Read_Me_Reservoirs.pdf: Zip File Contents
GPFA-AB Reservoirs, Task 2

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Abstract

The purpose of this document is to describe the contents of information contained within a submission to the Geothermal Data Repository (GDR) node of the National Geothermal Data System (NGDS) in support of Low Temperature Geothermal Play Fairway Analysis for the Appalachian Basin. The files included in this zip file contain all data pertinent to the methods and results of this task's output, which is a cohesive multi-state map of all known potential geothermal reservoirs in our region, ranked by their potential favorability. Favorability is quantified using a new metric, Reservoir Productivity Index, as explained in the Reservoirs Methodology Memo (included in zip file).

Keywords: Appalachian Basin, West Virginia, New York, Pennsylvania, district heating, low-temperature geothermal, reservoir, productivity, favorability, memo, database, inputs, GIS, shapefile.

Files included:

1. Reservoirs_Methodology_Memo.pdf: The intention of this memo is to comprehensively present the methods that have been used for the completion of this task's milestones. This memo refers to an accompanying document, Reservoir_Database_Inputs.pdf, explained next. (659 KB)

2. Reservoir_Database_Inputs.pdf: This document accompanies the Methodology Memo, intended to provide more details on the values inserted into our reservoir database. Any questions about literature sources, research on geologic formations, database content decisions, etc. can be found here. (990 KB)

3. Reservoirs_Phase1_data.shp (and associated files including .SHX, .QPJ, .PRJ, .DBF): This is the shape file which contains all the data associated with the reservoirs task, in a format that can be uploaded into any GIS software. The final values for Reservoir Productivity Index (RPI) and uncertainty (in terms of coefficient of variation, CV) are held in columns "RPI" and "RPI CV". RPI is in units of liters per MegaPascal-second (L/MPa-s), quantified using permeability, thickness of formation, and depth. A higher RPI is more optimal.Coefficient of Variation (CV) is the ratio of the standard deviation to the mean RPI for each reservoir. A lower CV is more optimal. Details on these metrics can be found in the Reservoirs_Methodology_Memo.pdf. (5.8 MB for .shp; 6.9 MB for .dbf)

4. Reservoirs_Phase1.qgs: This is a QGIS project file that can only be viewed in QGIS software.(2.0 MB)

5. GPFA-AB_Phase1ReservoirsProductivity.png: Image of the final graphic for reservoir favorability, using the metric Reservoir Productivity Index and a 5-color scheme. (1.8 MB)

6. GPFA-AB_Phase1ReservoirsUncertainty.png: Image of the final graphic for reservoir uncertainty, using the metric Coefficient of Variation and a 5-color scheme. (1.8 MB)

Citing Data

When referencing this data, please use the following.

Title   Low Temperature Geothermal Play Fairway Analysis for the Appalachian Basin: Reservoir Quality Characterization

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Software Requirements

Geographic Information System software (i.e. ArcGIS, QGIS) is needed to view the shapefiles. QGIS specifically is needed to view the .qgs project file. Any PDF viewer is needed to view the PDFs... including this file!

Acknowledgement:

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Additional Questions?

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