

Map showing results of PFAS testing in zones 1 to 6 as at 1 December 2021

Understanding the map

- The map shows the results for PFAS concentrations (as PFOS + PFHxS) measured against drinking water guidelines. For clarity, this map does not show any ecological or species protection triggers.
- The map takes the results from each sample point (dots on the map) to **infer or estimate PFAS concentration** levels across all sampling zones. This is displayed in shades of purple to indicate levels of PFAS and whether they are under or over the drinking water guidelines.
- This method of spatial interpolation is called **Natural Neighbour interpolation** and is useful for areas that have limited data, or data points at some distance from each other.
- What this means is that our data model looked at the values at each groundwater sample point. The model then applied a weight to each value, based on adjacent sample points to estimate a total value for the area as a whole.
- We have coloured each sample point in the shade of purple that represents if they are over or under drinking water guidelines to assist in interpreting the data presented on the map.
- The map also includes results from the earlier sampling that CS Energy conducted on public land in January 2021.
- It's important to note this map is a snapshot that represents the testing we've done to date (at 1 December 2021). It includes results from second samples that have been taken on landholder property between September and December 2021.
- If more testing is undertaken to add more data points to add to the map, the inferred PFAS concentration levels will change too – which means the purple shading is likely to change over time.
- There are some gaps in zone 6 because testing was not undertaken in these areas.

Australian drinking water guidelines

- The Australian drinking water guidelines measure in **µg = micrograms**. That is a unit of mass equal to one millionth of a gram.
- In the notes of the map you will see that the Australian drinking water guideline for the total PFOS plus PFHxS (which are types of PFAS) is 0.07 **µg** per litre.
- The Australian drinking water guidelines provide an authoritative reference on what defines safe, good quality drinking water. Where health guidelines values exist, they tend to be conservative in nature, ensuring that public health is protected.

More information

If you have any questions about the map or the testing data please contact PFAS Stakeholder Engagement Manager **Steve Tapsall** on **0477 957 116** or stapsall@csenergy.com.au
Anyone concerned about their health or that of family members should talk to their GP, the Central Queensland Public Health Unit (**Ph 07 4920 6989**) or call 13HEALTH (**13 43 25 84**).

CS Energy Callide Power Station

Inferred Groundwater PFOS + PFHxS Concentration Zones 1 to 6 (01 Dec 2021)



Legend

- Callide Power Station site boundary
- Inferred Auqifer Extent (DES Groundwater Dependent Ecosystem - Unconsolidated Sedimentary Aquifer)
- Areas not sampled

Offsite investigation areas

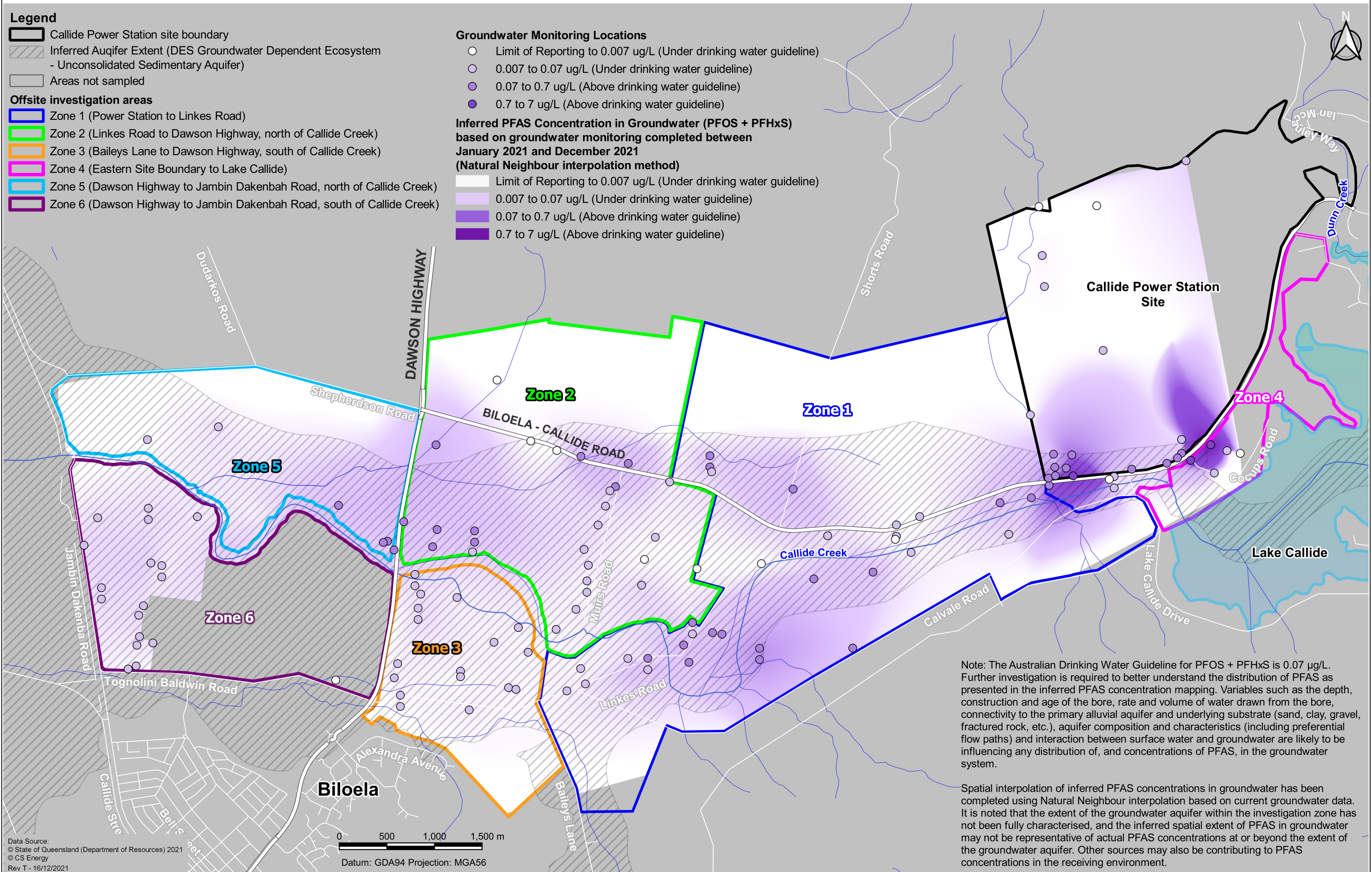
- Zone 1 (Power Station to Linkes Road)
- Zone 2 (Linkes Road to Dawson Highway, north of Callide Creek)
- Zone 3 (Baileys Lane to Dawson Highway, south of Callide Creek)
- Zone 4 (Eastern Site Boundary to Lake Callide)
- Zone 5 (Dawson Highway to Jambin Dakenbah Road, north of Callide Creek)
- Zone 6 (Dawson Highway to Jambin Dakenbah Road, south of Callide Creek)

Groundwater Monitoring Locations

- Limit of Reporting to 0.007 ug/L (Under drinking water guideline)
- 0.007 to 0.07 ug/L (Under drinking water guideline)
- 0.07 to 0.7 ug/L (Above drinking water guideline)
- 0.7 to 7 ug/L (Above drinking water guideline)

Inferred PFAS Concentration in Groundwater (PFOS + PFHxS) based on groundwater monitoring completed between January 2021 and December 2021 (Natural Neighbour interpolation method)

- Limit of Reporting to 0.007 ug/L (Under drinking water guideline)
- 0.007 to 0.07 ug/L (Under drinking water guideline)
- 0.07 to 0.7 ug/L (Above drinking water guideline)
- 0.7 to 7 ug/L (Above drinking water guideline)



Note: The Australian Drinking Water Guideline for PFOS + PFHxS is 0.07 µg/L. Further investigation is required to better understand the distribution of PFAS as presented in the inferred PFAS concentration mapping. Variables such as the depth, construction and age of the bore, rate and volume of water drawn from the bore, connectivity to the primary alluvial aquifer and underlying substrate (sand, clay, gravel, fractured rock, etc.), aquifer composition and characteristics (including preferential flow paths) and interaction between surface water and groundwater are likely to be influencing any distribution of, and concentrations of PFAS, in the groundwater system.

Spatial interpolation of inferred PFAS concentrations in groundwater has been completed using Natural Neighbour interpolation based on current groundwater data. It is noted that the extent of the groundwater aquifer within the investigation zone has not been fully characterised, and the inferred spatial extent of PFAS in groundwater may not be representative of actual PFAS concentrations at or beyond the extent of the groundwater aquifer. Other sources may also be contributing to PFAS concentrations in the receiving environment.