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30 March 2020

20204045.001/Williamtown Sand Syndicate/MLB109272

Williamtown sand Syndicate
PO Box 898
Newcastle, NSW 2300

Attention: Darren Williams

Email: darren@newcastlesand.com.au

Subject: **Williamtown Sand Syndicate – Review of Per- and Polyfluoroalkyl Substances Exposure Pathways**
298 Cabbage Tree Road, Williamtown, New South Wales, 2318

Williamtown Sand Syndicate (WSS) are required to engage an Independent Expert to undertake a review of the available data and determine if quarrying activities are increasing the potential per- and polyfluoroalkyl substances (PFAS) exposure to local residents derived from the Department of Defence (DoD) Williamtown Royal Australian Air Force (RAAF) Base (hereafter "the Base") associated with the Williamtown Sand Syndicate quarry. PFAS have been identified in sediment, surface water, groundwater and biota (terrestrial and aquatic) within and surrounding the Base.

The WSS quarry is located at 298 Cabbage Tree Road, Williamtown (hereafter "the Site") and is situated partially within the New South Wales Environment Protection Authority (EPA) defined Williamtown Management Area (WMA). The Site is located within the WMA *broader management zone* where PFAS may be identified in the future.

This report forms the requirement of Schedule 3 Condition 48 in Development Consent SSD-6125 which requires an assessment of whether or not quarrying operations are increasing the risk of PFAS exposure for local residents and/or the environment.

Since 2007 the DoD have been investigating the PFAS presence in various media at and surrounding the Base. The investigations have included multiple rounds of soil, sediment, surface water and groundwater sampling within the EPA defined Williamtown Management Area.

Additional off-Base PFAS surface water and groundwater fate and transport models and human and ecological health risk assessments have also been conducted. The human health risk assessment[1] identified four "risk zones" designated as Zones A through D and corresponding with a risk hierarchy such that Zone A is the highest risk and Zone D is the lowest. Part of the Site is situated within the low risk zone C, with the northeastern Site area located outside the defined risk zones.

A review of the available information that includes the Site setting, PFAS sampling and analysis undertaken at the Site and investigations conducted by the DoD at the base and surrounding area leads to the following conclusions:

- PFAS are not present in Site soil, surface water or groundwater.
- PFAS migration from primary or secondary Base sources are unlikely to result in PFAS migrating to the Site.
- The proposed quarry minimum extraction elevations are sufficiently above the maximum observed local water table and comply with conditions set out in the quarry's licence.

The DoD-commissioned human health risk assessment determined that the Site is within risk zone C for PFAS impacts originating from the Base. The risk assessment review compared the upper exposure scenario (i.e., highest concentration) for risk zone C with potential exposures from the quarry and concluded:

- Quarrying operations will not increase the PFAS risk to residents because:
    - PFAS have not been identified in the tested Site media and are unlikely to impact nearby residents at unacceptable levels.
    - The Base PFAS groundwater plumes will not intersect the eastern Site boundary prior to 2050.
    - Quarrying operations may result in the establishment of a groundwater mound; however this is unlikely to change the current groundwater flow regime.

Historical prevailing wind directions and dust mitigation measures undertaken by the quarry will not result in additional PFAS impacts to nearby residents.

[1] AECOM, 2017. Off-site Human Health Risk Assessment. RAAF Base Williamtown, Stage 2B Environmental Investigation

1 INTRODUCTION

As per Schedule 3 Clause 48 of the consent, WSS commissioned a suitably qualified and experienced Independent Expert to undertake a review of DoD and the NSW EPA information regarding PFAS contamination that originated from the Williamtown Royal Australian Air Force (RAAF) Base ("the Base").

Currently in the construction phase, WSS are preparing to extract sand from the "Site", which is within the NSW EPA declared WMA. The WMA was established by the NSW EPA following DoD commissioned testing of sediment, soil, groundwater, surface water and aquatic and terrestrial biota which identified a large area affected by PFAS contamination originally sourced from the Base (Figure 1). The management area is comprised of three zones:

- Primary – high PFAS concentrations have been observed.
- Secondary – low PFAS concentrations have been identified.
- Broader – topography and hydrology are used to suggest that PFAS could be identified in the future.

The Site is within the broader management area where the Site's eastern boundary is 1.4 km from the Base's western boundary.

In accordance with Schedule 3 Condition 48 of the Consent an annual review of the current available PFAS information relating to PFAS exposure pathways for contamination originating from the Base is required to be conducted. The review is to assess if the quarrying activities have resulted in an increased PFAS exposure for local residents. Condition 48 states the following:

> *"In conjunction with preparation of each Annual Review, unless otherwise agreed with the Secretary, the Applicant shall engage a suitably qualified and experienced independent expert, approved by the Secretary, to review the currently available information on exposure pathways for PFAS contamination originating from the Williamtown RAAF Base, as may be applicable to local residents and the development. This report must assess whether or not quarrying operations are increasing the risk of PFAS exposure for local residents and/or the environment, to the satisfaction of the Secretary. The Applicant must ensure that the Review of PFAS Exposure Pathways reports are placed on its website and are available to the CCC and any interested person on request*."

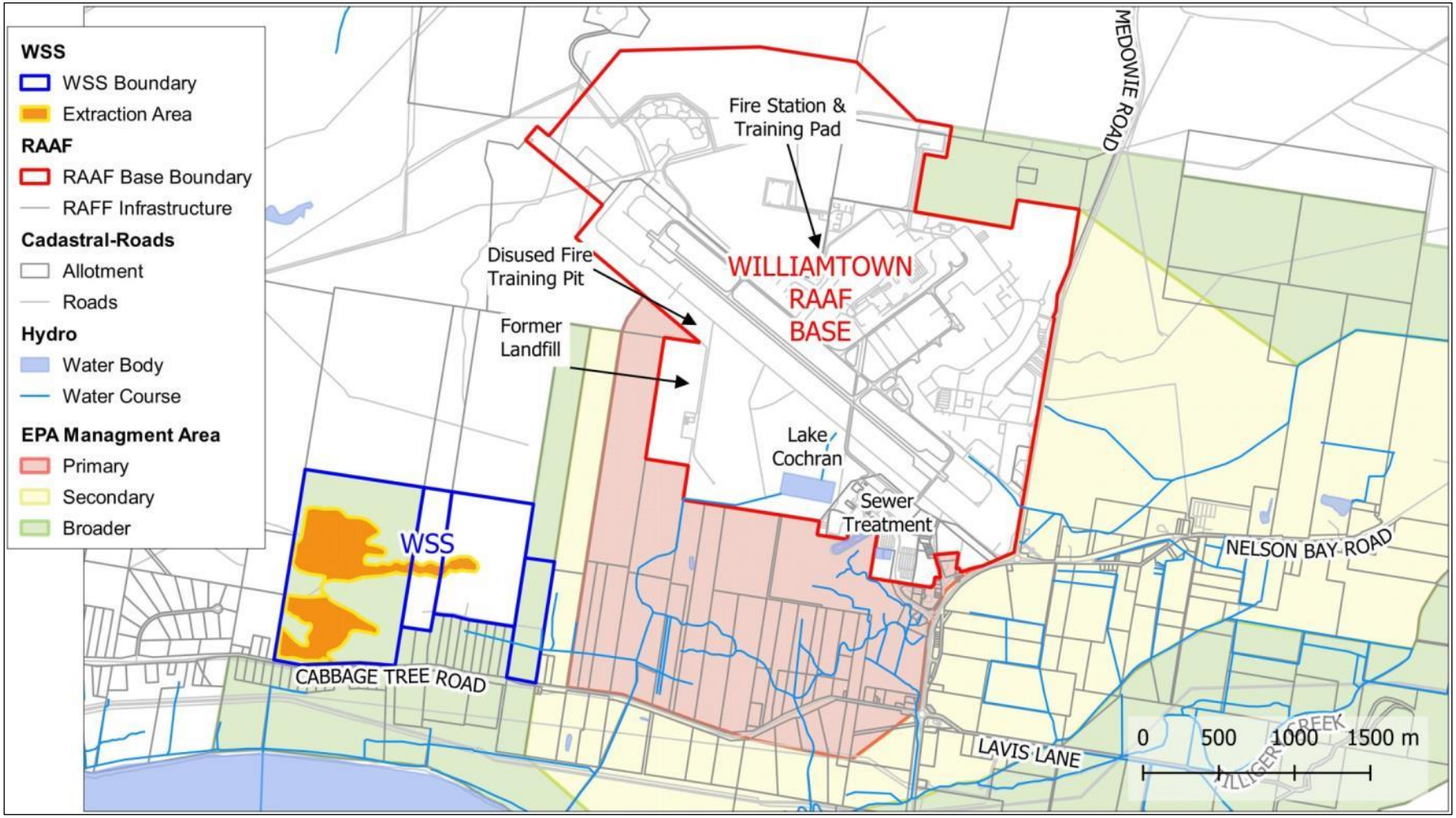


Figure 1. Site regional context

2 OBJECTIVE

The objective of this review is to assess if the quarrying activities during the 2019 calendar year have resulted in an increased PFAS exposure for local residents.

3 SITE SETTING

The site is located approximately 1.4 km to the southwest of the Base's western boundary. The general land use in the vicinity of the Site is large-lot residential and farming. Residential properties are located to the Site's west and south with larger allotments located along the eastern and northern boundaries. The Tilligerry Habitat Reserve forms part of the western and northern Site boundaries.

The Williamtown area receives a mean annual rainfall of 1,100 mm, with the highest rainfall months typically between January and June, where the mean rainfall typically exceeds 100 mm. Mean monthly temperatures range between 17°C and 28°C, indicating the climate is warm temperate. The prevailing 9 AM wind directions at the Base[2] are northwesterly (25%) and westerly (22%), i.e., away from the Site. Calm is the third most common observation (15%). Wind directions toward the Site are northeasterly (6%) and easterly (5%). Predominant 3 PM wind directions are southeasterly (24%) and southerly (16%). Afternoon wind directions toward the Site are easterly (14%) and northeasterly (8%).

Geologically the Site is located within the Tomago Sandbeds, a linear series of shallow sand dunes that cover approximately 200 km^2 between Newcastle and Lemon Tree Passage, that have a mean thickness of 20 metres. The beds were deposited from the Hunter and Karuah rivers during a period of high sea level and overlie relatively impermeable clays and rocks. The hydraulic gradient indicates a potential southerly groundwater flow direction (**Figure 2**) and in some low lying areas the water table is at the surface.

The Tomago Sandbed is an aquifer which forms an important potable water resource in the area. The potable groundwater combined with relatively shallow water table depth (mean depth 1.5 m below ground level) in the area have, historically resulted in the extensive use of the resource as a stock watering, irrigation and drinking water supply.

[2] Bureau of Meteorology wind speed and direction data for site number 061078 (Williamtown RAAF). Data are for 9 AM with 26,178 observations and 3 PM with 26,153 observation.

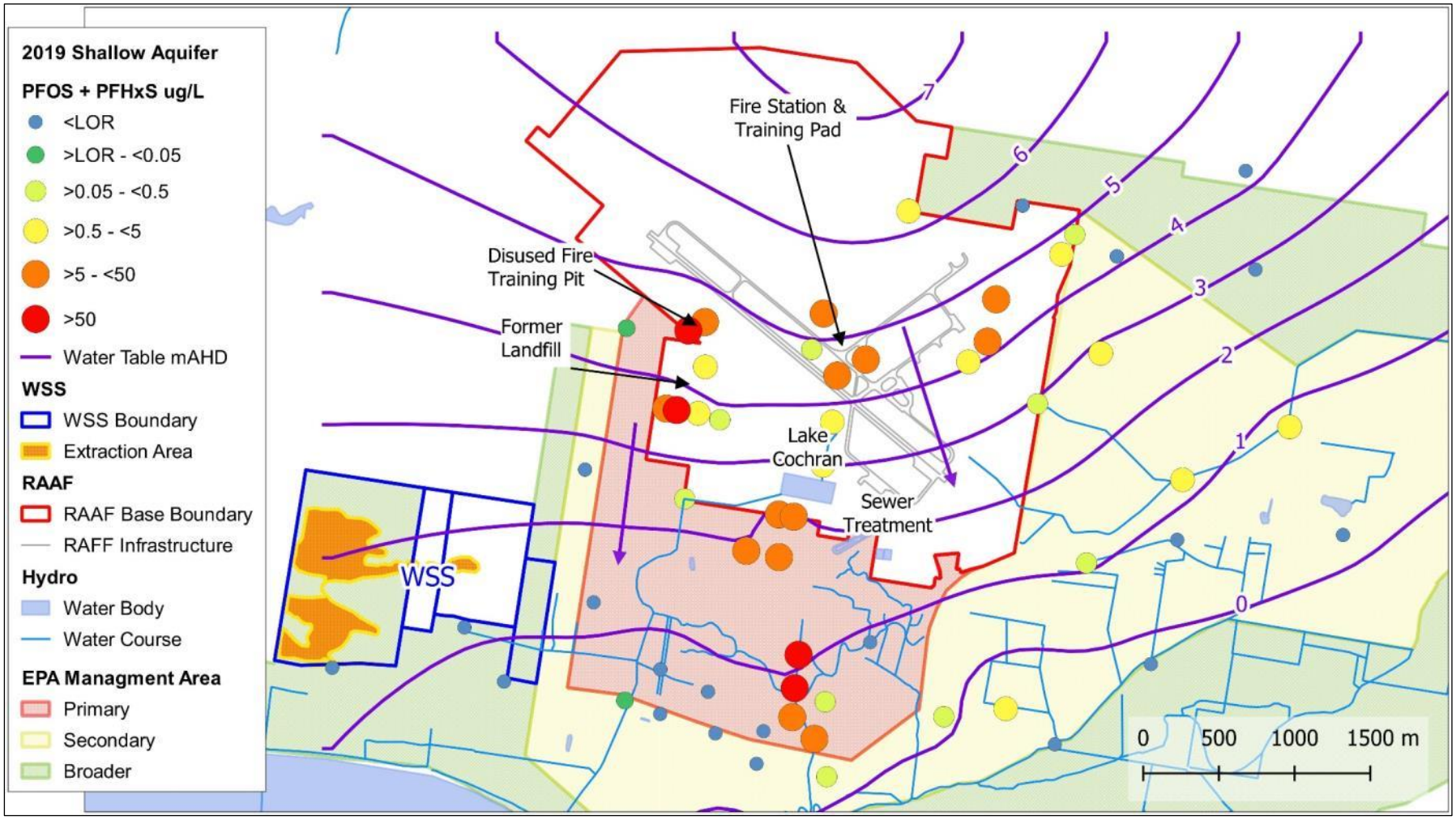


Figure 2. May 2019 water table elevations, potential groundwater flow direction and shallow groundwater sample PFOS + PFHxS concentrations

There is a well-developed man-made surface waterway network within the Williamtown area. Site surface water runoff may discharge to two unnamed surface water channels; one channel discharges directly to Fullerton Cove and the other joins Dawsons Drain, approximately 650 metres from the Site's eastern boundary. Within the Base Lake Cochran acts as a stormwater collection point which also discharges to the off-Base Dawsons Drain And ultimately Fullerton Cove.

4 2019 QUARRYING ACTIVITIES SUMMARY

During the reporting period the activity was in the construction phase, with no sand being processed or transported from site. Excavation of sand occurred for construction purposes only, with some temporary stockpiling of excavated material for future re-use. Construction commenced on 14 August 2019.

The quarry occupies four land titles and has an area of 175 hectares (ha), with the extractable sand resource occupying 43 ha. Approximately 3.25 megatonnes of sand will be quarried from elevated areas over a period of 15 years. Sand will be excavated from an elevation of 24 mAHD to an elevation no less than 0.7 metres above the highest estimated water table elevation. The anticipated minimum excavation elevations are 3.8 mAHD in the north and 3.4 mAHD in the south.

Groundwater is not being extracted by the site operators for quarrying operations, which rely on water sourced from Hunter Water. WSS have commenced a comprehensive groundwater and surface water monitoring program to assist with potential migration of PFAS from the Site and to ensure that sand is not extracted from an elevation less than 0.7 metres above the maximum water table elevation.

Works that occurred during 2019 at the Site include:

- Construction of onsite facilities and the intersection with Cabbage Tree Road
- Minor vegetation removal and temporary stockpiling of excavated material associated with the construction of the intersection and site facilities.
- No sand was processed or exported from the Site.

5 SUMMARY OF PFAS INVESTIGATIONS IN THE WMA

5.1 On- and Off-Base PFAS Investigations

PFAS contamination of surface water, groundwater, sediment and aquatic and terrestrial biota within and surrounding the Base has been reported by both the NSW EPA and DoD. A list of reports is available at www.defence.gov.au/environment/pfas/Williamtown/publications.asp.

The contamination is understood to have been the result of the use of aqueous film-forming foam utilised in firefighting and emergency response training activities. The known PFAS contamination sources at the Base are:

- Primary sources – Fire station, two landfills and a disused fire training pit.
- Secondary sources – Lake Cochran, the trade waste treatment plant (eastern Base area) and sewage treatment plant.
    - The trade waste treatment plant is not considered a possible source for PFAS contamination at the Site.

The surface soil samples collected outside the Base boundaries[3] have been predominantly collected across the southern boundary, south of Lake Cochran and the sewerage treatment area. The sum of PFOS and PFHxS[4], which generally make up approximately 90% of the PFAS identified in the Williamtown Management Area, in the off-Base surface soil samples PFOS and PFHxS range between the laboratory limit of reporting (LOR) of 0.2 micrograms per kilogram (µg/kg) and 375 µg/kg. Two soil samples were collected between the Site and the Base's western boundary. The PFOS + PFHxS concentrations in soil were 0.5 and 0.7 µg/kg, with the closest sample to the Site 350 metres northeast (1.3 km from the disused fire training pit (i.e., a primary PFAS source) and 1.1 km from a former landfill (i.e., a secondary PFAS source).

PFOS + PFHxS concentrations above the laboratory LOR (>0.2 to <10 µg/L) have been observed in all surface water samples collected from channels that receive discharge from the Base. Based on the local drainage network, surface water is not considered a likely pathway for PFAS from the Base to the Site.

[3] AECOM, 2017. Environmental Site Assessment. RAAF Base Williamtown, Stage 2B Environmental Investigation.
[4] PFOS – perfluorooctane sulfonic acid; PFHxS – perfluorohexane sulfonic acid

On- and off-Base PFAS groundwater investigations have focussed on the Tomago Sandbed aquifer with shallow and deep groundwater samples collected and analysed. This review focusses on PFAS concentrations in the shallow aquifer, which is the aquifer section that could be intersected during quarrying.

The 2019 groundwater PFAS monitoring results of the Base are summarised in **Figure 2**. PFOS + PFHxS concentrations above the laboratory LOR were detected to the south of Lake Cochran, beneath the disused fire training pit, former landfill and current fire station and training pad. From the data reviewed it is evident that there is a groundwater mound to the south of Lake Cochran, suggesting the lake is providing groundwater recharge and consistent with high PFOS + PFHxS concentrations observed down-gradient from the Lake.

The Site is not directly down-hydraulic gradient from any known primary or secondary PFAS source.

With regards to the Base a groundwater fate and transport model four “unidentified” PFAS sources (surface water, soil and or groundwater) located to the Site’s south were identified. It is likely that one of these sources, located near the Cabbage Tree Road Dawsons Drain bridge is associated with the Lake Cochran discharge. The three other low PFAS concentration occurrences are located to the Base’s south and cannot be directly linked to the source at the Base. The three locations are:

- One Base groundwater monitoring well and three residential monitoring bores located on Cabbage Tree Road, directly south of the Site.
- Groundwater from a residential well located 550 metres to the Site’s south.
- Groundwater from a residential bore located to the south of lot DP629503. It is noted PFAS were not present above the laboratory LOR in a 2019 groundwater sample (from MW139) located approximately 75 metres up-hydraulic gradient from the residential well.

The PFAS groundwater fate and transport model[5] estimated:

- The Base PFAS groundwater plume areas may expand through PFAS dispersion and diffusion.
- That by 2050:
    - The disused fire training pit and former landfill plumes may merge, although the merged plume should not intersect the Site's eastern boundary.
    - The Lake Cochran PFAS plume should not intersect the Site's eastern boundary.
- The probable Lake Cochran sourced off-Base groundwater "unidentified" PFAS occurrence is beneath the Site's DP814078 parcel (eastern Site area) at concentrations between 0.01 and 0.07 µg/L.

6 SITE PFAS AND WATER TABLE INVESTIGATIONS

PFAS investigations commissioned by WSS at the Site have involved submission of soil, surface water and groundwater samples to a laboratory that has National Association of Testing Authorities (NATA) accreditation to determine PFAS concentrations in the submitted media.

6.1 Soil

Sixteen samples collected from 10 bore holes between 7 and 17 December 2016 were submitted for PFAS analysis. The samples were all collected from elevated Site areas where sand quarrying is proposed to be undertaken. All samples, including two samples collected within the eastern Site area, i.e., closest to the Base were reported to have total PFAS concentrations below the laboratory LOR.

6.2 Surface Water

Eleven surface water samples collected from three locations between February and November 2019 were submitted for PFAS analysis.

[5] Hydro Simulations, 2016. RAAF Williamtown groundwater modelling. Appendix L of AECOM, 2016. Stage 2B environmental investigation report. RAAF Base Williamtown. (www.defence.gov.au/Environment/PFAS/docs/Williamtown/Reports/ESAReports)

PFOS concentrations, below the National Medical Research Council (NHMRC) drinking water criteria of 0.07 µg/L were reported in two surface water samples (0.03 and 0.05 µg/L (LOR = 0.01 µg/L)) collected from SW04 in September 2019. SW04 is located at the Site's southeast corner of the eastern-most land parcel (DP814078), above the "unidentified" groundwater PFAS source. PFAS were reported below the laboratory LOR in an earlier sample collected from the same location in May 2019 and a follow up sample collected in November 2019.

The presence of PFAS in the Site surface water is therefore unable to be confirmed but is considered unlikely.

6.3 Groundwater

Twelve groundwater monitoring bores have been installed and sampled at the Site (BH01 to BH12). MW239S, located on Cabbage Tree Road directly to the Site's south and installed during the DoD investigations was reported to have 0.03 µg/L PFOS in March 2017 and was re-sampled during the February 2019 groundwater monitoring event. Two Site bores have been dry since 2017 (BH09 and BH10) and one bore was decommissioned in September 2019 (BH03).

May 2019 water table elevations for on-Site bores are provided on **Figure 3**, where it is evident that there is a close correspondence to the AECOM May 2019 measured water table elevations. At the Site May 2019 water table elevation varied between 1.2 mAHD in the south and 3.3 mAHD in the north, with a south to southeasterly groundwater flow direction and a low hydraulic gradient (MW04 to MW11 = 0.002[6]).

Depth to groundwater observations between February 2019 and January 2020 show that the water table elevation beneath the Site reduced by a mean of 0.7 m (ranging from 0.2 to 1.1 m). During the monitoring period the maximum water table elevation was 0.9 m above the proposed quarrying base in the north (3.8 mAHD; BH01 maximum water table elevation = 2.9 mAHD) and 1.9 m above the proposed base in the south (3.4 mAHD; BH04 maximum water table elevation = 1.5 mAHD). These maximum water table elevations are greater than 0.7 m below the proposed quarry base.

[6] Hydraulic gradient units are internally consistent units (m), which cancel during the calculation

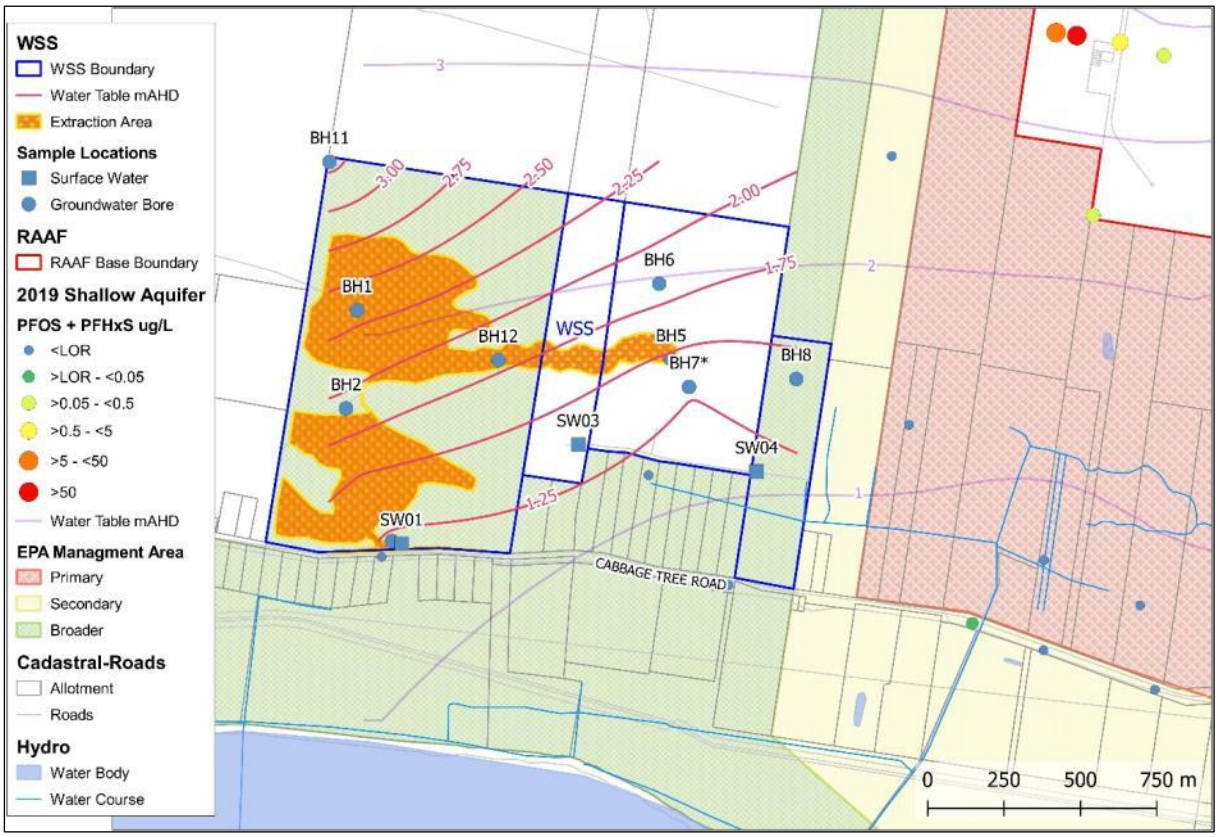


Figure 3. Site water table elevations and surface water and groundwater PHOS + PFHxS concentrations

Groundwater rainfall recharge within the sands is likely to be relatively rapid. The removal of sand above the Site aquifer is likely to produce a groundwater mound, due to increased infiltration and lower evapotranspiration although the mound will likely dissipate in the short-term due to the high effective porosity of the sands. If a groundwater mound does form beneath the quarried areas it would be unlikely to significantly change the groundwater flow direction and is more likely to result in producing a steeper off-Site hydraulic gradient. The likelihood that the quarrying would lead a change in groundwater flow direction and increased groundwater flow from the Base to the Site area is very low.

Seven groundwater samples were analysed for PFAS in 2016 and 2017 with all PFAS reported below the laboratory LOR. Between February 2019 and January 2020 groundwater samples from nine monitoring wells, eight on-Site and one off-Site (total = 54) were submitted to the laboratory for PFAS concentration determination (**Table 1**).

Table 1. PFAS Concentration in Groundwater 2019.

Monitoring Event Date	Monitoring Well ID	Total PFAS	PFAS >LOR, µg/L
21-22 Feb 2019	BH02, BH03, BH04, BH05, BH06, BH07, BH08, BH11 & MW239S	<LOR	-
14-15 Mar 2019	BH04, BH06, BH07, BH08	<LOR	-
23 Apr 2019		<LOR	-
16 May 2019		<LOR	-
14 Jun 2019		<LOR	-
16 Jul 2019		<LOR	-
15 Aug 2019		<LOR	-
16 Sept 2019		<LOR, except BH04	PFDS[7], 0.02
25 Sept 2019	BH04	<LOR	
15 Oct 2019	BH04, BH06, BH07, BH08	<LOR	
18 Nov 2019		<LOR	
17 Dec 2019		<LOR, except BH04	6:2 FTS[8], 0.19
16 Jan 2010		<LOR	-

Concentrations were below LOR with the exception of BH04 in September and December 2019 The groundwater monitoring well BH04 is located in the southern Site area, near the DoD documented occurrence in off-Site residential groundwater wells and down hydraulic gradient from the WSS 2019 works area. BH06 to BH08 are located within the eastern Site area, closest to the Base which, although unlikely could in the future be impacted by PFAS migration in groundwater.

The PFAS reported above the laboratory LOR were:

- A PFDS concentration (0.02 µg/L, LOR = 0.02 µg/L) was reported in groundwater from BH04 collected on 16t September 2019, confirmation sampling on the 25 September 2019 for PFAS returned results below the laboratory LOR.
- A 6:2 FTS concentration (0.19 µg/L, LOR = 0.05 µg/L) was reported in groundwater collected from BH06 in December 2019, Confirmation sampling in January 2020 for PFAS returned results below the laboratory LOR.
    - 6:2 FTS was not reported above the laboratory LOR in shallow groundwater samples during the 2019 DoD monitoring.

[7] PFDS is perfluorodecanesulfonic acid
[8] 6:2 FTS is 6:2 fluorotelomer sulfonic acid

96% of the Site groundwater PFAS analyses during 2019 and early 2020 were reported below the laboratory LOR. In the two cases where concentrations above the LOR were reported the compound concentrations were close to the LOR and not repeated during confirmation sampling or not observed in the DoD PFAS plumes. In addition, the PFAS concentration reported slightly above the laboratory LOR from the shallow aquifer in the Site area[9] in 2017 was below the laboratory LOR upon resampling in 2019.

7 DOD HUMAN HEALTH RISK ASSESSMENT REVIEW

The DoD engaged AECOM to undertake an off-site human health risk assessment (HHRA) in 2016 which was updated in 2017[10]. A summary of the findings of the updated HHRA and relevance to the Site area are provided below.

The HHRA evaluated the potential health risks in the Williamtown area to residents (including recreational and commercial fishers and beef farmers) and non-residents (commercial fishers, council workers and visitors) from exposure to PFAS under both typical and upper exposure scenarios. The exposure scenarios are:

- Typical exposure scenario – Representative of PFAS concentrations that a general or average receptor is likely to be exposed. Applicable to the majority of the population.
- Upper exposure scenario – Calculated based on the upper 95th percentile of PFAS concentrations in the relevant media and is applicable for receptors that may be in close proximity to media with elevated concentrations within a localised area, such as a residential groundwater well. The upper exposure scenario is considered sufficient for quarry workers who would be exposed to a generally high risks though ingestion (incidental and through inhalation) or residents near the quarry.

Based on the Stage 2B investigation outcomes the HHRA[11] divided the off-Base areas into *zones* based on the potential risk that PFAS posed. The Site's local area was designated risk zone C (low risk), with the risk zone encompassing the entire eastern Site area and the southern proposed extraction area. For reference the northern extraction area is not within an identified risk zone.

[9] MW236S, AECOM 2017.
[10] AECOM, 2017. Off-site Human Health Risk Assessment. RAAF Base Williamtown, Stage 2B Environmental Investigation.
[11] AECOM, 2017. Off-site human health risk assessment. December 2017. RAAF Base Williamtown. Stage 2B environmental investigation. (www.defence.gov.au/Environment/PFAS/docs/Williamtown/Reports)

The HHRA determined risks for risk zone C upper exposure scenarios (pathways) are:

- Ingestion and contact with groundwater – acceptable.
- Dermal contact with soil and Ingestion of soil and dust – acceptable.
- Consumption of homegrown eggs – **elevated**.
- Consumption of locally grown fruit and vegetables – acceptable.
- Incidental ingestion of surface water – **elevated**.
- Surface water contact – acceptable.
- Incidental ingestion and contact with sediment – acceptable.
- Consumption of beef and milk – **elevated**.

7.1 Relevance to Potential On- and Off-Site Exposures

The HHRA determined potential exposure pathways listed above are considered suitable for off-Site residents and on-Site quarry personnel. For nearby residents and quarry personnel the comparison of the HHRA upper exposure scenario is considered conservative:

- For dust inhalation/soil ingestion because:
    - The prevailing wind directions in the area are not toward the residential areas.
    - PFAS have not been identified in shallow (or deep) soil samples.
    - Dust mitigation measures are required during quarrying activities.
- For groundwater exposure because:
    - The quarry base will not extend to a depth closer than 0.7 metres to the highest estimated water table elevation, hence groundwater management will not be required and discharge to surface water will not occur.
    - PFAS have not been identified above the laboratory LOR in Site groundwater, hence PFAS present in nearby residential groundwater wells is unlikely to have been sourced from the Site and may be diluted by Site derived groundwater.
    - The designation of risk zone C in the Site area was partially based on a very low PFOS concentration from one well, a concentration that was not subsequently repeated.

- Groundwater migration from the Base is unlikely to reach the eastern property before 2050, by which time quarrying operations will have ceased and any complete PFAS migration pathways will be unlikely.

- For surface water because:

  - PFAS were not present above the laboratory LOR in surface water samples that drain from the Site.

The potential increased PFAS exposure to residents from quarrying activities is therefore considered unlikely.

8 CONCLUSIONS

This report has reviewed the currently available information regarding the PFAS contamination originating from the Base and assessed Site derived groundwater data to determine whether quarrying operations will increase the PFAS exposure to nearby residents.

During 2019 activities at the Site were largely restricted to vegetation removal and building and roadway construction. Quarrying operations were not undertaken during 2019.

Considering the information reviewed the following is concluded:

- Base-sourced PFAS is, and has historically been unlikely to be transported to the Site via wind, surface water or groundwater – the Site does not appear to have received PFAS from the Base and does not appear to be acting as a local tertiary PFAS source because:

  - PFAS have not been reported within Site media (shallow and deep soil, surface water and groundwater) which is consistent with the results from the investigation undertaken by the DoD.

- Quarrying has not been performed and has not increased the potential for contaminated groundwater to flow toward the Site's local area. The most probable effect of quarrying will be the formation of a temporary groundwater mound due to increased rainwater infiltration and decreased evapotranspiration, with the local groundwater flow regime unlikely to be influenced for an extended time-period. The influence of quarrying on the groundwater flow regime is expected to decrease the risk of Base derived PFAS.

9 RECOMMENDATION

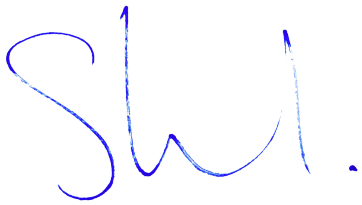
Developing a numerical groundwater flow model that allows for the effects of increased infiltration in the sand extraction areas to be quantitatively assessed should be considered.

If you require additional information or clarification, please contact the undersigned at (03) 9907 6000.

This report should be read in conjunction with the Kleinfelder Statement of Limitations (attached).

Sincerely,

Kleinfelder Australia Pty Ltd



Stuart Graham (PhD – Geochemistry)

Associate Hydrogeologist

Attachment 1: Kleinfelder Statement of Limitations

ATTACHMENT 1: KLEINFELDER STATEMENT OF LIMITATIONS

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This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions, and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

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The findings and conclusions contained within this report are relevant to the conditions of the site and the state of legislation currently enacted in the relevant jurisdiction in which the site is located as at the date of this report.

Additionally, the findings and conclusions contained within this report are made following a review of certain information, reports, correspondence and data noted by methods described in this report including information supplied by the client or its assigns. Kleinfelder has designed and managed the program for this report in good faith and in a manner that seeks to confirm the information provided and test its accuracy and completeness. However, Kleinfelder does not provide guarantees or assurances regarding the accuracy, completeness and validity of information and data obtained from these sources and accepts no responsibility for errors or omissions arising from relying on data or conclusions obtained from these sources.

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