Proceedings World Geothermal Congress 2026
Calgary, Canada, June 8 – 11, 2026

Numerical Quantification of the Geothermal Energy Potential of Mount Meager Volcanic Complex, Garibaldi Volcanic Region, British Columbia, Canada

Decoudun, S.[1], Renaud, T.[1]*, Popineau J.[1], Tonkin, R.[2], Dekkers K.[2], Nagoro. B.[2], Gravatt, M.[2], Riffault, J.[1], O'Sullivan, J.[12], O'Sullivan, M.[2]

Energy Modelling Solution Limited, Auckland, New Zealand[1]

Department of Engineering and Bio-Engineering, Geothermal Institute, Auckland, New Zealand[2]

theo.renaud.geo@gmail.com*

Keywords: Reservoir Models, Resource Assessment, Numerical Modelling, Uncertainty quantification, Waiwera

ABSTRACT

The Mount Meager Geothermal Field is located in the Garibaldi volcanic Belt in British Columbia, Canada. The area has been extensively explored and promising features for a potential geothermal site have been found. This study focuses on assessing its resource capacity as a green field using numerical reservoir simulation with uncertainty analysis. Only a limited amount of subsurface exploration data is available, but a three-dimensional (3D) digital conceptual model of the Mount Meager volcanic complex field was developed using publicly available data, integrating geological, geophysical, geochemical, structural information and interpretations, groundwater analysis, and spatial datasets. A reservoir model was designed, and the geothermal simulator Waiwera was used to simulate subsurface conditions. The model was calibrated by adjusting permeability parameters and the deep geothermal upflow to replicate the conceptual model and deep field measurements. High-performance computing enabled thousands of alternative model simulations, which were conditioned against sparse field data, particularly temperatures beneath the altered zones, temperatures of surface feature, and downhole temperature surveys. Approximate Bayesian Computation (ABC) was used to generate probabilistic estimates for power potential for production from selected wells over a 30-year period. This study enhances the understanding of the Mount Meager volcanic geothermal system, improves estimates of energy potential, and highlights the uncertainty of resource estimation for geothermal fields at an early stage of exploration. Applying numerical reservoir modelling early provides valuable insights for strategic planning and the development of geothermal resources, and improves resource assessment to guide geothermal exploration and development optimization efforts.

1 INTRODUCTION

The Mount Meager Volcanic Complex (MMVC) area is located in the southwestern part of British Columbia, Canada, within the Garibaldi Volcanic Belt (GVB) near Vancouver. The MMVC belongs to the Cascade Volcanic Arc (CVA) extending along the western coast of North America, and including Mount St. Helens (Jones and Dumas, 1993).

The MMCV corresponds to a group of six major active volcanic peaks, including Mount Meager. The Mount Meager geothermal potential has been investigated for more than 40 years, primarily due to presence of hot springs and fumaroles in the area. Young volcanic structures, less than 11,000 years old, indicate that it is an active volcanic system. The most recent volcanic event occurred 2,360 years B.P., and is recorded in the oral history of the local Squamish First Nation (Grasby et al., 2021). The volcanic activity is induced by the subduction of the Juan de Fuca Plate under the North American Plate (Figure 1a) (Hammer et al., 2010). The GVB forms part of the Canadian Cordillera, representing a physical transition with Precambrian cratons (Zhang et al., 2024).

As part of the Geothermal Energy Program launched in Canada in 1975, preliminary studies and data acquisition were carried out in the Mount Meager area. Despite promising results, no geothermal exploitation is operational, even after renewed attempts in the early 2000s that included deep exploration wells drilled (Jessop, 2008). Wellbore measurements revealed temperatures greater than 250°C, representing the hottest recorded geothermal resource in Canada. There is renewed interest in the Mount Meager area, motivated by the need for decarbonization and the evolution of Canada's legislation on energy production. This led to new data acquisition and a new interpretation campaign in 2019-20 by Geosciences BC (Grasby et al., 2021). The collected data and interpretations may help attract stakeholders interested to the possibilities of geothermal exploitation and potential hydrogen production in the area (Grasby et al., 2024).

This modelling study aims to:

- Develop a digital conceptual model from publicly available data.
- Generate and calibrate a reservoir model, including uncertainty quantification of parameters for the MMCV.
- Evaluate the potential for electricity generation from the existing well assets

2 DIGITAL CONCEPTUAL MODEL

2.1 Geology and structures

Preliminary geological and structural mapping was started in 1974, and more recent investigations have progressively expanded and refined this work (Read, 1990; Grasby et al., 2021, Grasby et al., 2024). The most recent geological map and cross section used in this study is shown in Figure 1.

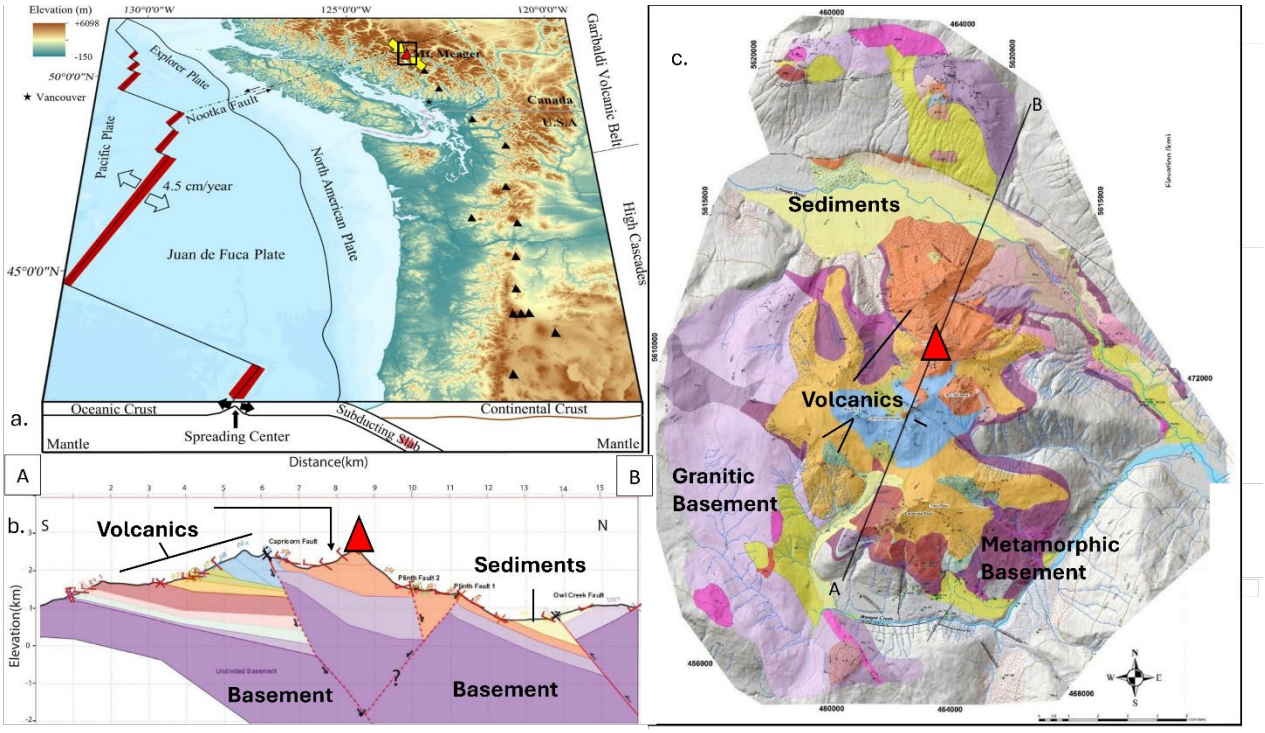


Figure 1: a. Location of Mount Meager in the context of subduction (Hormozzade Ghalati et al., 2023). b. Regional cross-section of the geological map c. in the MMVC area.

Quaternary fluvial sedimentary deposits are present to the north,east, and south of the MMVC, originating from the Lillooet River, Meager Creek, and landslide episodes along the valley flanks (Parizia et al., 2024). Volcanism in the region is driven by subduction processes, making the MMVC one of the principal calc-alkaline stratovolcanoes of the Garibaldi Volcanic Belt (GVB), characterized by intermediate to felsic eruptions (Russell et al., 2023). The MMVC is considered an active volcanic structure, currently expressed primarily through fumarolic degassing (Harris et al., 2023). Volcanic activity has spanned the last 2 million years (Harris et al., 2023), with the most recent eruption recorded orally by local First Nations peoples approximately 2,360 years before present (Russell et al., 2023).

Recent volcanism is distinguished in the conceptual model to account for Quaternary to Pliocene volcanic products in the shallow parts of the geothermal system. Basaltic intrusions, known as the Mosaic Assemblage, are locally found on the periphery of the area as dykes intruding into the basement rocks (Harris et al., 2023). These intrusions are mapped in the conceptual model as zones that may act as fluid pathways or barriers. Well logs reveal various deep formations identified as basement units, including Triassic amphibolite, Cretaceous diorite, and Miocene/Pliocene granite and quartz diorite/monzonite (Muhammad et al., 2024). Two distinct basement types, granitic and metamorphic, have been delineated in the conceptual model, overlying a deeper synthetic basement used to represent the lowest layers of the reservoir model.

Three main faulting systems are identified:

- Owl Creek Fault (OCF) accommodates regional orogen compression, aligned with the Lillooet River (Muhammad et al., 2024; Bustin et al., 2013)
- Meager Creek Fault (MCF) is the result of a normal compressional stress regime. Its main direction is EW, and it is supposedly dipping 40° to the north. The MCF is surrounded by several faults, which most likely formed to accommodate its deformation. Examples include the Camp Fault (vertical and trending SW-NE), inferred from hot springs (Chen et al. 2023), and the No Good Discontinuity Fault (vertical and trending N-S, NSBG Ltd.1981, Muhammad et al. 2024).
- The Angel Creek Fault (NNE-SSW) and the Carbonate Fault (NW-SE dipping 60° SW) are rarely mentioned in the literature but are present in the area, with minor extension and traces, and likely to be important for fluid flow pathways (Muhammad et al. 2024, Hormozzade Ghalati et al., 2023).
- The Capricorn Fault, trending EW, dipping 65° northward, is considered to have developed primarily in response to localized structural constraints, in contrast to the more regionally controlled MCF and OCF. It is younger than previously mentioned structures and is likely a pathway for hydrothermal fluids and fumarolic degassing in the area (Muhammad et al., 2024).
- Plinth Fault 1 (NW-SE, dipping 50° southward) and 2 (NW-SE, dipping 70° northward) are spatially aligned with the last volcanic eruption vent from 2360 B.P. (Muhammad et al., 2024).

Faults within the Mount Meager Volcanic Complex (MMVC) are commonly categorized into three types based on their controlling mechanisms: tectonic stress induced by regional subduction, accommodation of volcanic activity, and gravitational failure resulting in surficial mass creep (Chen et al., 2020). According to Grasby et al. (2021), the most significant fault structures are those governed by regional tectonics, followed by faults associated with volcanic processes. These structures, such as the Owl Creek Fault and Meager Creek Fault systems, are critical because they may serve as conduits for geothermal fluid flow.

Analysis of the fracture system reveals that over 80% of fractures have a spacing of less than 50 cm (Chen et al., 2020). Additionally, fracture spacing tends to be slightly wider in the volcanic cover units compared to the underlying basement rocks, which has implications for permeability and fluid migration within the geothermal system.

2.2 Geochemistry, surface features, and well temperature profiles

Sampling of both hot and cold springs in the Mount Meager area has been conducted. The main hot surface feature is the Meager Creek Hot Springs area, which includes 21 vents discharging water at temperatures ranging from 40°C to 55°C. In the northern part of the region, Pebble Creek Hot Springs exhibit slightly higher temperatures, around 55°C to 60°C (Clark et al., 1982).

Geochemical analyses provide evidence regarding the recharge origins of the hot and cold spring waters at Mount Meager. Samples from hot springs tend to show elevated concentrations of gaseous CO_2, indicating a dominantly volcanogenic source. In contrast, cold springs exhibit much lower CO_2 levels, characteristic of atmospheric recharge (Clark et al., 1982).

Temperature profiles from wells in the Meager area include fifteen shallow wells located south of MMVC, drilled to depths between 56 m and 1,200 m, with recorded temperatures reaching up to 224°C. In Meager Creek, seven deep exploration wells range from 2,280 m to 3,110 m in depth, with temperatures reaching up to 264°C in well MC-2. Additionally, eight wells in the Lillooet area (north of MMVC) have depths ranging from 420 m to 1,250 m, with temperatures up to 121°C recorded in well L4081D.

2.3 Geophysical surveys

Around the MMVC, positive gravity anomalies are consistent with the volcanic setting. South of MMVC, a low-gravity zone is associated with the occurrence of springs and has been identified as a potential geothermal reservoir (Grasby et al. 2021). Audio magnetotelluric (AMT) surveys were conducted using high frequencies (1,000–1 Hz), suitable for shallow subsurface imaging. Broadband magnetotelluric (BBMT) methods, operating at lower frequencies, were used to investigate deeper structures (Grasby et al., 2021). Low-resistivity zones near the surface may indicate clay alteration, whereas deeper conductive bodies beneath these zones could represent areas of fluid circulation and a high-permeability reservoir (Hormozzade Ghalati et al., 2022).

Integrated AMT and BBMT data revealed two conductive zones reaching the surface near the locations of warm springs along Meager Creek, as illustrated in cross-sections (Hormozzade Ghalati et al., 2022). Fluid flow pathways in the southern part of MMVC may be present between these two conductive zones, referred to as C1 and C2. A clay cap was identified through geological log descriptions from drillhole reports and interpretations of magnetotelluric resistivity models. This alteration is evidenced by the correlation between shallow conductive bodies in the MT model (Figure 2) and mentions of clay or alteration in the lithological descriptions from well logs.

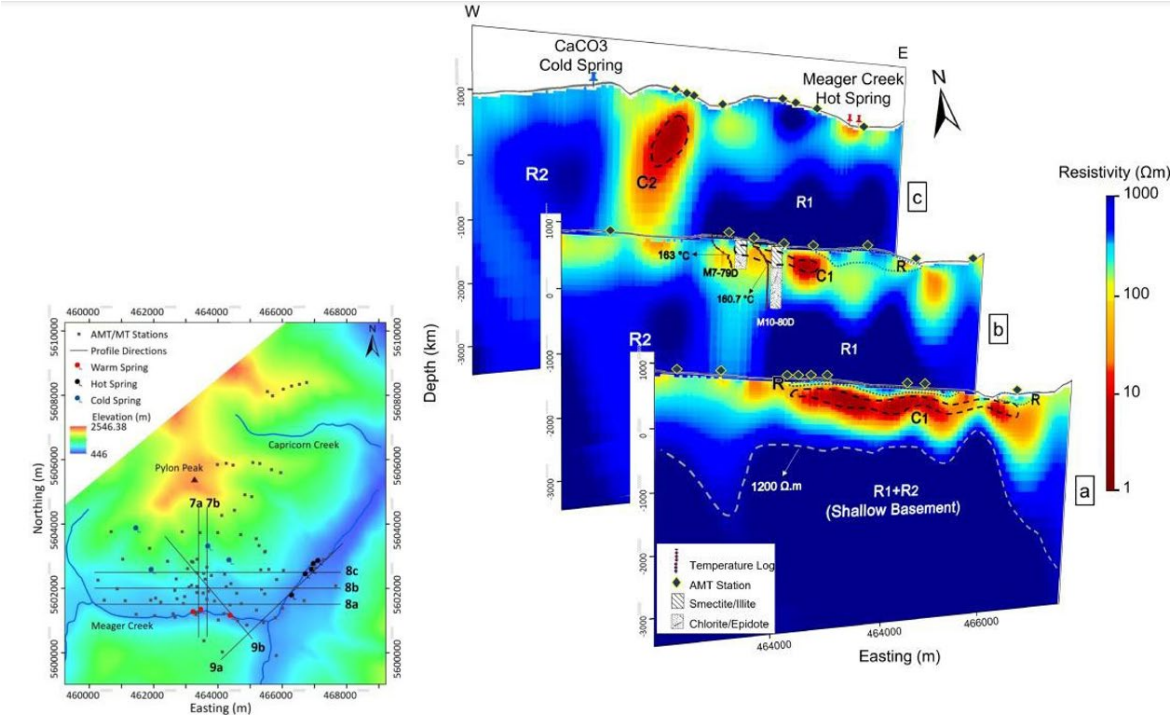


Figure 2: Location and East-West Cross sections of the final 3D resistivity model in Meager Creek area (Hormozzade Ghalati et al. 2022).

2.4 Conceptual model

Figure 3 presents a north–south cross-section of the conceptual model, compiled from geological, structural, geophysical, and geochemical data.

The distribution of surface geothermal features in the Cordillera is strongly correlated with crustal-scale fault systems (Grasby and Hutcheon, 2001). In the Meager Creek area, structures such as the Meager Creek Fault (MCF) and the No Good Discontinuity Fault (NGF) are likely to provide permeable pathways for fluid flow, supporting the emergence of warm and hot springs with varying NaCl concentrations (Hormozzade Ghalati et al., 2023). In contrast, the location of cold springs appears to be controlled by geological contacts between volcanic layers, basement rocks, and unconsolidated deposits at higher elevations (Mak, 2014).

Temperature distribution and geophysical data suggest a central upflow zone in the southern part of MMVC, capped by an alteration zone extending from approximately 0 to 500 meters above sea level (msl), which does not appear to extend fully into the northern part of the complex. According to Adams and Moore (1987), fluid flow in the southern region is primarily governed by fault and fracture zones associated with regional tectonic activity and local volcanic intrusions, such as dykes and breccias. Drainage networks tend to follow mechanically weakened zones with persistent low relief and narrow fracture spacing, often aligned with fault-weakened areas (Chen et al., 2020).

In the southern part of MMVC, geothermal upflow is constrained and accumulates within the granitic basement, which is intruded by volcanic dykes. Temperatures beneath the clay cap reach up to 200 °C at approximately mean sea level (0 msl). These volcanic intrusions are interpreted to locally enhance the permeability of the granite. The Meager Creek Fault (MCF) appears to act as a vertical conduit for fluid flow and a horizontal barrier preventing the southward migration of hot fluids. The No Good Fault (NGF) is interpreted as the western boundary of the reservoir, functioning as both a lateral barrier and a vertical pathway. The Camp Fault is not

considered to be a boundary but rather is a permeable zone in both horizontal and vertical directions. The Angel Creek and Carbonate Faults may play minor roles as surface-level fluid pathways.

In the northern part of the MMVC, temperatures reach approximately 100°C at 0 msl, with a thin alteration zone identified through MT model interpretations and lithological data. Hot fluids in this area may be hosted within sediments from the Lillooet River or within the metamorphic basement. The capping mechanism in the northern reservoir is likely to be more complex than in the southern reservoir and remains poorly understood. The Capricorn and Plinth Fault systems may provide pathways for hot fluids from a distinct local heat source located farther from the MMVC, although no definitive evidence has yet been established, and further research is required.

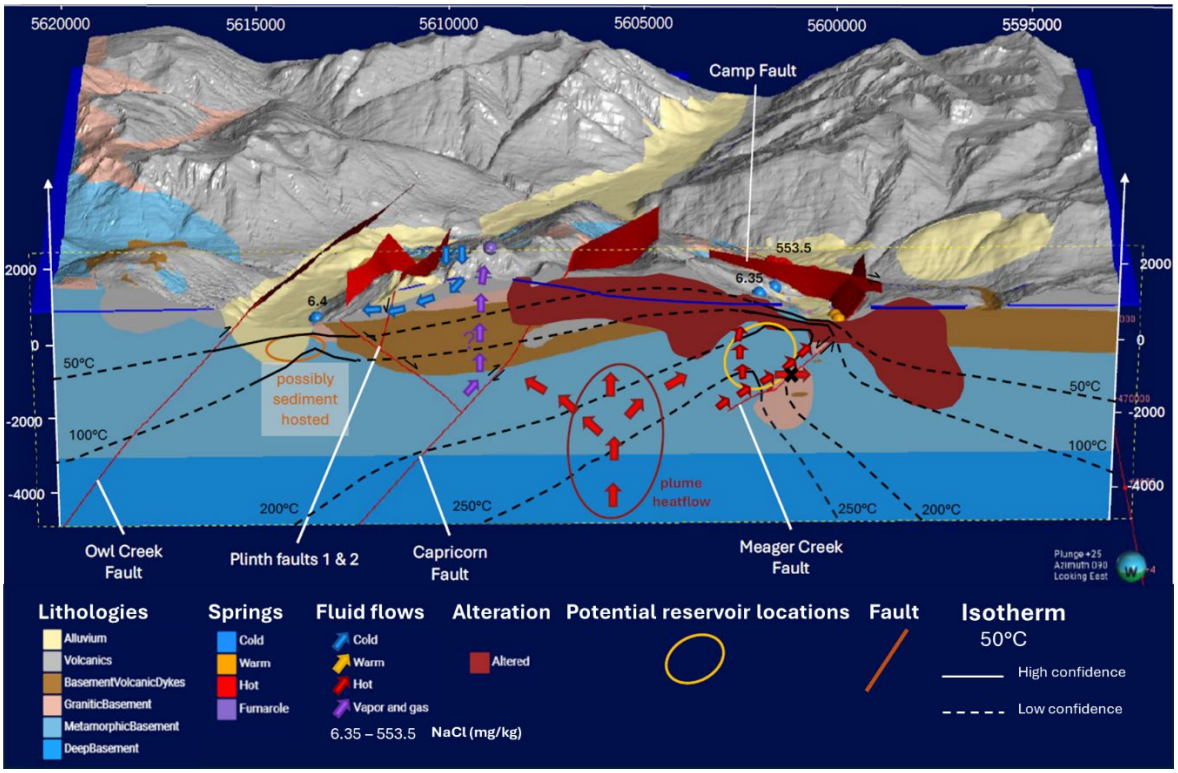


Figure 3: North-South cross-section of the conceptual model of the MMCV area.

3 RESERVOIR MODEL PARAMETERS

3.1 Reservoir grid and settings

The grid is oriented in the north–south direction to align with the main structural and fracture settings previously discussed. Large cells measuring 2,000 × 2,000 meters are used in the peripheral areas, with local refinements to 1,000 × 1,000 meters further reduced to 500 × 500 meters in the northern part of the system, and down to 250 × 250 m in the southern part of the MMVC. Atmospheric conditions are applied at the top of the model, with rain infiltration based on an annual average temperature of 6°C. A basal heat flux of 90 $mW.m^{-2}$ is imposed, and localized upflows associated with faulted structures are introduced at the bottom of the model. Closed boundary conditions are applied on the lateral sides of the reservoir model.

Figure 4 shows a horizontal plan view of the grid, which contains 46,079 blocks. Each block is assigned a rock type corresponding to mapped lithologies, fault structures, and conductive zones identified from the resistivity survey. The reservoir simulator Waiwera is used to calculate the heat transfer and fluid flow in the porous and fractured media (Croucher et al. 2020).

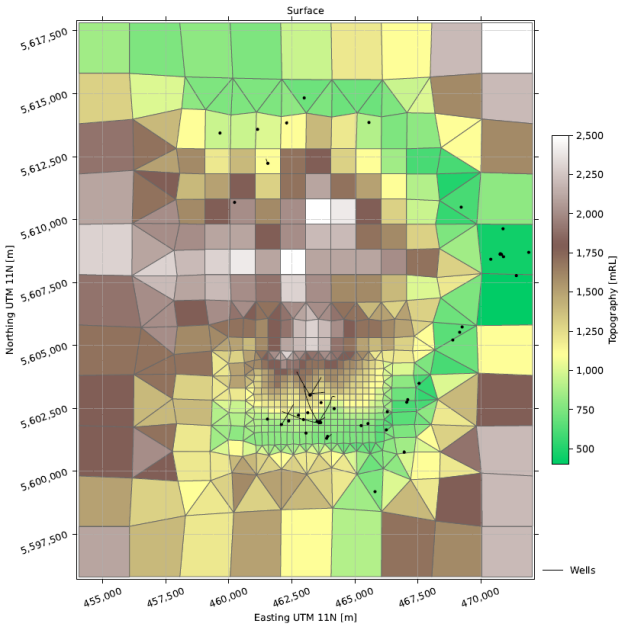


Figure 4: Horizontal plan view of the Grid with the topographical elevation of the top column.

3.2 Quantifying power production

We approached resource assessment and power production under uncertainty by running numerous simulations to obtain statistically robust results (Dekkers et al., 2022; Gravatt et al., 2023). Waiwera simulations were executed on the NeSI supercomputer. Figure 5 illustrates the Gaussian distributions assigned to permeability, porosity, and upflow inputs, with mean values derived from the calibrated natural state model.

Modifiers were used to define parameters in the numerical model for derived rock types (e.g. altered or faulted rocks) based on the main lithologies (de Beer et al., 2023). A total of 2,000 samples were generated using parameter values drawn from the prior distributions. We applied Approximate Bayesian Computation (ABC) to filter the simulation results by comparing the modeled natural state with measured temperature data in the wells (Dekkers et al., 2022, Gravatt et al., 2023). After filtering, the models were used to evaluate the range of potential power generation capacities and associated probabilities (P10, P50, and P90) projected through to the year 2056.

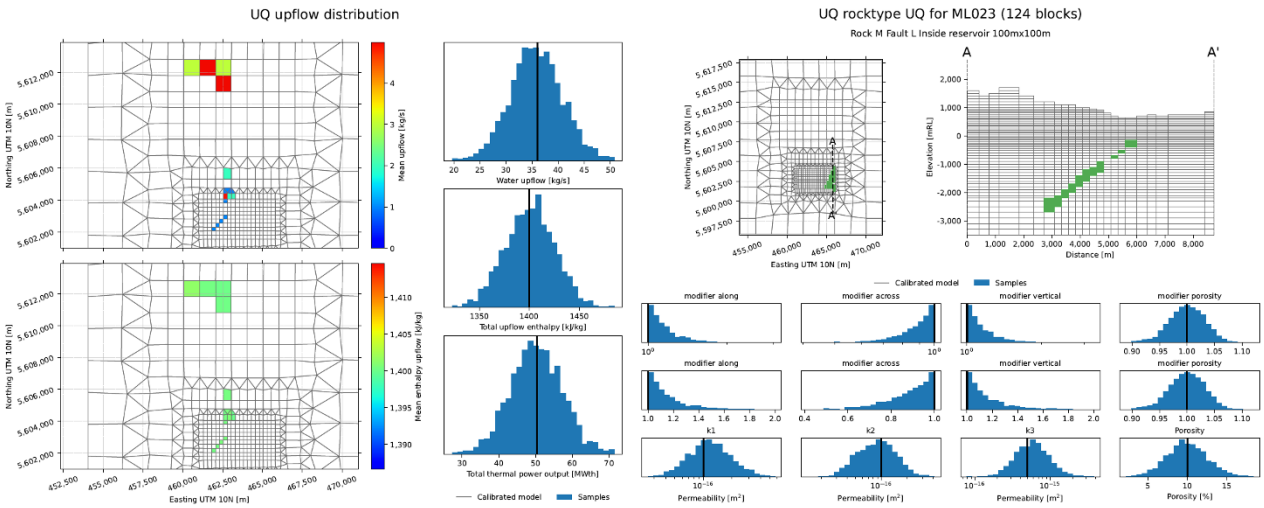


Figure 5: Example of Upflow distribution generated for the samples and permeability, porosity distribution examples for the ML023 rocktype.

Power production was investigated using existing assets, specifically wells MC-6, MC-1, and MC-2, which have potential feed zones between approximately –400 msl and –1,000 msl. A simple, naïve production setup was

applied, using estimated productivity indices and pressure decline, without implementing a detailed source network reinjection strategy or optimization process to improve production outcomes (Croucher et al., 2025).

Production is scheduled to begin in 2026 and continue for 30 years. Wells M12-M-80D, M10-80D, and M8-79D were selected for reinjection, with a combined reinjection flow rate of 33 kg/s. The system uses a flash steam plant configuration, with standard conversion parameters of 2.3 kg/s of steam per megawatt electric (MWe), based on a separated pressure of 5.5 bara.

4 RESULTS

4.1 Temperature distribution

Figure 6 presents the filtered temperature samples obtained from the uncertainty quantification process. Most of the samples reflect the conceptual model to some extent, based on temperature profiles reported in the literature, primarily located in the southern part of MMVC.

Temperature profiles from wells in the Lillooet group (North reservoir, e.g., L1-75D) and the Meager group (South reservoir, e.g., M1-74D) were recorded shortly after drilling and may underestimate actual reservoir conditions. In contrast, wells from the MC group (e.g., MC-1) are more suitable for geothermal resource assessment, as temperature measurements were taken between six months and two years after drilling was completed.

In the current calibration state, most of the subsurface fluids flow towards the east and south due to topographical effects, without requiring a distinct structural barrier to prevent westward flow. The Angel Creek Fault appears to act as a deep lateral barrier in the east–west direction, facilitating vertical fluid movement.

The No Good Discontinuity Fault and Camp Fault have been identified as vertical fluid flow pathways. Fluids are primarily constrained along the No Good Discontinuity Fault and the Meager Creek Fault (MCF).

Calibration of the northern reservoir is less refined due to limited availability of shallow data. Surface recharge and infiltration is stronger than anticipated, with cold meteoric water penetrating around the wells and cooling them, despite the presence of a modeled impermeable clay cap in the numerical model. Future work will focus on improving shallower structures and permeabilities according to the geophysics and collected temperature data.

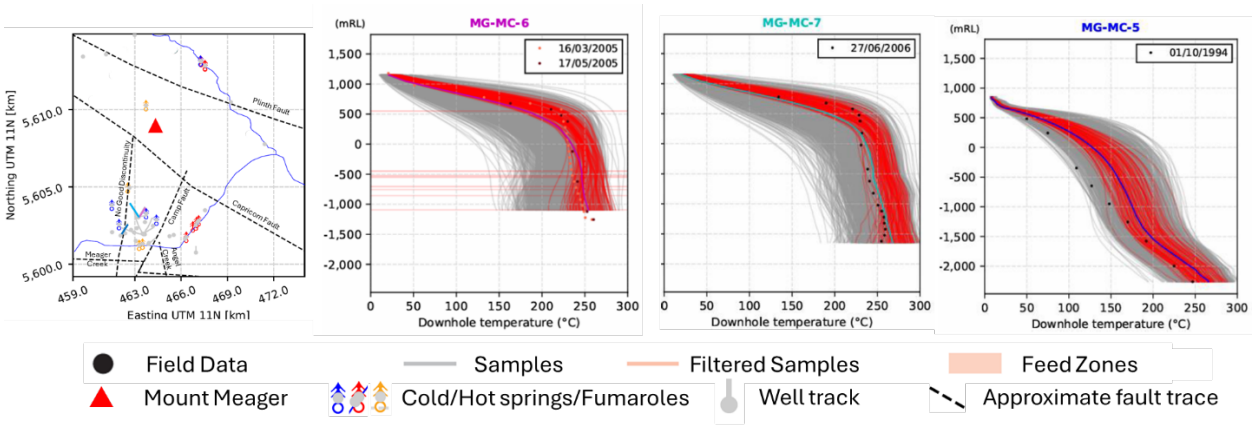


Figure 6: Temperature downhole results for the samples (grey) and filtered samples (red) compared to the data point in Well MC-6, MC-7, and MC-5 in the south of MMCV.

4.2 Power estimation over a 30-year scenario

Based on the current understanding of the area and in the absence of detailed well test data, we estimated the potential of existing assets using uncertainty quantification methods and a total estimated mass flow of above 50 kg/s. The produced geothermal fluid has an enthalpy ranging from 1,000 to 1,100 kJ/kg. A flash steam power plant technology is projected to generate between 6 and 10 MWe of electrical power from geothermal exploitation of the MMVC South reservoir (Figure 7).

However, the system shows a rapid decline in performance, primarily due to the low-permeability granitic basement structures in the southern part of MMVC, which limit sustained fluid flow and reservoir productivity.

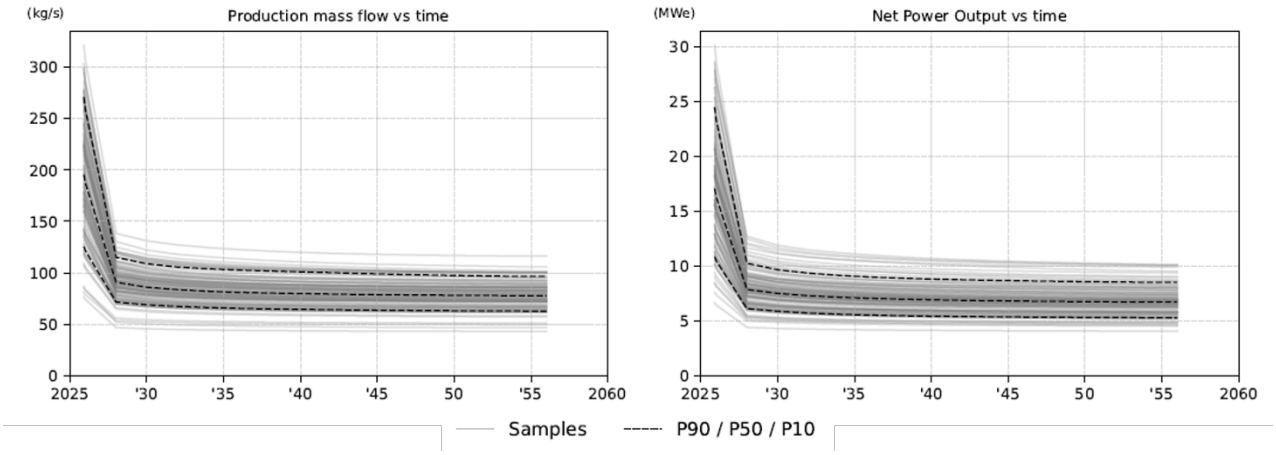


Figure 7: Production mass flow and net Power output estimated from the scenario investigated.

5 CONCLUSION

This project aimed to evaluate the geothermal production and reinjection potential of the Mount Meager Volcanic Complex (MMVC) over a 50-year period, based on a compilation of available geoscientific data. We reviewed existing studies on the MMVC area, which indicate that both the northern and southern regions host geothermal potential. The heat source is likely derived from deep volcanic activity, with active flow pathways transporting heat to shallower parts of the system.

A reservoir model was developed using a digital conceptual model of the area, integrating geological formations, structural features, and alteration zones based on available data, including resistivity, seismic, gravity, water samples, and drilling logs. Regional compressional stress and local stress regimes, induced by subduction and volcanic intrusions, have created fault and fracture networks that serve as pathways for geothermal fluids to reach the surface.

The reservoir model was calibrated using well data and incorporated into an uncertainty quantification framework to assess the potential of existing wells. In the absence of recent well test data, and without optimization of conversion technologies, dual-porosity settings to account for fractures, or systematic analysis of optimal production zones, we estimated long-term subsurface production using a simplified scenario. This scenario assumes power generation from a flash power plant technology located in the southern part of MMVC.

Further refinement of alteration zones and fault structures is needed to improve calibration accuracy, supported by updated well testing surveys. Fault structures could be better characterized through active seismic imaging of the MMVC subsurface to more accurately infer fluid flow pathways.

The methodology applied in this study can benefit from new datasets, including geophysical, geochemical, and well-tests data. Additional data will enhance the characterization and forecasting of geothermal generation potential at MMVC.

Acknowledgements

We would like to acknowledge Steve Grasby for his time in sharing background information on the Mount Meager geothermal field and recent scientific research. We would also like to thank Seequent for their support in software licensing and NeSI for supporting this research.

REFERENCES

Adams, M.C., and Moore, J.N.: Hydrothermal alteration and fluid geochemistry of the Meager Mountain geothermal system, British Columbia. *Am. J. Sci.*, **287**, (1987), 720–755.

Bustin, A.M.M., Clowes, R.M., Monger, J.W.H., and Journeay, J.M.: The southern Coast Mountains, British Columbia: New interpretations from geological, seismic reflection, and gravity data. *Can. J. Earth Sci.*, **50**, (2013), 1033–1050.

Chen, Z., Grasby, S.E., Liu, X.: Fracture system analyses of the Mount Meager area. The Garibaldi Volcanic Belt geothermal energy project - Mount Meager 2019 field program. *Geol. Surv. Can. Open File*, (2020), 30–43. https://doi.org/10.4095/326750

Chen, Z., Grasby, S.E., Yuan, W., and Liu, X.: Ground surface temperature monitoring data analysis and applications to geothermal exploration in volcanic areas, Mount Meager, western Canada. *Geothermics*, **108**, (2023), 102610.

Clark, I.D., Fritz, P., Michel, F.A., and Souther, J.G.: Isotope hydrogeology and geothermometry of the Mount Meager geothermal area. *Can. J. Earth Sci.*, **19**, (1982), 1454–1473.

Croucher, A., O'Sullivan, M., O'Sullivan, J., Yeh, A., Burnell, J., and Kissling, W.: Waiwera: A parallel open-source geothermal flow simulator. *Comput. Geosci.*, **141**, (2020), 104529.

Croucher, A., O'Sullivan, J., and O'Sullivan, M.: Improved modelling of fluid production and reinjection in geothermal reservoirs. *Computers & Geosciences*, **196**, (2025), 105822.

Grasby, S.E., and Hutcheon, I.: Controls on the distribution of thermal springs in the southern Canadian Cordillera. *Can. J. Earth Sci.*, **38**, (2001), 427–440.

Grasby, S.E., Ansari, S.M., Barendregt, R.W., Borch, A., Calahorrano-DiPatre, A.E., Chen, Z., Craven, J.A., Dettmer, J., Gilbert, H., Hanneson, C., Harris, M., Hormozzade, F., Leiter, S., Liu, J., Muhammad, M., Quane, S.L., Russell, J.K., Salvage, R.O., Savard, G., Tschirhart, V., Unsworth, M.J., Vigouroux- Caillibot, N., Williams-Jones, G., Williamson, A., and Vestrum, Z.E.: Garibaldi Geothermal Energy Project - Phase 1, Final Report, Geoscience BC Report 2021-08, (2021).

Grasby, S.E., Aufrere, S., Barendregt, R.W., Beausoleil, K., Berumen-Borrego, F., Borch, A., Calahorrano-DiPatre, A., Chase, B., Chen, Z., Craven, J., Gilbert, H., Hanneson, C., Hormozzade Ghalati, F., Liu, X., Muhammad. M., Russell, J.K., Slobodian, E.G., Tschirhart, V., Unsworth, M.J., Williams-Jones, G., and Yuan, W.: Garibaldi Geothermal Energy Project - Phase 2. Final Report. Geoscience BC Report 2024-05, (2024).

Gravatt, M., Dekkers, K., Riffault, J., Nicholson, R., Maclaren, O., Renaud, T., O'Sullivan, M., Tonkin, R., Popineau, J., Nugraha, R., and O'Sullivan, J.: Approximate Bayesian Computation for Uncertainty Quantification of Geothermal Reservoir Models. GRC Transactions, **47**, (2023), Geothermal Resources Council Annual Meeting, Houston, Texas, USA.

Hammer, P.T.C., Clowes, R.M., Cook, F.A., van der Velden, A.J., and Vasudevan, K.: The Lithoprobe transcontinental lithospheric cross sections: imaging the internal structure of the North American continent. *Can. J. Earth Sci.*, **47**, (2010), 821–857.

Harris, M.A., Russell, J.K., Wilson, A., and Jicha, B.: A 500 ka record of volcanism and paleoenvironment in the northern Garibaldi Volcanic Belt, British Columbia. *Can. J. Earth Sci.* **60**, (2023), 401–421.

Hormozzade Ghalati, F., Craven, J.A., Motazedian, D., Grasby, S.E., and Tschirhart, V.: Modeling a fractured geothermal reservoir using 3-D AMT data inversion: Insights from Garibaldi Volcanic Belt, British Columbia, Canada. *Geothermics*, **105**, (2022), 13.

Hormozzade Ghalati, F., Craven, J.A., Motazedian, D., Grasby, S., Roots, E., Tschirhart, V., Chen, Z., and Liu, X.: Analysis of Fluid Flow Pathways in the Mount Meager Volcanic Complex, Southwestern Canada, Utilizing AMT and Petrophysical Data. *Geochem. Geophys. Geosystems*, **24**, (2023), 20.

Jessop, A.M.: Review of National Geothermal Energy Program Phase 2 – Geothermal Potential of the Cordillera. Natural Resources Canada Open File 5906, Canada (2008).

Jones, A.G., and Dumas, I.: Electromagnetic images of a volcanic zone. *Phys. Earth Planet. Inter.*, **81**, (1993), 289–314.

Mak, S.W.: Assessing fracture network connectivity of prefeasibility-level high temperature geothermal projects using discrete fracture network modelling. University of British Columbia Thesis, Vancouver, BC, Canada (2014).

Muhammad, M., Williams-Jones, G., and Barendregt, R.W.: Structural geology of the Mount Meager Volcanic Complex, BC, Canada: implications for geothermal energy and geohazards. *Can. J. Earth Sci.*, **61**, (2024), 158–186.

NSBG Ltd.: Meager Creek Geothermal Area Slim Hole Drilling Summary – Volume I: South Area Reservoir. BC Hydro and Power Authority Technical Report GT39, BC, Canada (1981).

Parizia, F., Roberti, G., Clague, J.J., Alberto, W., Giardino, M., Ward, B., and Perotti, L.: Landslide Deposit Erosion and Reworking Documented by Geomatic Surveys at Mount Meager, BC, Canada. *Remote Sens.*, **16**, (2024), 1599.

Read, P.B.: Mount Meager Complex, Garibaldi Belt, Southwestern British Columbia, Geoscience Canada, Garibaldi Belt Workshop, BC, Canada (1990).

Russell, J.K., Edwards, B.R., Williams-Jones, G., and Hickson, C.J.: Pleistocene to Holocene volcanism in the Canadian Cordillera. *Can. J. Earth Sci.*, **60**, (2023), 1443–1466.

Zhang, Q., Chen, Y., Gu, Y.J., Currie, C., Audet, P., Gilbert, H., Schutt, D.L., Fernández-Viejo, G., and Chen, Y.: A Reference Model of Crustal Thickness and Vp/Vs of Western Canada. *J. Geophys. Res. Solid Earth*, **129**, (2024).