Submission No 54

INQUIRY INTO INQUIRY INTO PFAS CONTAMINATION IN WATERWAYS AND DRINKING WATER SUPPLIES THROUGHOUT NEW SOUTH WALES

Organisation: Cadia Community Sustainability Network

Date Received: 3 January 2025

Cadia Community Sustainability Network – PFAS Parliamentary Inquiry Submission

The CCSN has chosen to share with the Parliamentary Inquiry a Chronology of Events regarding PFOS contamination found in the Belubula River and Cadia region.

CCSN – 24 April 2024

Email to DPIE and DPIE Compliance – CVO Groundwater information reporting collated by the CCSN (Refer Appendix 1a,1b,1c,1d)

Additional comment made to **DPE by CCSN on 29 April 2024**:

"Further to our email dated 24/4/2024 we would like to clarify the following point. CVO is **not** entitled to claim any groundwater contamination is "background or naturally occurring".

The 2018 Modification 11 includes an "Expert "report from AGE, pg5 which identifies the following:

2 Groundwater regime of Cadia Hill

There are three major hydrostratigraphic units that occur at CVO and within the surrounding region:

· Tertiary basalt, which forms a productive aquifer utilised by surrounding properties with varying yields from low to high and consistently fresh water suitable for potable use;

That is to say, in 2018 our district had groundwater fit for human consumption. We know many residents use their bore water to "top up" water tanks during dry periods.

It appears there has been a significant change in the chemistry of our groundwater system and potentially the Belubula River within 25 years of the mine commencing operations and possibly since the NTSF failure."

CCSN – 14 May 2024

Email to Mr Tony Chappel CEO EPA, Mr Steve O'Donoghue, Director DPIE and Mr Clay Preshaw, Executive Director DPIE.

"Good morning, Tony, Steve and Clay,

The CCSN is requesting an urgent meeting with both DPE and the EPA regarding emerging groundwater contamination in the Cadia region.

https://www.abc.net.au/news/2024-05-14/cadia-gold-mine-confirms-mine-waste-storage-leak/103763614

'An EPA spokesperson said no exceedances were found in 2022 and 2023 monitoring.'

The EPA and DPE have known for *years* that the groundwater in monitoring bores around the site is contaminated with tailings water.

Has the EPA read the Annual Groundwater Monitoring Review 2021/22 and 2022/23? How can pH of 10, 11, 12 in bores kilometres from the tailings dam and the ML area not be an exceedance?

Have any Regulators conducted *any* independent testing of creeks and rivers in the district to confirm this contamination has not spread?

Please find attached a summation of groundwater contamination collated by the CCSN from CVO's *own data and reports*."

Refer Appendix 1a,1b,1c,1d

EPA and CCSN Meeting 27 May 2024 – to discuss growing community concerns re groundwater and surface water contamination

27 – 31 May – EPA Groundwater Sampling Conducted

https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/community/cadia/24p4535-cadia-region-groundwater-testing-report.pdf

30 May – EPA Testing Conducted

https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/community/cadia/24p4537-cadia-region-surface-water-testing-report.pdf

https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/community/cadia/24p4538-belubula-river-water-sampling-4-july-2024.pdf

EPA and CCSN Meeting 3 June 2024 – ongoing discussions re concerns of ground and surface water contamination

27 June 2024 - Response from CEO EPA to the CCSN

Refer Appendix – '27.06.2024 EPA Response Letter'

CCSN – Monday 19 August 2024

Email to Mr. Tony Chappel CEO, EPA

Dear Tony,

Over the weekend our area received in excess of 20mm. The water table and creeks/streams/rivers are fully charged.

Today, we walked parts of Flyers Creek, near the Burnt Yards Creek confluence. This was limited due to the flow of water and accessibility along the creek. This is the location where the EPA Water Team took samples from on 31 May 2024.

On arrival we were stunned with the significant level of foam in the river, including lower flow areas where it was lapping at the sides of the creek. Having seen this we then felt it would be important to head upstream and view from another point at the Errowanbang Weir - 6kms upstream. Visually, the foam appears to be the same as samples recently collected and tested on the Belubula. We have the permission of *_____ of _____ and also *_____ of _____ to be filing this pollution notification.

Samples have been collected for testing at both these locations testing for anthropogenic materials, including PFOS, Hydrocarbons and Heavy Metals.

A link to a Google folder is below with photos and videos from today. Additionally, there are also 2 videos taken by *_____ at _____, on the Belubula yesterday. All pictures and videos are labelled accordingly.

https://drive.google.com/drive/folders/12JNchJ9kkKOQVFnqUUQSYpL1JYyOqni4?usp=drive_link

The picture below shows the location where samples were taken today at Flyers Creek and Errowanbang Weir (also on Flyers Creek). The Belubula River is in the bottom left hand corners of the photo.

This contamination event was originally reported on 4 July 2024. Does the EPA finally have test results for the tests collected on the Belubula Foam on 4 July and at Flyers Creek on 31 May 2024?

*(*Note names and properties left blank to ensure anonymity)*

21 and 22 August - EPA Testing Conducted

https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/community/cadia/24p4548-cadia-region-surface-water-testing-20-21-august-sampling.pdf

CCSN – Response to 21 and 22 August EPA Report

Refer - Appendix 3

CCSN – September Results 25 September 2024

Email to the EPA – Tony Chappel, Steve Beaman and Steve Orr

Dear Tony, Steve and Steve,

Please find attached test results for samples collected on:

- 8 September bottom of Cadiangullong Creek approx 15m from the Belubula; and
- 9 September Flyers Creek collected on *_____ property with Sheridan & Steve

CCSN has multiple tests of foam and water demonstrating contamination is flowing down Flyers Creek and now CA Creek. These tests report PFOS in both creeks.

As the EPA is aware, contamination is also entering the Belubula River before the Burnt Yards Rd – as demonstrated in the EPA's data presented in the "Foam in the Belubula "tests conducted on 4 July 2024.

CCSN is putting together a response to the EPAs:

- Cadia Region Surface Water Testing Report and
- Belubula River Water Sampling 4 July 2024: Summary of Results - Foam in the Belubula River.

We do not agree with the EPA's assessment that the levels of contamination are not harmful. Many of the heavy metals found at elevated levels in analysis of the foam have the potential to bioaccumulate (lead, arsenic, selenium etc)

We do not agree that there are no guidelines for livestock and refer you to the attached EPA Victoria paper *"Spatio – temporal trends in livestock exposure to per – and polyfluoroalkyl substances (PFAS) inform risk assessment and management measures"* by Prof. Mark Patrick Taylor et al.

This paper advises cattle producers that in order to comply with EC limits for PFOS in meat, PFOS in drinking water for cattle must be less than 0.003ug/l. It is very clear from the tests conducted by the community and the EPA that the river is contaminated with PFOS at levels multiples higher than this.

In view of the significant contamination which has been ongoing for several months (at least) it is imperative that the source of this pollution be determined as fast as possible. The approach adopted by the EPA to segment data and not look at the total picture raises many concerns.

Where has the EPA considered:

1. The 5 X increase in concentration of PFOS in foam tested by the EPA between Site 2 and Site 1, ie there is less PFOS in the foam to the east
2. The concentration of PFOS in the EPA sediment sample collected at Belubula River Site 4. This sample reported 4.3 ug/kg compared to the river water sample which is reported as 0.02ug/l. Has this increase in concentration, relative to the river, occurred because the foam is accumulating on the sides of the river bank and is effectively depositing contamination on the edge of the river closest to where livestock will drink?
3. The potential for contamination to concentrate in ponds adjacent to the river. This will happen as the flow in the river decreases over the summer period and evaporation concentrates the pollutants in the river water.
4. When testing for hydrocarbons we question if sampling from below the surface of a moving river is the most appropriate method. Hydrocarbons seem to be forming a film on many of the still ponds in our district which suggests these elements are more likely to be on the surface.

There has been a significant change in the Belubula, as demonstrated by comparison to EPA tests taken in 2017.

*(*Note name left blank to ensure anonymity)*

Refer Appendix – 2b,2c,2d

23 and 23 October – EPA Testing Conducted

https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/community/cadia/24p4567-cadia-region-surface-water-pfas-testing-oct-24.pdf

31 October 2024 – Response to 21 and 22 August EPA Report

Email to the EPA – Tony Chappel, Steve Beaman and Steve Orr

Dear Tony, Steve, Steve and the EPA Team,

Please find attached a revised version (Version 2) of our document originally dated 18 October, the attachment to the original remains the same and is attached here for convenience.

This document has been amended to reflect:

1. Cadia has received PFOS contaminated material from the following sources:
    a. Orange treated waste water (likely contaminated with PFOS) 9ML/day 1998 – to date
    b. Blayney treated waste water (known to be contaminated) 1ML/day 1998 – late 2019
    c. Bio solids stockpiled for future rehabilitation since 1998 – believed to be supplied by ANL and produced using Sydney waste
    d. PFOS fire fighting foam 1998 – 2015

2. The original Dewatering Plant on Abattoir Creek in Blayney should be recognised as a potential source of PFOS. Sediment testing (by CCSN and Dr Ian Wright) in the Creek immediately downstream of the site identifies PFOS. This Creek is known by the EPA to contain significant levels of metal contamination.

3. As the Old Dewatering Plant appears to be a source of PFOS contamination it is reasonable to assume that the new dewatering plant also poses a risk of contamination. This Dewatering Plant should also be recognised by the EPA.

4. Orange sewerage treatment plant should be recognised as a potential source of PFOS contamination in the Belubula since most of the waste water is being received by CVO.

The CCSN considers these omissions from the EPA report to be material and the report titled "Cadia Region Surface Water Testing – 20 to 21 August Sampling " to be *misleading*.

CCSN requests that the current report be withdrawn and corrected to reflect potential sources of contamination affecting our district.

Refer - Appendix 4 and 2b

CCSN – Response to 22 and 23 October EPA Report

Appendix 5a – 5i inclusive

Appendix 5e – can also be found here:

https://www.newcrest.com/sites/default/files/2021-03/190430_Expert%20review%20of%20Cadia%20tailings%20-%20Appendix%20F_1.pdf

After months of testing and numerous reports the EPA continues to investigate only PFAS contamination in the Belubula.

CCSN believes a multi factored approach is required with full consideration of:

- ***ALL contaminants including diesel & PFAS, pH, heavy metals and visual observations such as extreme foam levels and white stripe as identified in the field.***
- ***ground water and surface water interaction***
- ***the impact of the alluvial channel and multiple fault lines identified by the ITRB, IESC and CVO's own experts.***
- ***the amount of water flow in each water course.***
- ***the repeated flushing of contaminants in the Belubula as identified by GHD (May 2024).***
- ***the potential toxicity of the foam which is hyperaccumulating toxic chemicals and depositing contaminants on the river bank.***
- ***The impact upon livestock and wildlife in this section of the Belubula which is identified being of high ecological value. Water quality in this area should be suitable for 99% species survival.***

The EPA has conducted another round of water testing in the week beginning 9 December 2024. The CCSN has been informed that this series of tests will include PFAS, heavy metals and hydrocarbons. The CCSN was advised that the EPA intended to collect 700 samples.

The samples were collected from the middle of the river approximately 15- 30cm below the surface.

- Has this testing program been designed not to find materials such as hydrocarbons which float on the surface?
- Why does the EPA continue to ignore potential sources of the cocktail of contamination found on multiple farming properties
- Why has no measurement or calculation been made of the volume of water in the river at each testing location?
- Will the EPA once again make a straight comparison of PFAS quantity / litre and claim that identifies the largest polluters of PFAS with no consideration of the absolute amount?
- On what basis can the EPA declare there is no risk to the food chain when it has not tested the fish in the river or the cattle using this water supply?

https://www.abc.net.au/news/2024-12-18/pfos-in-carp-livers-caught-in-belubula-river-nsw/104708392

To protect our water sources for future generations, we must openly identify the sources of contamination and do everything possible to remediate and stop it.