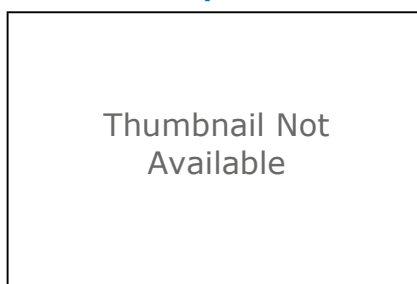


# Potentiometric Surface Map of the Bedrock Aquifers of Cass County, Indiana

Shapefile



Tags

Bedrock potentiometric surface, Cass County, Indiana, USA

## Summary

Display and/or analyses requiring spatial distribution of potentiometric surface elevations in Cass County.

## Description

This file is a digital geospatial polyline coverage of the bedrock potentiometric surface elevations mapped for Cass County in Indiana.

## Credits

There are no credits for this item.

## Use limitations

Acknowledgement of the following agency in products derived from these data: Indiana Department of Natural Resources, Division of Water. This map was compiled by staff of the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as-is" without warranties of any kind, either expressed or implied. The maps are intended for use only at the published scale. The information on these media is proprietary to the State of Indiana, Indiana Department of Natural Resources, Division of Water. Any copying, adaptation, or distribution of these data without the express written consent of IDNR-DOW is discouraged. It is not recommended that these data be used for purposes other than general estimate of static water level elevations. Site specific conditions may vary considerably from mapped estimates.

## Extent

<b>West</b>	-86.583213	<b>East</b>	-86.160728
<b>North</b>	40.910433	<b>South</b>	40.559986

## Scale Range

<b>Maximum (zoomed in)</b>	1:5,000
<b>Minimum (zoomed out)</b>	1:150,000,000

## ArcGIS Metadata ►

## Topics and Keywords ►

\*CONTENT TYPE Downloadable Data

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS    Cass County, Indiana, USA

THEME KEYWORDS    Bedrock potentiometric surface

[Hide Topics and Keywords ▲](#)

## Citation ►

TITLE    Potentiometric Surface Map of the Bedrock Aquifers of Cass County, Indiana

PUBLICATION DATE    2013-12-01    00:00:00

EDITION    1

PRESENTATION FORMATS    digital map

FGDC GEOSPATIAL PRESENTATION FORMAT    vector digital data

### SERIES

NAME    Bedrock Potentiometric Surface Map

ISSUE    PSM 35-B

### OTHER CITATION DETAILS

This map was compiled from multiple unpublished work maps based on USGS quadrangles at 1:24,000 scale: Anoka, Burnettsville, Burrows, Clymers, Fulton, Galveston, Grass Creek, Logansport, Lucerne, Macy, Onward, Star City, Twelve Mile, and Young America,

[Hide Citation ▲](#)

## Citation Contacts ►

### RESPONSIBLE PARTY

ORGANIZATION'S NAME    Indiana Department of Natural Resources, Division of Water

CONTACT'S ROLE    publisher

### CONTACT INFORMATION ►

#### ADDRESS

DELIVERY POINT    Indianapolis, Indiana, USA

[Hide Contact information ▲](#)

### RESPONSIBLE PARTY

ORGANIZATION'S NAME    Randal D. Maier, IDNR Division of Water, Resource Assessment Section

CONTACT'S ROLE    originator

[Hide Citation Contacts ▲](#)

## Resource Details ►

DATASET LANGUAGES    English (UNITED STATES)

DATASET CHARACTER SET    utf8 - 8 bit UCS Transfer Format

STATUS completed

SPATIAL REPRESENTATION TYPE vector

\*PROCESSING ENVIRONMENT Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; Esri ArcGIS 10.2.0.3348

#### ARCGIS ITEM PROPERTIES

\*NAME Bed\_PSM\_Cass\_Co\_IN

\*SIZE 0.725

\*LOCATION file:///\\iotfilp19pw\dnr\dow\TS\Water\_Resources\_and\_Rights\! Potentiometric\Cass\1\_Web\_Products\ZIP FILES\Bed\_PSM\_Cass\_Co\_IN.shp

\*ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

## Extents ►

### EXTENT

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

WEST LONGITUDE -85.221204

EAST LONGITUDE -84.795524

SOUTH LATITUDE 40.300791

NORTH LATITUDE 40.577486

### EXTENT

#### DESCRIPTION

publication date

#### TEMPORAL EXTENT

DATE AND TIME 2013-12-01 00:00:00

### EXTENT

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

\*WEST LONGITUDE -86.583213

\*EAST LONGITUDE -86.160728

\*NORTH LATITUDE 40.910433

\*SOUTH LATITUDE 40.559986

\*EXTENT CONTAINS THE RESOURCE Yes

#### EXTENT IN THE ITEM'S COORDINATE SYSTEM

\*WEST LONGITUDE 535283.343500

\*EAST LONGITUDE 570682.314700

\*SOUTH LATITUDE 4490248.118500

\*NORTH LATITUDE 4528898.785400

\*EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

## POINT OF CONTACT

INDIVIDUAL'S NAME Randal D. Maier

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water

CONTACT'S POSITION Resource Assessment Section

CONTACT'S ROLE point of contact

## CONTACT INFORMATION ►

## PHONE

VOICE 317-232-4160

FAX 317-233-4579

## ADDRESS

TYPE both

DELIVERY POINT 402 W. Washington Street W264

CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

E-MAIL ADDRESS rmaier@dnr.IN.gov

## HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)[Hide Resource Points of Contact ▲](#)**Resource Maintenance ►**

## RESOURCE MAINTENANCE

UPDATE FREQUENCY not planned

[Hide Resource Maintenance ▲](#)**Resource Constraints ►**

## LEGAL CONSTRAINTS

## LIMITATIONS OF USE

The Indiana Department of Natural Resources, Division of Water has compiled this data set using data believed to be reasonably accurate. However, the Division makes no representation as to the accuracy, completeness, or usefulness of the data or data set. A degree of error is inherent in all maps. This map is intended for use only at the published scale. Reference to any specific commercial product, process, or service does not constitute an endorsement, recommendation, or favoring by the Division. Copyright 2013, Indiana Department of Natural Resources, Division of Water All Rights Reserved Any copying, adaptation, or distribution of these data without the express written consent of the Indiana Department of Natural Resources, Division of Water is discouraged.

## OTHER CONSTRAINTS

This file is available to anyone, but access may be contingent on written request, specific terms relevant to the agency or person making the request, and/or current freedom of information statutes in the State of Indiana.

## CONSTRAINTS

## LIMITATIONS OF USE

Acknowledgement of the following agency in products derived from these data: Indiana Department of Natural Resources, Division of Water. This map was compiled by staff of the Indiana Department of Natural Resources, Division of Water using data believed to be reasonably accurate. However, a degree of error is inherent in all maps. This product is distributed "as-is" without warranties of any kind, either expressed or implied. The maps are intended for use only at the published scale. The information on these media is proprietary to the State of Indiana, Indiana Department of Natural Resources, Division of Water. Any copying, adaptation, or distribution of these data without the express written consent of IDNR-DOW is discouraged. It is not recommended that these data be used for purposes other than general estimate of static water level elevations. Site specific conditions may vary considerably from mapped estimates.

[Hide Resource Constraints ▲](#)

## Spatial Reference ►

### ARCGIS COORDINATE SYSTEM

- \*TYPE Projected
- \*GEOGRAPHIC COORDINATE REFERENCE GCS\_North\_American\_1983
- \*PROJECTION NAD\_1983\_UTM\_Zone\_16N
- \*COORDINATE REFERENCE DETAILS

#### PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 26916

X ORIGIN -5120900

Y ORIGIN -9998100

XY SCALE 450445547.3910538

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 0.001

Z TOLERANCE 0.001

M TOLERANCE 0.001

HIGH PRECISION true

LATEST WELL-KNOWN IDENTIFIER 26916

WELL-KNOWN TEXT PROJCS["NAD\_1983\_UTM\_Zone\_16N",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Transverse\_Mercator"],PARAMETER["False\_Easting",500000.0],PARAMETER["False\_Northing",0.0],PARAMETER["Central\_Meridian",-87.0],PARAMETER["Scale\_Factor",0.9996],PARAMETER["Latitude\_Of\_Origin",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",26916]]

### REFERENCE SYSTEM IDENTIFIER

- \*VALUE 26916
- \*CODESPACE EPSG
- \*VERSION 8.1.1

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

### VECTOR ►

- \*LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

## GEOMETRIC OBJECTS

FEATURE CLASS NAME Bed\_PSM\_Cass\_Co\_IN

\* OBJECT TYPE composite

\* OBJECT COUNT 58

*Hide Vector ▲*

## ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME Bed\_PSM\_Cass\_Co\_IN

\* FEATURE TYPE Simple

\* GEOMETRY TYPE Polyline

\* HAS TOPOLOGY FALSE

\* FEATURE COUNT 58

\* SPATIAL INDEX TRUE

\* LINEAR REFERENCING FALSE

*Hide ArcGIS Feature Class Properties ▲**Hide Spatial Data Properties ▲***Data Quality ►**

## SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL dataset

*Hide Scope of quality information ▲*

## DATA QUALITY REPORT - COMPLETENESS OMISSION ►

## MEASURE DESCRIPTION

In conducting the mapping, the author(s) evaluated hundreds of water well records, especially those having relatively complete information on well location, static water level, well depth, ground elevation, and lithology. There were areas in the county with sparse information because of lack of well records or incomplete records.

*Hide Data quality report - Completeness omission ▲*

## DATA QUALITY REPORT - QUANTITATIVE ATTRIBUTE ACCURACY ►

## MEASURE DESCRIPTION

The mapping was conducted after a thorough documentation of well locations and water well record details.

*Hide Data quality report - Quantitative attribute accuracy ▲*

## DATA QUALITY REPORT - ABSOLUTE EXTERNAL POSITIONAL ACCURACY ►

DIMENSION horizontal

## MEASURE DESCRIPTION

The locations of many wells were field checked and the locations posted on 7.5 minute topographic maps. Visual confirmation of wells was not always possible. Many locations were based only on the street address, driving directions, or other location information provided on the well record.

[Hide Data quality report - Absolute external positional accuracy ▲](#)

[Hide Data Quality ▲](#)

## Lineage ►

### PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2013-12-01 00:00:00

#### DESCRIPTION

After selection of water well records was complete, specific well data and other maps and reports were considered in the mapping process. For example, ground elevation, static water level, well depth, aquifer top and bottom elevation and lithology were obtained from well records. Other maps and reports included regional potentiometric surface elevations, hydrogeologic settings, ground-water availability, bedrock topography, and surface topography.

### SOURCE DATA ►

RELATIONSHIP TO THE PROCESS STEP used

#### SOURCE CITATION ►

ALTERNATE TITLES IDNR-DOW water well records for domestic and other supply wells submitted by water well drillers from 1959-2013

[Hide Source citation ▲](#)

[Hide Source data ▲](#)

[Hide Process step ▲](#)

### PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2013-12-01 00:00:00

#### DESCRIPTION

The hand-drawn work maps (scale 1:24,000) showing lines of equal potentiometric surface elevation were digitized and edge matched in ESRI ArcEdit (ArcScan) by Randal D. Maier. The maps were individually georeferenced using a minimum of 4 tics per map. Projection was UTM, Zone 16, NAD83.

[Hide Process step ▲](#)

### PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2013-12-01 00:00:00

#### DESCRIPTION

After the maps were joined, a polyline coverage was created and attributed by Randal D. Maier. Attribute definitions are described below.

## PROCESS CONTACT

INDIVIDUAL'S NAME Randal D. Maier  
 ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
 CONTACT'S POSITION Resource Assessment Section  
 CONTACT'S ROLE processor

## CONTACT INFORMATION ►

## PHONE

VOICE 317-232-4160

FAX 317-233-4579

## ADDRESS

TYPE both

DELIVERY POINT 402 West Washington Street, W264

CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

E-MAIL ADDRESS rmaier@dnr.IN.gov

## HOURS OF SERVICE

8:15 am - 4:15 pm M-F except Government Holidays

[Hide Contact information ▲](#)[Hide Process step ▲](#)

## PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2013-12-01 00:00:00

## DESCRIPTION

Data were selected by careful evaluation of water well records to determine if the wells were field located and if they contained complete and reasonable information.

## SOURCE DATA ►

RELATIONSHIP TO THE PROCESS STEP used

## SOURCE CITATION ►

ALTERNATE TITLES IDNR-DOW records for domestic and other supply wells submitted by water well drillers from 1959-2013

[Hide Source citation ▲](#)[Hide Source data ▲](#)[Hide Process step ▲](#)

## SOURCE DATA ►

## DESCRIPTION



Water well records from the IDNR-DOW well record database; USGS topography maps; various consultant geotechnical reports

#### RESOLUTION OF THE SOURCE DATA

SCALE DENOMINATOR 0

#### SOURCE CITATION ►

TITLE Potentiometric Surface Map of Cass County, Indiana

ALTERNATE TITLES Potentiometric Surface Map of Cass County, Indiana

PUBLICATION DATE 2013-12-01 00:00:00

EDITION 1

FGDC GEOSPATIAL PRESENTATION FORMAT map, vector digital data

#### SERIES

NAME Bedrock Potentiometric Surface Map

ISSUE PSM 35-B

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Randal D. Maier, IDNR Division of Water, Resource Assessment Section

CONTACT'S ROLE originator

#### RESPONSIBLE PARTY

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water

CONTACT'S ROLE publisher

#### CONTACT INFORMATION ►

ADDRESS

TYPE

DELIVERY POINT Indianapolis, IN

*Hide Contact information ▲*

*Hide Source citation ▲*

#### EXTENT OF THE SOURCE DATA

##### DESCRIPTION

publication date

##### TEMPORAL EXTENT

DATE AND TIME 2013-12-01 00:00:00

*Hide Source data ▲*

*Hide Lineage ▲*

## Geoprocessing history ►

#### PROCESS

## PROCESS NAME

DATE 2014-03-11 12:06:34

TOOL LOCATION c:\program files\arcgis\desktop10.2\ArcToolbox\Toolboxes\Conversion

Tools.tbx\FeatureClassToFeatureClass

## COMMAND ISSUED

```
FeatureClassToFeatureClass J:\!
Potentiometric\Cass\2_Shapefiles\Shapefiles_FINAL_Map\cass_bed_psm_co_in.shp J:\!
Potentiometric\Cass\2_Shapefiles\Shapefiles_FINAL_Map\Cass.gdb Bed_PSM_Cass_Co_IN # "Id "Id"
true true false 6 Long 0 6 ,First,#,J:\!
Potentiometric\Cass\2_Shapefiles\Shapefiles_FINAL_Map\cass_bed_psm_co_in.shp,Id,-1,-1;Swl_E
"Swl_E" true true false 4 Short 0 4 ,First,#,J:\!
Potentiometric\Cass\2_Shapefiles\Shapefiles_FINAL_Map\cass_bed_psm_co_in.shp,Swl_E,-1,-1" #
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

## PROCESS

## PROCESS NAME

DATE 2014-04-08 13:22:59

TOOL LOCATION c:\program files\arcgis\desktop10.2\ArcToolbox\Toolboxes\Data Management

Tools.tbx\CopyFeatures

## COMMAND ISSUED

```
CopyFeatures J:\!
Potentiometric\Cass\2_Shapefiles\Shapefiles_FINAL_Map\Cass.gdb\Bed_PSM_Cass_Co_IN "J:\!
Potentiometric\Cass\1_Web_Products\ZIP FILES\Bed_PSM_Cass_Co_IN.shp" # 0 0 0
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)**Distribution ►**

## DISTRIBUTOR ►

## CONTACT INFORMATION

INDIVIDUAL'S NAME Randal D. Maier

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water

CONTACT'S POSITION Resource Assessment Section

CONTACT'S ROLE distributor

## CONTACT INFORMATION ►

## PHONE

VOICE 317-232-4160

FAX 317-233-4579

## ADDRESS

TYPE both

DELIVERY POINT 402 W. Washington Street W264

CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

E-MAIL ADDRESS [rmaier@dnr.IN.gov](mailto:rmaier@dnr.IN.gov)

## HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)

## AVAILABLE FORMAT

NAME VPF

FILE DECOMPRESSION TECHNIQUE no compression applied

## ORDERING PROCESS

DATE OF AVAILABILITY 2013-07-01

## TRANSFER OPTIONS

ONLINE SOURCE

LOCATION <http://www.in.gov/dnr/water/7256.htm>

## TRANSFER OPTIONS

ONLINE SOURCE

DESCRIPTION Data and Map

*Hide Distributor ▲*

## DISTRIBUTION FORMAT

\*NAME Shapefile

## TRANSFER OPTIONS

\*TRANSFER SIZE 0.725

ONLINE SOURCE

LOCATION none

*Hide Distribution ▲***Fields ►**DETAILS FOR OBJECT [Bed\\_PSM\\_Cass\\_Co\\_IN ►](#)

\*TYPE Feature Class

\*ROW COUNT 58

FIELD [FID ►](#)

\*ALIAS FID

\*DATA TYPE OID

\*WIDTH 4

\*PRECISION 0

\*SCALE 0

\*FIELD DESCRIPTION

Internal feature number.

\*DESCRIPTION SOURCE

Esri

\*DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

[Hide Field FID ▲](#)

#### FIELD Shape ►

\* ALIAS Shape  
 \* DATA TYPE Geometry  
 \* WIDTH 0  
 \* PRECISION 0  
 \* SCALE 0

#### FIELD DESCRIPTION

Feature geometry.

#### DESCRIPTION SOURCE

ESRI

#### DESCRIPTION OF VALUES

Coordinates defining the features.

[Hide Field Shape ▲](#)

#### FIELD Swl\_E ►

\* ALIAS Swl\_E  
 \* DATA TYPE SmallInteger  
 \* WIDTH 4  
 \* PRECISION 4  
 \* SCALE 0

[Hide Field Swl\\_E ▲](#)

[Hide Details for object Bed\\_PSM\\_Cass\\_Co\\_IN ▲](#)

[Hide Fields ▲](#)

## Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)

METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset

SCOPE NAME \*dataset

\*LAST UPDATE 2014-04-09

#### ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

METADATA STYLE FGDC CSDGM Metadata

STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2014-01-29 10:31:17

LAST MODIFIED IN ARCGIS FOR THE ITEM 2014-04-09 12:42:16

## AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2014-04-09 12:41:43

[Hide Metadata Details ▲](#)**Metadata Contacts ►**

## METADATA CONTACT

INDIVIDUAL'S NAME Randal D. Maier

ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water

CONTACT'S ROLE point of contact

## CONTACT INFORMATION ►

## PHONE

VOICE 317-232-4160

FAX 317-233-4579

## ADDRESS

TYPE both

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CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

E-MAIL ADDRESS [rmaier@dnr.IN.gov](mailto:rmaier@dnr.IN.gov)

## HOURS OF SERVICE

8:15am - 4:15pm M-F except Government Holidays

[Hide Contact information ▲](#)[Hide Metadata Contacts ▲](#)**FGDC Metadata (read-only) ▼**