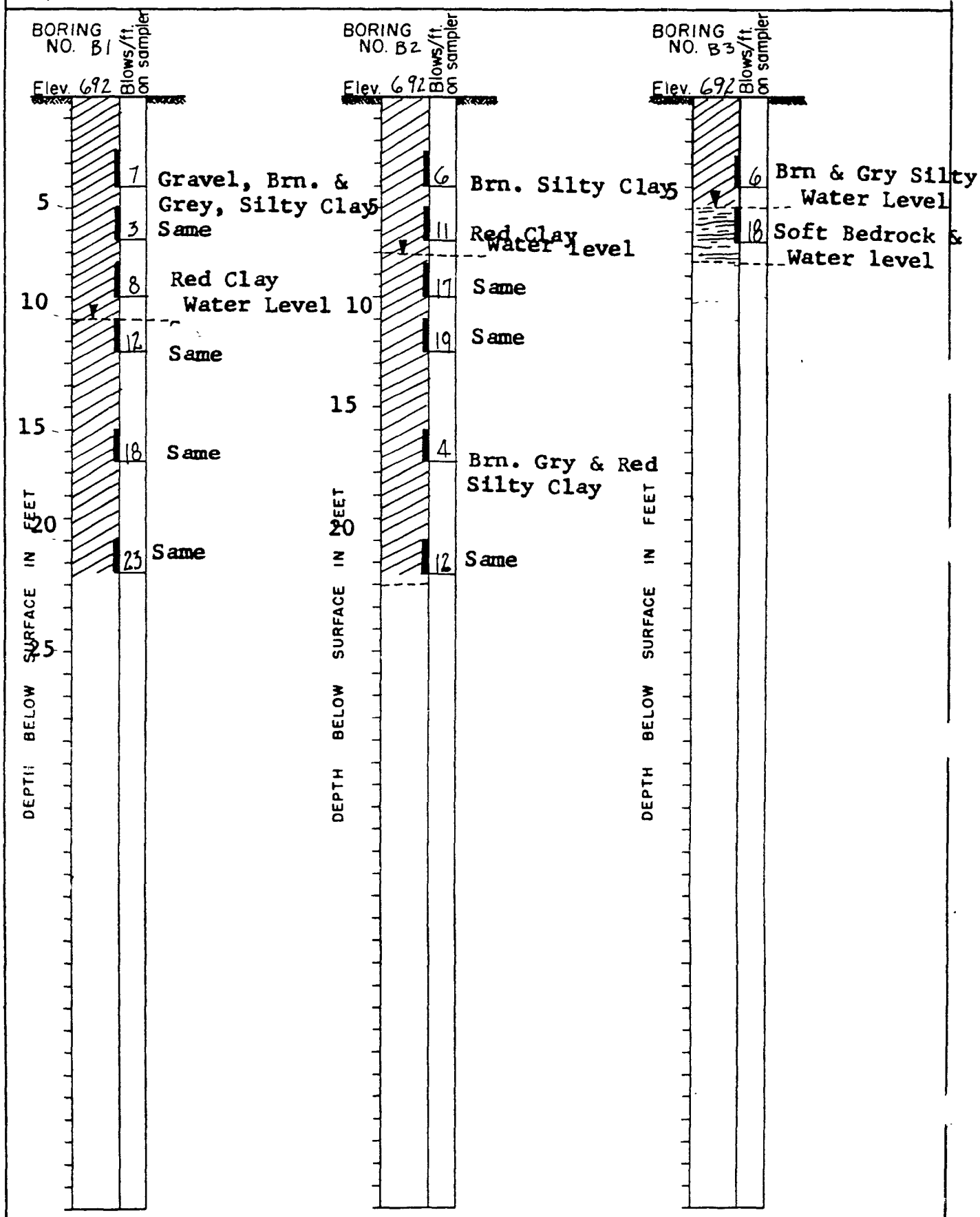
Boring Location Map



PITTSBURGH TESTING LABORATORY LOG OF BORINGS

Client: **Central Foundry Division**
Project: **Water Clarification System**

Date: **Nov. 21, 1972**
Order No. **IND 2239**



PITTSBURGH TESTING LABORATORY

LOG OF BORINGS

Client: Central Foundry Division
 Project: Water Clarification System
 Date: Nov. 21, 1972
 Order No. IND 2239

BORING
NO. 84

Elev 692.10

Blows/ft.
on sampler

BORING
NO.

Elev

Blows/ft.
on sampler

BORING
NO.

Elev

Blows/ft.
on sampler

5
Brn. & Gry Silty
Clay
Water

DEPTH BELOW SURFACE IN FEET

DEPTH BELOW SURFACE IN FEET

DEPTH BELOW SURFACE IN FEET













Central Foundry Division
General Motors Corporation
Bedford Plant
Bedford, Indiana 47421

Pittsburgh Testing Laboratory
IND 2239 Nov. 22, 1972

Unconfined Compressive Strength of Soils

<u>Sample #</u>	<u>Boring No.</u>	<u>Depth in Ft.</u>	<u>% Moisture</u>	<u>Wet Density lbs. Cu. Ft</u>	<u>Dry Density lbs. Cu. ft.</u>	<u>Load Tons Ft. 2</u>
1	1	7½-9	30.7	109.3	83.6	1.47
2	2	5-6½	29.3	104.5	80.8	1.82
1	2	15-16½	25.1	135.5	108.3	0.69

SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES (Appreciable amt of fines)		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)		SW	Well graded sands, gravelly sands, little or no fines
				SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES (Appreciable amt of fines)		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (Liquid limit GREATER than 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
			HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

BOUNDARY CLASSIFICATIONS Soils possessing characteristics of two groups are designated by combinations of group symbols

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
	No. 200	No. 40 U.S.	No. 10 STANDARD	No. 4 STANDARD	3/4 in. 3 in.	(12 in.)	

RELATIVE DENSITY (sand-silt)

Very Loose – Less than 4 blows per foot
 Loose – 4 to 10 blows/ft
 Medium – 10 to 30 blows/ft.
 Dense – 30 to 50 blows/ft
 Very Dense – More than 50 blows/ft

CONSISTENCY (clay)

Very Soft – Less than 2 blows per foot
 Soft – 2 to 4 blows/ft
 Medium – 4 to 8 blows/ft
 Stiff – 8 to 15 blows/ft
 Very Stiff – 15 to 30 blows/ft
 Hard – More than 30 blows/ft

KEY TO BORING LOGS

Number of blows of a 140-lb weight falling 30 in. in req'd to drive st'd. spoon one foot.

Thin-wall Shelby tube undisturbed sampler used

Free ground water level

Percent core recovery from rock core-drilling operations

Sample not recovered

Fill

Limestone

Sandstone

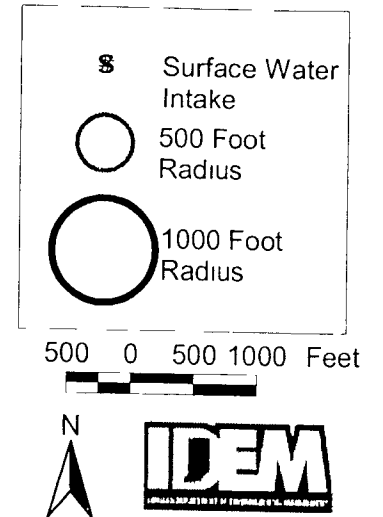
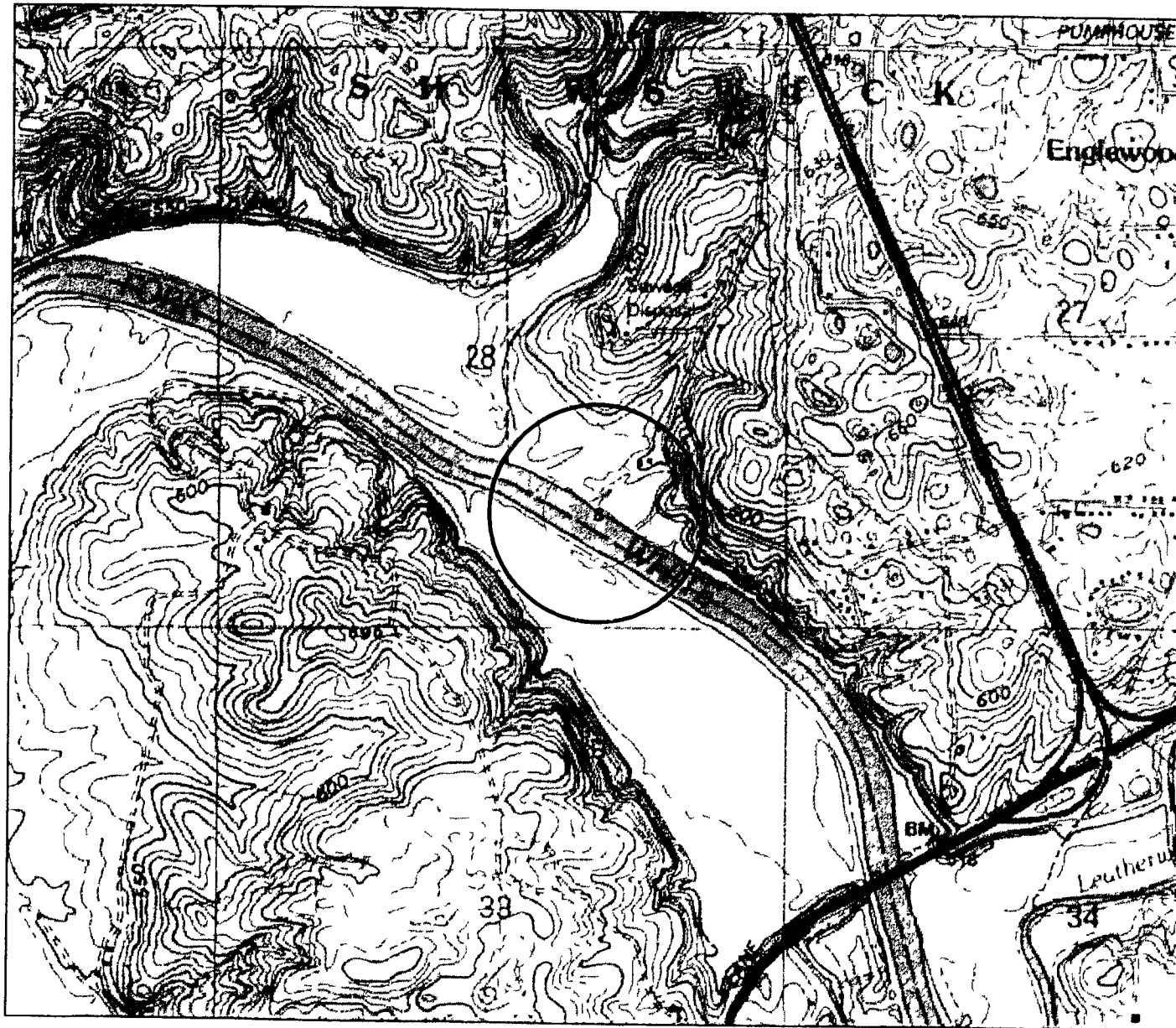
Igneous Rock

Shale

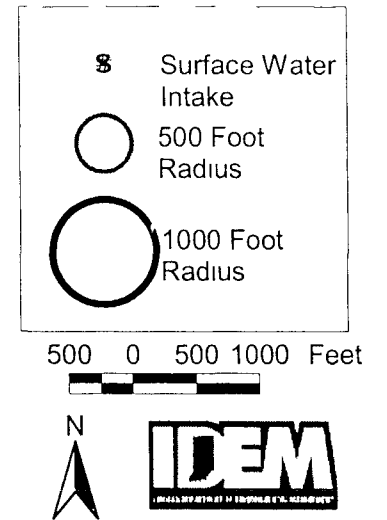
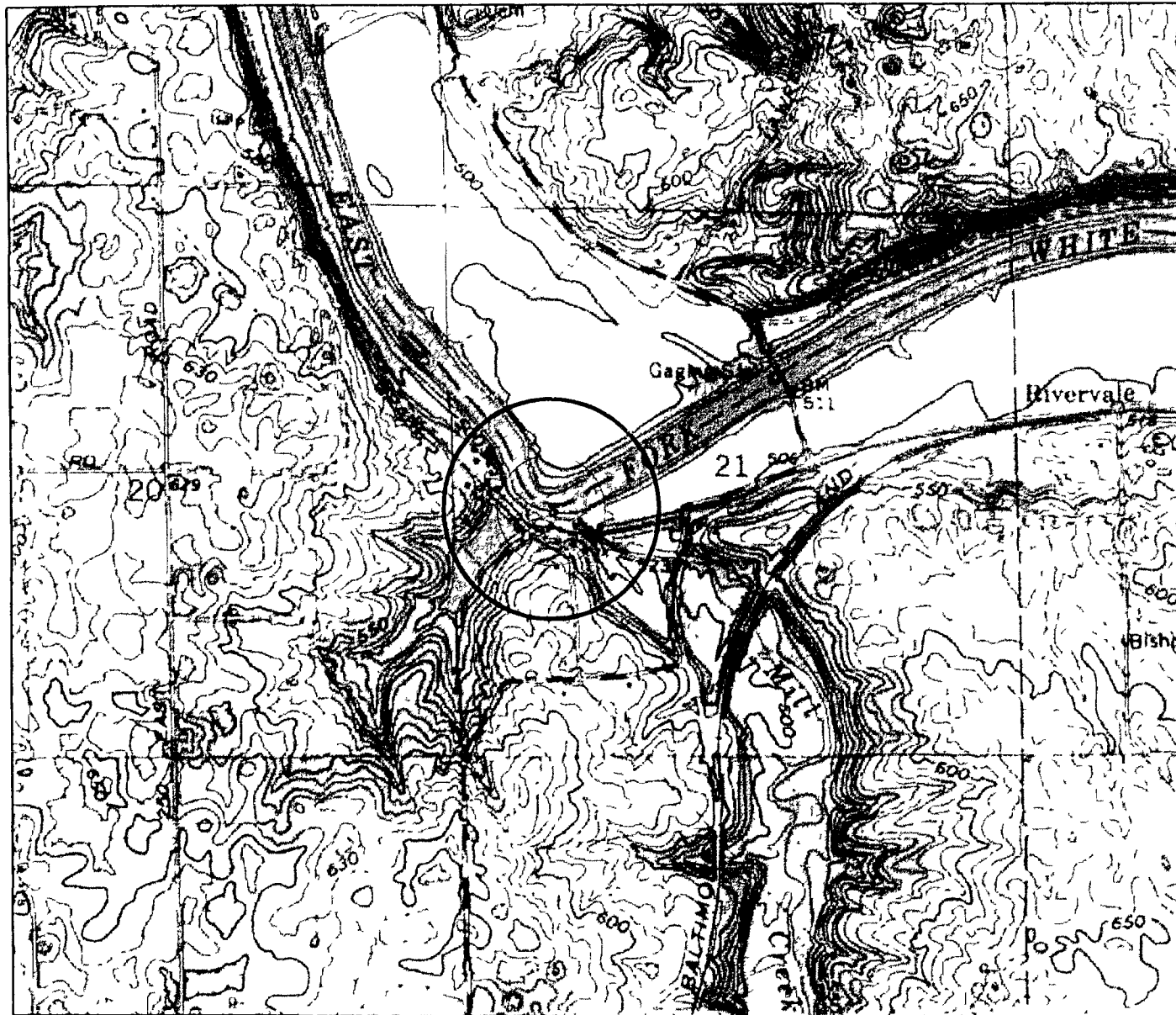
MAY 25, 2001

APPENDIX D.3
SURFACE WATER INTAKES

Bedford City Utilities



Mitchell Water Department



THERE ARE NO ATTACHMENTS FOR APPENDIX E