



# ROYAL AUSTRALIAN AIR FORCE

No 23 (City of Brisbane) Squadron

## Minutes of Meeting

23SQN/BK374063

### MINUTES OF THE EXTRAORDINARY AMBERLEY CONSULTATIVE WORKING GROUP (ACWG) PFAS MEETING, HELD AT RAAF BASE AMBERLEY, 23 SQUADRON, 28 JUNE 2018

#### Attendees:

SQNLDR A Smith	RAAF AMB A/ABXO	Chairperson
GPCAPT S Kimber	Base Redevelopment Officer	
Mr C Hood	RAAF AMB A/BSM	
Mr M Clarke	PFAS Regional Representative - QLD and NT	
Mr M LeRiche	PFAS Defence Project Director	
Mr J Wicks	PFAS Lead Consultant Project Manager	
Mrs A Sackson	PFAS Lead Consultant Communications Advisor	
Mrs V Glyde	PFAS Defence Project Manager	
Ms C Parsons	Representing The Hon S Neumann MP, Federal Member for Blair	
Mr J Madden, MP	Member for Ipswich West	
Cr D Pahlke	Ipswich City Council - Councillor Division 10	
Cr C Pisasale	Ipswich City Council - Councillor Division 8	
Mr G Hatchman	Willowbank Area Group - President	
Mr D Hooper	Winston Glades Community Group	
Mrs L Hooper	Winston Glades Community Group	
Mr E Dawson	Dawson's Technical Services	
Mr T Dawson	Dawson's Technical Services	
Mr B Behm	Local Resident	
Mr P Conroy	Local Resident	
Mrs R Conroy	Local Resident	
Mr M Goddard	Local Resident	
Ms A Nutley	Local Resident	
CPL B Williams	23SQN Orderly Room	Scribe

#### Apologies:

The Hon S Neumann, MP	Federal Member for Blair
SQNLDR D Nott	Reserve Community Engagement Officer
Mr I Dainer	Willowbank Area Group - Vice President
Mr G McLay	West Moreton Anglican College
Mrs G Ashton	Local Resident

## **ITEM 1: PURPOSE OF THE EXTRAORDINARY (ACWG) MEETING**

1. The purpose of this meeting is to provide ACWG members a PFAS update and opportunity to ask questions of the PFAS Team. The Briefing was led by PFAS Branch Executives. Nothing else was discussed.

## **ITEM 2: OPENING**

2. The Extraordinary ACWG meeting opened at 1702 h. SQNLDR Alex Smith (A/ABXO) welcomed all present and introductions were made.

## **ITEM 3: PFAS AND BASE TEAM INTRODUCTIONS**

3. SQNLDR Smith introduced the PFAS and Base team as follows:

**Matt Clarke** - PFAS Regional Representative for Queensland and Northern Territory which includes Amberley.

**GPCAPT Sheldon Kimber** - Base Redevelopment Officer.

**Chris Hood** - Acting Base Support Manager.

**Jeremy Wicks** - Project Manager for the Lead Consultant for the RAAF Amberley PFAS Investigation.

**Michael LeRiche** - Defence Project Director for the Amberley PFAS Investigation.

**Virginia Glyde** - Defence Project Manager for the PFAS Investigation.

**Andrea Sackson** - from CH2M, Leading Consultant for community engagement and communications.

4. SQNLDR Smith advised the meeting would commence with the PFAS Team providing a project update, followed by an open Question and Answer session.

## **ITEM 4: MICHAEL LERICHE - PFAS TEAM BRIEF & PROGRESS UPDATE**

5. **Michael LeRiche.** Michael provided a general project update which included:
  - a. The Amberley investigation provides results to Queensland Government PFAS Technical Working Group fortnightly.
  - b. This included recent fish samples caught at the perimeter of Bremer River and Warrill Creek.
  - c. Queensland Government advised Defence some of these samples exceeded the Food Standards Australia New Zealand (FSANZ) food safety levels and public health advisory would need to follow. Defence has been working closely with Queensland Government in this regard.
  - d. It was emphasised this was precautionary advice until further testing is completed.
  - e. Queensland Government and Defence have been working together on public messaging for the precautionary advice - this will include signage, community newsletter, mail drop, and contact with council and local fishing groups.

### ITEM 5: JEREMY WICKS – FURTHER TESTING

6. **Jeremy Wicks.** Jeremy provided further detail on the site investigation:
- a. The Detailed Site Investigation (DSI) report is in draft at the moment and all the site samples have been completed.
  - b. The DSI has triggered the need to do a human health assessment including the collection of samples from resident's properties.
  - c. The human health risk assessment considers exposure to pathways to PFAS from a range of different sources, one of them including fish. One of the reasons why we are collecting fish samples was to look at that exposure pathway in addition to others that people might have on their properties.
  - d. Further to the preliminary fish sampling, more sampling in greater quantities is going to take place later this year, so we will be going to properties and fishing sites both downstream, where we know we have had PFAS impact, and upstream where we know we don't have PFAS impact. This will give us a representation of what's upstream and outside areas impacted by PFAS. Further fish samples will be collected and will be used to inform the human health risk assessment which will be provided to the community later this year.

### ITEM 6: ANDREA SACKSON – COMMUNICATIONS PLAN

7. **Andrea Sackson.** Andrea provided an update on community engagement:
- a. The key activity over the past couple of weeks has been around the preliminary fish sampling results. A communications plan was prepared in advance and as soon as we had it signed off we started rolling out the communications as quickly as we could to inform people about the fish results.
  - b. This included the distribution to database recipients of the newsletter. We understand also that a number of people don't have emails so we hit the ground and spent a couple of days out in the community to deliver the newsletter by hand and 76 newsletters were delivered that way. We had 95 contacts on our database so those people got the advice as well.
  - c. We also spoke to Ipswich City Council and the representative who is involved with the Indigenous Australian Community and met with the Purga Elders to try and get the advice out as quickly and as far and wide as possible.
  - d. We're also supplying the newsletter to the NAIDOC week which is coming up, the Canterbury Medical Centre and the Purga Elders.
  - e. We spoke to the local fishing shops, they were brilliant, specifically BCF and Charlton's Fishing had a lot of good advice as to where to put the signs and how to get that message out to people who like to fish in the area.
  - f. We sent an email communication to the Queensland Amateur Fishing Club Association which is based in West Ipswich, which has about 500 people on their database. They kindly have agreed to send that notification out and the newsletter as well. Then of course, the signs have just been approved to go up at various fishing spots and will be up to the Ipswich City Council to determine where best to put them. We have forwarded to Council the advice we have received from fishing groups and people who know the area, to help to determine where to put those signs.

**ITEM 7: FORUM OPEN FOR QUESTIONS AND ANSWERS**

8. SQNLDR Smith ended the project update and proposed the meeting turn to a Question and Answer session.
9. **Don Hooper** - Asked about the fish safety trigger levels.
10. **Michael LeRiche** - 5.2 micrograms per kilogram, that's the threshold level. So samples exceeding that level triggers the requirement for further investigation and that is what Defence is doing. This will involve the collection of more fish samples. Previous samples were mullet and catfish. We didn't catch fish that were more popular for eating, and that's why we need to do further investigations.
11. **Don Hooper** - Asked what levels were found in the collected fish samples.
12. **Michael LeRiche** - Those levels in the catfish and mullet were about two to fifteen times higher than the levels set down by FSANZ.
13. **Cr David Pahlke** - Questioned the result relative to some of the media has been saying, thirty times higher.
14. **Michael LeRiche** - Responded by saying that as far as the investigation was concerned, the samples ranged from two to fifteen times the trigger values.
15. **Cr David Pahlke** - In "The Australian", it also said that 21 of 22 fish caught were found to have dangerously high levels of firefighting chemicals.
16. **Michael LeRiche** - Well, no, they have levels above what's set down by FSANZ, which then tells organisations like Defence of the need to do further investigation.
17. **Matt Clarke** - Added that a level that increases beyond that trigger value doesn't necessarily have an adverse health outcome associated with it. There is no conclusive evidence that PFAS in people is harmful to health. All of this is precautionary and the reason why Department of Health offers that advice, is that at levels above a particular trigger value it can bio-accumulate in fish and humans. So that means that if you eat fish regularly at those levels, it has the ability to bio-accumulate, to increase in presence in people, which is why there are recommended precautions.
18. **George Hatchman** - Asked if there were fish caught that didn't exceed the limits?
19. **Jeremy Wicks** - Approximately 23 samples were tested from memory and all of them had PFAS and I think about 21 of those exceeded the limits.
20. **George Hatchman** - Asked if there were particular parts of the river that had fish with higher levels than other parts?
21. **Jeremy Wicks** - There were certain points where we did see high levels but because the data set was so small and in a limited number of places, we caught 2 to 3 fish in each location, which is not much at all. We can't draw conclusions from such a small sample so that is why further sampling is required.

22. **Cr Charlie Pisasale** - The areas where you identified soil contamination, do we have a better understanding how to control that or how to eliminate that?
23. **Matt Clarke** - After the investigation is complete, what is likely to occur on most bases is a PFAS Area Management Program which will advise Defence on the best way to treat affected areas. This will generally involve identifying the source areas and removing them from the environment then PFAS levels caused by water leaching will naturally drop over time.
24. **Cr David Pahlke** - Some of the articles in the paper, the various papers are very alarmists. Whose responsibility is it to notify the public? The Department of Defence or the Health Department?
25. **Matt Clarke** - For health based outcomes it's the Department of Health. Department of Defence will participate in the inter-agency communication in PFAS through all levels of Government regarding our investigations and we regularly keep those agencies informed of the progress of the investigations.
26. **Michael LeRiche** - Defence will inform the Department of Health of the results for the ongoing investigation and they'll make a determination whether that poses a risk to the public health and appropriate public health advice.
27. **Cr David Pahlke** - Asked if Department of Health has made that determination - does it pose a risk to health? (regarding consumption of fish from impacted areas)
28. **Matt Clarke** - They have not made that claim, they've said that there's enough evidence to issue a precautionary advice but further evidence is required before conclusive advice can be offered.
29. **Cr David Pahlke** - Do fish dispose of PFAS better than humans?
30. **Don Hooper** - Yeah, it takes a long time and accumulates in the body which is the problem, it's a length of time it takes to degrade is the major problem. That's why I asked about what the levels are, because obviously...you know you can get...if it's 15 times of the amount, obviously it's going to take, much longer time to get rid of it.
31. **Matt Clarke** - Generally those trigger levels are based on worse case scenarios, so it would generally be a two to six-year-old child with an above average consumption rate of that particular food product. Most people wouldn't consume the sorts of quantities from Bremer River and Warrill Creek of the types of fish that we are talking about to exceed the total volume intake.
32. **Matthew Goddard** - Asked about livestock and the impact on them?
33. **Matt Clarke** - There is a trigger level in livestock and that advice is generally given to people that consume a whole beast from their property. Currently there are no restrictions on any particular level of PFAS in livestock.
34. **Cr David Pahlke** - Are they doing any testing of livestock?
35. **Jeremy Wicks** - In the human health risk assessment we are looking at how livestock gets exposed to PFAS as well. We've been out on properties collecting further samples from soils, grass that they eat, cattle feed they consume, water they drink, and that model is then to look at how what sort of uptake cattle might have in terms of being a potential food source to humans.

36. **Cr David Pahlke** - So, the results of that testing, how long before we see that?
37. **Jeremy Wicks** - The results for individual landowner's properties is provided to them as soon as we receive it and validate it. This testing was done in different stages, so, the first stage we collected samples of produce that was grown at certain properties and that information is going to be released (to landowners) in the very near future, the next fortnight. The information on the other exposure pathways, I have just been describing and the other samples taken, is in the process of being completed. The Human Health Risk Assessment (report) won't be released until later this year because we need to evaluate the data and do a risk assessment. However, we will be releasing results to individual landowners before that report is released.
38. **Cr David Pahlke** - Asked if Department of Defence is going to do a precautionary letterbox drop, in all of the investigation area - has that been done or underway?
39. **Andrea Sackson** - That's been done. There were 76 newsletters delivered by hand and we went to the residents that we've been working quite closely with for the sampling. There are 95 contacts on the database and they received that newsletter. We also delivered three boxes (of newsletters) to Ipswich City Council which will be distributed across the NAIDOC weekend and other agencies around Ipswich. The advice went out to fishing groups through another database, about 500 people there and of course the signage is in the process of going up as well.
40. **Cr David Pahlke** - How many signs are going up?
41. **Michael LeRiche** - We are printing 10 signs and we are leaving it up to the advice of Council. If Council need any more signs, they just need to let me know and I'll print some more.
42. **George Hatchman** - Is actual PFAS product...does it degrade over time and become inert in its toxicity or is it perennial?
43. **Matt Clarke** - One of the reasons why it's a problem despite the inconclusive health links is that it is persistent in the environment and people, so if it was in soil, it could probably sit there for many decades. It behaves differently in different animals but has the ability to bio-accumulate.
44. **George Hatchman** - So, the other issue, I guess, looking at Amberley, the contents of PFAS in the soil is probably more alluvial, I understand it hasn't gone to lower water tables, so with the rainfalls we have, is there a given time for the system to just flush the PFAS through?
45. **Matt Clarke** - Each site is different...what we do know here is that it's quite a solid clay base and that it hasn't allowed the PFAS to move through the environment as it would on other sites. The investigation team would have more data on that but initially it was more a surface water issue than a ground water issue, but a part of the investigation is to sample and map where the concentrations are across the base, off base, at what depths in what types of environment.
46. **George Hatchman** - The other thing I have heard some time ago and I don't know the facts of it, that there's a Teflon base to it...to the actual toxicity, similar to lining you have to Teflon on a frying pan.
47. **Matt Clarke** - PFAS is the group name for many, many different chlorinated compounds of which...the main ones we look at are PFOS, PFOA and PFHxS. The Teflon primary ingredient, PFOA, is an ingredient in the firefighting foam that we used to use, which is the source of this investigation. But it's not the primary one, PFOS is the primary one due to its ability to travel distances in water. A lot of the studies overseas have been on PFOA because that is an ingredient that is in a lot of other household products like the non-stick frying pans, stain resistant carpets, it's in sunscreen, it's in the old formula of scotch guard and many other products.

48. **Andrea Nutley** - That DSI, what sort of time frame for completion?
49. **Jeremy Wicks** - The target for the release of the report at the latest will be the end of September. The report goes through a review process, by Defence and the State, that process needs to be completed and then it will get released to the public.
50. **Michael LeRiche** - We'll have a community walk-in session, with the release of the Detailed Site Investigation report, so there will be an opportunity for the community to come out and ask further questions about the results... We'll have more understanding in terms of where are the source areas on the base, how's it moving off base and where it's going to.
51. **Matt Clarke** - Discussed the project following the National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) process, that it is an internationally recognised and accredited process and why it can take some time to complete a NEPM environmental investigation.
52. **Andrea Nutley** - Asked if Australia has different standards to this NEPM.
53. **Matt Clarke** - Australia has the FSANZ standards for food safety and they are different among all countries. NEPM is the process for all of the Defence Investigations and demonstrates a quality assurance process and very comprehensive documents. When it (Defence investigation program) first started we felt that that was too long to wait to advise the community on what we were doing, and so we went to the contractors that are equipped to do these types of investigations and said how quick can you get results.
54. **Cr David Pahlke** - Tell us about the waste being taken off the site, the liquid waste and the soil waste to NuGrow and BMI? Or wood mulching industries. Tell us, why is it being taken off site?
55. **GPCAPT Sheldon Kimber** - My responsibility is to monitor Project adherence to State and Government standards. In all cases the soil removed was at the necessary level and within guidelines to do so. Spoil relocated to another suitable Base location was reported to be at or below residential level.
56. **Cr David Pahlke** - So, liquid waste and soil waste?
57. **GPCAPT Sheldon Kimber** - There was water waste, which was treated differently to the soil waste in regard to the standards that were required at the time of removal. We adhered to those standards. NuGrow, I understand had its Government licence rescinded - as you are aware. When that became known to Defence, we immediately stopped sending waste to it and created our own water treatment plant on base to deal with it.
58. **Cr David Pahlke** - So, there were tests done on the liquid waste and the soil waste ...are you able to release the results of those tests?
59. **GPCAPT Sheldon Kimber** - Do we still have records of them?
60. **Chris Hood** - We would have records of them.
61. **GPCAPT Sheldon Kimber** - Yes.

62. **Cr David Pahlke** - Ok, I would like to see the results of those tests. Secondly, when they were taken away by NuGrow and this other company... and I'm just reading here, about what you said about the licence, they weren't properly licenced to do it?
63. **GPCAPT Sheldon Kimber** - No, what I understand is they thought they were working under a licence and somehow it was reviewed and to my understanding it was rescinded...the ability to treat our water was then rescinded and we took action to treat the water ourselves.
64. **Cr David Pahlke** - Ok. So, this soil waste and liquid waste has been taken away from the base and treated elsewhere or gone elsewhere, hasn't caused any problems elsewhere has it - like all of a sudden, they've found that it is above the levels elsewhere?
65. **Matt Clarke** - The companies that receive that waste know what the levels are before they receive it, we test it and that's a part of that commercial arrangement. When NuGrow was engaged by Defence to dispose of the waste-water, they provided documentation to Defence to demonstrate they were appropriately licenced to do so. The first we understood that it wasn't the case was when QLD EPA contacted us to ask questions about it. We immediately ceased disposing of construction waste-water through that company, through any company for that matter and then made arrangements a few weeks later to have an onsite water treatment plant.
66. **Cr Charlie Pisasale** - Going back to the livestock issues, what is happening with the RAAF Base Amberley area owners of property who are affected?
67. **Matt Clarke** - If anyone is in the investigation area that has livestock that they're concerned about, then they can talk to the investigation team and request a sample. Whether that's a serum sample, which would be the case for cattle, and we can give them advice based on the results.
68. **Andrea Nutley** - Requested whether residents can receive blood tests?
69. **Matt Clarke** - At this point the Government has agreed to conduct blood testing for people that live or work in and around Oakey, Williamtown and Tindal or Katherine in the Northern Territory. It hasn't at this point expanded that beyond those three sites. As the human health risk assessments are finalised the Government and Department of Health may review that number of sites.
70. **All** - Various comments regarding getting a blood test from a local Doctor.
71. **Cr David Pahlke** - Can we note that, I find, that if you've got a family that lives beside a creek, the child fishes in it and been eating fish for twelve or eighteen months out of the creek and the family have been eating it and they put in a request to have some testing, I think morally you should be doing it. So, could you put that on the request list to the Departments please.
72. **Don Hooper** and **Andrea Nutley** - Various comments concerning drinking water.
73. **Matt Clarke** - I guess the other consideration for Department of Health is that there is no prognostic or diagnostic value in a blood test. So, a GP can't tell you whether a level has any health impact associated with it. So, there's no level in people where there is known causal health outcome.
74. **George Hatchman** - Dave has just handed me an article here that was published in "The Australian" said that...Defence, said...buried substantial tonnes of soil...beside a major creek with toxic contaminants. Is that on Defence property, is it, or...

75. **GPCAPT Sheldon Kimber** - On one of the projects in December 2016, January 2017 we had reported below residential soil levels of PFAS. It was cleared and able to be placed on the base. It is proximate to a 23-metre range, if you are familiar with the base, but on the airfield side of it. So, there is a creek proximate to it but it was cleared in regard to the levels as below residential and it was carefully put in place so it would be a low profile. As it is towards the end of the runway for the base, and in order not to dissipate in flood or bad weather, we covered it with turf to ensure its integrity. There was no intention to hide anything (as reported by a journalist) and it was all above board with both siting and Base knowledge of its location. The procedure was closely monitored by the project. The Team understood the levels involved.
76. **Cr David Pahlke** - Do you do any ongoing testing of it? Like for instance, give you an example of the old rubbish dump at Rosewood Oakleigh Colliery that closed 30 years ago. We still do monitoring every couple of years on the water that comes out of that dump. So, is there any monitoring put in place, like every twelve months or two years or three years - you go and take a sample to see how it is going?
77. **Matt Clarke** - I can't tell you the exact frequency but there is an ongoing water quality monitoring program on base, it's been part of our standard base services contract for many years now.
78. **Cr David Pahlke** - Ok. Can the minutes note then, this specific area we are talking about is on a monitoring program, and you are looking at it, and it's done every couple of years or whatever.
79. **Matt Clarke** - So, when I say, water quality monitoring program, we would monitor the local waterways in and around the Base, outside the sewage treatment plant and then along Warrill Creek. I am not aware of any plans to re-test the soil that you are talking about because we've tested it and it was low enough to safely remain on base.
80. **Bill Behm** - Now you've said that, can that (Water Quality Monitoring reporting) come back in the agenda of the meeting of the minutes of the normal meeting? Does that have to be cleared in the meeting, cause the meeting that was held at DTS, how many years ago, was the last report that ever came out of the creek.
81. **Matt Clarke** - Are you requesting we provide you with the water quality monitoring results to this quarterly meeting? We will make that request through the BSM.
82. **Bill Behm** - The testing being done now, does it go down to heavy metals too?
83. **Matt Clarke** - No, the testing is part of the environmental investigations, is focused on PFAS, however the routine water quality testing that we do anyway irrespective of this investigation will test for all of those.
84. **George Hatchman** - So, just inside of the fence, for all those people that do our firefighting training and wash aeroplanes and stuff; well is there any legacy health concerns with handling of PFAS?
85. **Matt Clarke** - There is a study that ADF is doing looking at firefighters and I think from memory the outcome of that was that ADF firefighters have a level of fitness and health that is above the average Australian population.

86. **Jim Madden** - Just on a slightly different issue, but you mentioned other bases, you mentioned Williamtown. I'm just wondering, can we learn from what's happening in other bases for things might have to happen in Amberley Base, for example, my understanding is at Oakey there are now bores that farmers are told not to use for their cattle and I know cattle has been mentioned here. Is that the case that at Oakey there are properties adjoining the base where they have been told not to use their bores?
87. **Matt Clarke** - Each base is different, they've all got different results based on the hydrology of the land and at Oakey unfortunately there are some residential bores that have levels above drinking and above recreational use. The Department of Health advice to those people is that they shouldn't use those bores for anything to do with human consumption.
88. **Jim Madden** - What about livestock?
89. **Matt Clarke** - If people again are going to consume their livestock, where they say that they will consume that within the confines of the property then the human health risk assessment would probably advise not to do that but it depends on the location.
90. **Jim Madden** - And is that, you think is a possibility, you know, I see these timeframes that are pretty generous, you know, a third quarter of 2018 and late 2018 and with the PFAS management area plan there is no date. Do you think in the future that could be a possibility?
91. **Matt Clarke** - The results from one site doesn't necessarily suggest that the same needs to be applied to another, so, the earlier advice, the quick advice that we can give residents is testing the water on their bore and we can give them local advice specific to that property based on that result. The collection of all of that data will inform the report and inform the human risk assessment, but that needs to run its course. We've got, I think, 23 sites that we're investigating...if we can apply the lessons from one to the remaining 22 then we wouldn't be doing 23 separate investigations. The way this chemical behaves is so different depending on different landscapes, different environment and different use by local communities.
92. **Jim Madden** - But, that would provide some degree of reassurance that landholders can get their bores tested now and be advised as to the appropriate use...
93. **Matt Clarke** - So, if they are in the investigation area, I am not aware of anyone that has had a request declined.
94. **Various people** - That's true... (commenting on requests not being declined).
95. **Andrea Nutley** - For whatever reason its playing on my mind...if we are using like the bore's water under the acceptable drinking level, whatever, and we're using it in a garden or...does that accumulate then in the soil and the soil will then become above the acceptable level?
96. **Matt Clarke** - We haven't seen much evidence of that, as soil is not a food source and product grown in soil with detectable PFAS is subject to the Human Health Risk Assessment. (discussed specifics relative to Andrea's property).
97. **SQNLDR Alex Smith** - Ladies and Gents, I suppose this may bring the meeting to an end but certainly does not bring the issues to an end. Any last questions?

**ITEM 8: OTHER BUSINESS**

98. **For action:** Andrea Sackson to provide contact details for PFAS team (Note: details follow below).

99. Amberley PFAS Environmental Investigation contact details:

Toll Free number: 1800 817 751

Email: [Amberley@ch2m.com.au](mailto:Amberley@ch2m.com.au)

**ITEM 9: CLOSURE**

100. The meeting was officially closed by SQNLDR Alex Smith at 1809 h.

**A Smith**  
SQNLDR  
Chairperson

July 18

**C Hood**  
MR  
A/Base Support Manager

July 18