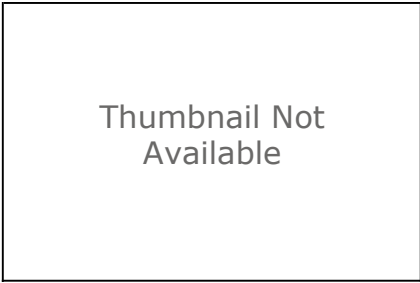


# Potentiometric Surface Map of the Bedrock Aquifers of Lake County, Indiana

Shapefile



Tags

There are no tags for this item.

## Summary

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

## Description

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

## Credits

There are no credits for this item.

## Use limitations

See access and use constraints information.

## Extent

**West** -87.529934    **East** -87.218559  
**North** 41.641408    **South** 41.178590

## Scale Range

**Maximum (zoomed in)** 1:5,000  
**Minimum (zoomed out)** 1:150,000,000

## ArcGIS Metadata ►

## Topics and Keywords ►

\* **CONTENT TYPE** Downloadable Data

*Hide Topics and Keywords ▲*

## Citation ►

**TITLE** Potentiometric Surface Map of the Bedrock Aquifers of Lake County, Indiana  
**PUBLICATION DATE** 2015-05-31 00:00:00

EDITION 1

PRESENTATION FORMATS digital map

SERIES

NAME Bedrock Potentiometric Surface Map  
ISSUE PSM 09-B

OTHER CITATION DETAILS

This map was compiled from multiple unpublished work maps based on USGS quadrangles at 1:24,000 scale: Beecher East, Calumet City, Crown Point, Demotte, Dyer, Gary, Gary North, Hebron, Highland, Illiana Heights, Lake Calumet, Leroy, Lowell, Ogden Dunes, Palmer, Portage, Schneider, Shelby, St. John, and Whiting.

[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY

ORGANIZATION'S NAME Robert K. Schmidt, 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  
DELIVERY POINT Indianapolis, Indiana, USA

[Hide Contact information ▲](#)

[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES ()  
DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

STATUS completed  
SPATIAL REPRESENTATION TYPE vector

\* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.3.1.4959

ARCGIS ITEM PROPERTIES

\* NAME BED\_PSM\_Lake\_Co  
\* SIZE 0.192  
\* LOCATION file:///\\iotisip01pa\dnrgis\$!\Potentiometric\_Finished\09\_Lake\1\_Web\_Products\Lake County Shapefiles-files for the Web\BED\_PSM\_Lake\_Co.shp  
\* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Extents ►

EXTENT

#### DESCRIPTION

Latitude Longitude

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

WEST LONGITUDE -87.529934

EAST LONGITUDE -87.218559

SOUTH LATITUDE 41.178590

NORTH LATITUDE 41.641408

\* EXTENT CONTAINS THE RESOURCE Yes

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

\* WEST LONGITUDE 455881.455400

\* EAST LONGITUDE 480847.255300

\* SOUTH LATITUDE 4558253.757600

\* NORTH LATITUDE 4602917.845200

\* EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

## Resource Points of Contact ►

#### POINT OF CONTACT

INDIVIDUAL'S NAME Robert K. Schmidt

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

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FAX 317-233-4579

##### ADDRESS

###### TYPE

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CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

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

ACCESS CONSTRAINTS   other restrictions

## OTHER CONSTRAINTS

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 2015, 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.

## CONSTRAINTS

### LIMITATIONS OF USE

See access and use constraints information.

[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   8.6.2

[Hide Spatial Reference ▲](#)

## Spatial Data Properties ►

### VECTOR ►

- \* LEVEL OF TOPOLOGY FOR THIS DATASET   geometry only

#### GEOMETRIC OBJECTS

FEATURE CLASS NAME BED\_PSM\_Lake\_Co

\* OBJECT TYPE composite

\* OBJECT COUNT 31

*Hide Vector ▲*

#### ARCGIS FEATURE CLASS PROPERTIES ►

FEATURE CLASS NAME BED\_PSM\_Lake\_Co

\* FEATURE TYPE Simple

\* GEOMETRY TYPE Polyline

\* HAS TOPOLOGY FALSE

\* FEATURE COUNT 31

\* 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 ►

##### 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 2012-03-01

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.

[Hide Process step](#) ▲

PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2012-03-01

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.

[Hide Process step](#) ▲

PROCESS STEP ►

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 Scott H. Dean. The maps were individually georeferenced using a minimum of 4 tics per map. Projection was UTM, Zone 16, NAD83.

[Hide Process step](#) ▲

SOURCE DATA ►

DESCRIPTION

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

SOURCE CITATION ►

TITLE PSM, Lake County, Indiana

PUBLICATION DATE 2012-03-01

EDITION 1

SERIES

NAME Bedrock Potentiometric Surface Map

ISSUE PSM 09-B

RESPONSIBLE PARTY

ORGANIZATION'S NAME Robert K. Schmidt, 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

DELIVERY POINT Indianapolis, IN

[Hide Contact information ▲](#)

[Hide Source citation ▲](#)

[Hide Source data ▲](#)

[Hide Lineage ▲](#)

## Geoprocessing history ►

PROCESS

PROCESS NAME FeatureClassToFeatureClass\_16

DATE 2007-01-02 11:26:21

TOOL LOCATION C:\Program Files\ArcGIS\ArcToolbox\Toolboxes\Conversion Tools.tbx\FeatureClassToFeatureClass

COMMAND ISSUED

```
FeatureClassToFeatureClass G:\PublishedData\County-Boundary_INDOT_2004.shp "C:\Documents and Settings\stburns\Application Data\ESRI\INDOT_COE_LIBRARY\INDOT@CoE_Library.sde"
COUNTY_BOUNDARY_INDOT_IN # "OBJECTID_1 OBJECTID_1 true false false 9 Long 0
9 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,OBJECTID_1,-1,-1;OBJECTID OBJECTID
true false false 9 Long 0 9 ,First,#,G:\PublishedData\County-
Boundary_INDOT_2004.shp,OBJECTID,-1,-1;AREA AREA true false false 13 Float 0
0 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,AREA,-1,-1;PERIMETER PERIMETER true
false false 13 Float 0 0 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,PERIMETER,-
1,-1;COUNTY_NEW COUNTY_NEW true false false 9 Long 0 9 ,First,#,G:\PublishedData\County-
Boundary_INDOT_2004.shp,COUNTY_NEW,-1,-1;COUNTY_N_1 COUNTY_N_1 true false false 9 Long 0
9 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,COUNTY_N_1,-1,-1;Shape_Leng
Shape_Leng true false false 19 Double 0 0 ,First,#,G:\PublishedData\County-
Boundary_INDOT_2004.shp,Shape_Leng,-1,-1;dissolve dissolve true false false 5 Text 0
0 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,dissolve,-1,-1;Name Name true false
false 50 Text 0 0 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,Name,-1,-
1;Shape_Le_1 Shape_Le_1 true false false 19 Double 0 0 ,First,#,G:\PublishedData\County-
Boundary_INDOT_2004.shp,Shape_Le_1,-1,-1;Shape_Area Shape_Area true false false 19 Double 0
0 ,First,#,G:\PublishedData\County-Boundary_INDOT_2004.shp,Shape_Area,-1,-1" INDOT
"C:\Documents and Settings\stburns\Application
Data\ESRI\INDOT_COE_LIBRARY\INDOT@CoE_Library.sde\INDOT.COUNTY_BOUNDARY_INDOT_IN"
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-03-02 06:59:10

TOOL LOCATION C:\Program Files\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management  
Tools.tbx\FeatureToLine

COMMAND ISSUED

```
FeatureToLine Lake_County_Boundary J:\!Potentiometric\Lake\Shapefiles\Lake_PSM_Lines.shp #
ATTRIBUTES
```

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ▶

DISTRIBUTOR ▶

CONTACT INFORMATION

INDIVIDUAL'S NAME Robert K. Schmidt  
ORGANIZATION'S NAME Indiana Department of Natural Resources, Division of Water  
CONTACT'S POSITION Resource Assessment Section  
CONTACT'S ROLE distributor

CONTACT INFORMATION ▶

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COUNTRY US  
E-MAIL ADDRESS rschmidt@dnr.IN.gov

HOURS OF SERVICE

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

*Hide Contact information ▲*

*Hide Distributor ▲*

DISTRIBUTION FORMAT

\* NAME Shapefile

TRANSFER OPTIONS

\* TRANSFER SIZE 0.192

ONLINE SOURCE

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

*Hide Distribution ▲*

Fields ▶

DETAILS FOR OBJECT BED\_PSM\_Lake\_Co ▶

\* TYPE Feature Class  
\* ROW COUNT 31

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 STATIC\_E ►

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

*Hide Field STATIC\_E ▲*

FIELD Shape\_Leng ►

- \* ALIAS Shape\_Leng
- \* DATA TYPE Double
- \* WIDTH 19
- \* PRECISION 0
- \* SCALE 0

*Hide Field Shape\_Leng ▲*

*Hide Details for object BED\_PSM\_Lake\_Co ▲*

*Hide Fields ▲*

## Metadata Details ►

METADATA LANGUAGE

METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset

SCOPE NAME \* dataset

\* LAST UPDATE 2015-12-04

#### 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 2015-05-12 09:55:07

LAST MODIFIED IN ARCGIS FOR THE ITEM 2015-12-04 11:59:53

#### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2015-12-04 11:57:16

#### ITEM LOCATION HISTORY

ITEM COPIED OR MOVED 2015-05-12 09:55:07

FROM \\iotisip01pa.state.in.us\dnrgis\$\!

Potentiometric\_Finished\09\_Lake\2\_Shapefiles\Shapefiles\_FINAL\_Map\Lake\_BDRK\_PSM\_Lines

TO \\iotisip01pa.state.in.us\dnrgis\$\!Potentiometric\Lake Revised 2015\Shapefiles 2015  
\Lake\_BDRK\_PSM\_Lines

[Hide Metadata Details ▲](#)

## Metadata Contacts ►

#### METADATA CONTACT

INDIVIDUAL'S NAME Robert K. Schmidt

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

CONTACT'S ROLE point of contact

#### CONTACT INFORMATION ►

##### PHONE

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FAX 317-233-4579

##### ADDRESS

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CITY Indianapolis

ADMINISTRATIVE AREA Indiana

POSTAL CODE 46204

COUNTRY US

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

#### HOURS OF SERVICE

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

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Constraints ►

#### LEGAL CONSTRAINTS

ACCESS CONSTRAINTS other restrictions

#### OTHER CONSTRAINTS

Access constraints: This metadata file is intended to accompany the subject geospatial set. This file may be updated, and the most recent version is available by contacting the IDNR Division of Water.

[Hide Metadata Constraints ▲](#)

## FGDC Metadata (read-only) ▼