

Myra Thompson

From: Sophie Dwyer
Sent: Monday, 29 August 2016 11:11 AM
To: Darcy Garlick-Kelly; David Larkings; Janet Cumming; Tony.Bradshaw@ehp.qld.gov.au; simone.ventura@ehp.qld.gov.au; Peter.Kind@daf.qld.gov.au; Richard.Watts@daf.qld.gov.au; MCKAY Adrian; Suzanne Huxley
Cc: Virginia Berry; Justin Carpenter
Subject: RE: Final HHRA responses

Dear Darcy

Our comments are as follows:

- HHRA has stated objective of assessing the “potential risks” associated with “current and ongoing use of the site”. The HHRA does not take into account that the population at Oakey has historic exposures to the contaminants at the site, and many people already have elevated serum concentrations of PFOS/PFHxS due to that exposure. The HHRA does not address measures that the community should take to reduce their serum PFOS/PFHxS serum concentrations. For example, it appears that the advice on consumption of certain foods, particularly beef, eggs and fish, is designed to prevent a consumer exceeding the TDI. It is not clear that this level of exposure would enable someone with an already elevated serum concentration to lower that concentration and thus reduce their risk.
- We also found an issue that we missed initially. Where it says, for example on p70, “...where the sum of the sum of PFOS, PFOA, PFHxS and PFHxA ranged between approximately 65-70% of the detected PFAS” , it should be changed to “where the sum of the sum of PFOS, PFOA, PFHxS and PFHxA ranged between approximately 65-70% by mass of the tested PFAS analytes detected”
Similar change needs to be made wherever concentrations are summed, or compared as percentages.

Regards
Sophie Dwyer

Sophie Dwyer PSM

Executive Director, Health Protection Branch
Prevention Division, Department of Health | Queensland Government
15 Butterfield Street, QLD
t. 07 33289266 m.
e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: Darcy Garlick-Kelly [mailto:darcy.garlick-kelly@premiers.qld.gov.au]
Sent: Monday, 29 August 2016 9:00 AM
To: Sophie Dwyer; David Larkings; Janet Cumming; Tony.Bradshaw@ehp.qld.gov.au; simone.ventura@ehp.qld.gov.au; Peter.Kind@daf.qld.gov.au; Richard.Watts@daf.qld.gov.au; MCKAY Adrian; Suzanne Huxley
Cc: Virginia Berry; Justin Carpenter
Subject: Final HHRA responses
Importance: High

Hi all,

A quick reminder to please have your responses to the final HHRA report sent through by **1pm today**.

That will allow time to collate the responses and send through to Defence by **2pm**.

Cheers,
Darcy



Darcy Garlick-Kelly

Policy Officer

Environment Policy

Department of the Premier and Cabinet

Phone: (07) 3003 9487 **Email:** darcy.garlick-kelly@premiers.qld.gov.au

Executive Building, Level 14, 100 George Street, Brisbane QLD 4000

PO Box 15185, City East, QLD 4002

From: Darcy Garlick-Kelly

Sent: Thursday, 25 August 2016 2:55 PM

To: 'Sophie Dwyer' <Sophie.Dwyer@health.qld.gov.au>; 'david.larkings@health.qld.gov.au' <david.larkings@health.qld.gov.au>; 'Janet_Cumming@health.qld.gov.au' <Janet_Cumming@health.qld.gov.au>; 'Tony.Bradshaw@ehp.qld.gov.au' <Tony.Bradshaw@ehp.qld.gov.au>; 'simone.ventura@ehp.qld.gov.au' <simone.ventura@ehp.qld.gov.au>; 'Peter.Kind@daf.qld.gov.au' <Peter.Kind@daf.qld.gov.au>; 'Richard.Watts@daf.qld.gov.au' <Richard.Watts@daf.qld.gov.au>; 'MCKAY Adrian' <Adrian.Mckay@dnrm.qld.gov.au>

Subject: Oakey HHRA | revised QLD gov review times [SEC=UNCLASSIFIED]

Hi all,

We've received the final HHRA report (see link below)

Please note the new deadline of **2pm Monday 29 August**.

Please have feedback sent through by 1pm to give us time to collate the response.

Cheers,
Darcy



Darcy Garlick-Kelly

Policy Officer

Environment Policy

From: Harvey, Renee MS [<mailto:renee.harvey@defence.gov.au>]

Sent: Thursday, 25 August 2016 2:33 PM

To: 'sophie.dwyer@health.qld.gov.au'; 'janet.cumming@health.qld.gov.au'; 'suzanne.huxley@health.qld.gov.au'; 'Richard.Watts@daf.qld.gov.au'; 'tony.bradshaw@ehp.qld.gov.au'; 'MCKAY Adrian' <Adrian.Mckay@dnrm.qld.gov.au>

Cc: Virginia Berry <Virginia.Berry@premiers.qld.gov.au>; Pearce, Vicki MS 1 <vicki.pearce1@defence.gov.au>; Huck, Josephine MS <josephine.huck@defence.gov.au>; JTF633 FCE AMAB Q Store <IMCEAEX-
_O=RAAF_OU=AG1_cn=Recipients_cn=DEPRMIDB+20JTF633+20FCE+20AMAB+20Q+20Store@drn.mil.au>; 'Archer, Michael J.' <Michael.J.Archer@aecom.com>; 'Derham, Stuart' <SDerham@golder.com.au>; 'Mitchell, Fran' <FMitchell@golder.com.au>; 'Lee, Frances (Fortitude Valley)' <Frances.Lee@aecom.com>

Subject: FW: Oakey HHRA | revised QLD gov review times [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi all,

The next version of the Oakey HHRA for your review can be accessed at the link below.

<u>File</u>	<u>Description</u>	<u>Size</u>
0207-AACO-EI2-2016-HHRA_RevE_Redacted.pdf		28,780KB

Please note that the sections that have changed materially since the version you previously reviewed are highlighted.

Also [attached](#) is the comments log explaining how your comments on the previous version have been addressed.

Given the timing of this email, we will require any final comments back by 2pm Monday (29 August).

Many thanks,
Renee

Renee Harvey
Contractor to Defence
M:

From: Harvey, Renee MS

Sent: Wednesday, 24 August 2016 08:55

To: 'sophie.dwyer@health.qld.gov.au'; 'janet.cumming@health.qld.gov.au'; 'suzanne.huxley@health.qld.gov.au'; 'Richard.Watts@daf.qld.gov.au'; 'tony.bradshaw@ehp.qld.gov.au'; 'MCKAY Adrian'

Cc: 'Virginia Berry'; Pearce, Vicki MS 1; Huck, Josephine MS; 'Lee, Frances (Fortitude Valley)'; 'Archer, Michael J.'; 'Derham, Stuart'; 'Mitchell, Fran'

Subject: RE: Oakey HHRA | revised QLD gov review times [SEC=UNCLASSIFIED]

UNCLASSIFIED

Good morning all,

Further to my email below, we expect to have the next version of the HHRA through to you by noon tomorrow (25 August).

We would appreciate any final comments back by noon on Monday (29 August).

Material changes to the report will be highlighted so you can more easily see where the main changes have been made.

Many thanks,
Renee

Renee Harvey
Contractor to Defence
M:

From: Harvey, Renee MS
Sent: Monday, 22 August 2016 16:31
To: 'sophie.dwyer@health.qld.gov.au'; 'janet.cumming@health.qld.gov.au'; 'suzanne.huxley@health.qld.gov.au'; 'Richard.Watts@daf.qld.gov.au'; 'tony.bradshaw@ehp.qld.gov.au'; 'MCKAY Adrian'
Cc: 'Virginia Berry'; Pearce, Vicki MS 1; Huck, Josephine MS; 'Lee, Frances (Fortitude Valley)'; 'Archer, Michael J.'; 'Derham, Stuart'; 'Mitchell, Fran'
Subject: Oakey HHRA | revised QLD gov review times [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi all,

Thanks very much for your time last Monday at the workshop to discuss the Queensland Government comments on the Draft Oakey Human Health Risk Assessment.

We indicated at the workshop that the next version of the report addressing your comments would be provided back to you by lunch time tomorrow (23 August) and that we would require any feedback by lunch time Wednesday (24 August).

We will not be in a position to provide you with the next version of the report as planned.

I will be able to indicate a revised timing tomorrow, but wanted to flag this delay with you as soon as possible.

Many thanks,
Renee

Renee Harvey
Contractor to Defence
Environmental Remediation Programs
De fence
M:

BP3-2-B021
Brindabella Circuit
Brindabella Business Park
PO Box 7925 Canberra BC 2610

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RTI Released

Myra Thompson

From: Sophie Dwyer
Sent: Monday, 20 June 2016 5:06 PM
To: CONNOR Andrew
Cc: oakey-idc
Subject: Blood tests para

Andrew

Suggested para re Blood tests

The Prime Minister recently announced a \$55 million funding package in relation to perfluorinated chemicals (PFC) contamination at Department of Defence (Defence) sites throughout Australia and the Federal Opposition has reportedly pledged \$21 million to establish a national taskforce to coordinate state and federal government investigations into the contamination. Both announcements include the provisions for voluntary blood testing. Work is being undertaken at a national level, through enHealth, to develop a risk assessment tool to ensure blood testing, if offered, is only carried out on individuals exposed to potentially contaminated sites. If blood testing is offered, the funding of testing must be sufficient to provide for pre- and post-test counselling in addition to the blood test.

Regards
Sophie

Sent from my BlackBerry 10 smartphone on the Telstra Mobile network.

RTI Released

Myra Thompson

From: oakey-idc
Sent: Friday, 28 August 2015 2:58 PM
To: Tony.Bradshaw@ehp.qld.gov.au
Subject: Action item from 22 July Oakey Interagency Group

Hi Tony,

Next week we are having another Oakey Interagency Group meeting. I know you are currently but when you return, would you mind dropping me a quick email to let me know if the below action item is completed?

Send document 'Managing Firefighting Foam Policy' to Queensland Health to ensure messages are consistent.	DEHP Tony Bradshaw
---	------------------------------

Kind Regards,

Peta Mason

A/Administration Officer,

Health Protection Branch | Office of the Chief Health Officer and DDG Prevention Division

Department of Health | Queensland Government

15 Butterfield St Herston QLD 4006

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Queensland
Government

RTI Release

Myra Thompson

From: oakey-idc
Sent: Wednesday, 22 June 2016 2:42 PM
To: Penny Hutchinson
Cc: oakey-idc; Sophie Dwyer; Suzanne Huxley
Subject: RE: Has Defence approached you regarding Senator Marise Payne visit tomorrow?

Thanks Penny,
Peta

From: Penny Hutchinson
Sent: Wednesday, 22 June 2016 2:41 PM
To: oakey-idc; John Hall
Subject: RE: Has Defence approached you regarding Senator Marise Payne visit tomorrow?

Hi Peta
No I haven't heard anything.
Regards
Penny

From: oakey-idc
Sent: Wednesday, 22 June 2016 1:55 PM
To: John Hall; Penny Hutchinson
Cc: oakey-idc
Subject: Has Defence approached you regarding Senator Marise Payne visit tomorrow?

Dear Penny and John,

I am sure you are aware that the Federal Minister for Defence, the Honourable Marise Payne, will be visiting the Oakey area tomorrow to talk to residents regarding PFAS.

The Minister's office has asked us to find out whether you have been approached by Defence regarding this visit.

Kind regards,
Peta

Peta Mason
Senior Program Officer
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RTI Release

HBM I values for Perfluorooctanoic acid (PFOA) und Perfluorooctanesulfonic acid (PFOS) in blood plasma

Statement of the German Human Biomonitoring Commission (HBM Commission)

Based on an assessment of the literature on animal and human epidemiological studies which it discussed during its last meeting in May 2016, and following clarification of a few open details, the HBM Commission has decided to set HBM I values for PFOA and PFOS in blood plasma of 2 ng PFOA/ml and 5 ng PFOS/ml.

Rationale:

The HBM I value represents the concentration of a substance in a body matrix below which, according to the Commission's current assessment, adverse health effects are not expected and therefore, no exposure reduction measures are necessary [1].

According to the policy paper on the derivation of HBM values by the HBM Commission [1], different methods can be used for derivation. The method chosen here was derivation on the basis of human data and critical effects.

Following evaluation of human epidemiological studies (status: July 2015 / May 2016), the Commission rates effects in the following areas as well proven, relevant, and significantly associated with exposure to PFOA and/or PFOS:

1. Fertility and pregnancy
 - Time to wanted pregnancy
 - Waiting period for pregnancies > 1 year
 - Gestosis and gestational diabetes
2. Weight of newborns at birth
3. Lipid metabolism
4. Immunity after vaccination, immunological development
5. Hormonal development, age at puberty / menarche
6. Thyroid metabolism
7. Onset of menopause

Adapted from the assessment of current literature, PODs (points of departure) were derived for the above effects. The literature reports different quantile contrasts, BMD (benchmark dose) derivations or regression analyses for continuous endpoints (e.g. birth weights, fat metabolism, sex hormones). Regarding quantile contrasts, the HBM Commission has chosen the upper bounds of the quantiles without significant effects (with a monotonic relationship). This is in line with the approach of the HBM I value, marking a level of protection at which "adverse health effects are not expected". BMD modelling usually leads to lower PODs, but cannot be carried out consistently with the available data.

The Commission points out that the sample sizes and concentration ranges reported in different studies, and the chosen quantiles and confounders cannot be evaluated using a standard procedure.

The Commission has therefore decided to use the resulting POD ranges as a basis for deriving the HBM I value. The expert opinion which it has on hand suggests a possible POD in the range of 1 to 10 ng/ml blood plasma for PFOA and of 1 to 15 ng/ml blood plasma for PFOS. Within these value ranges, the HBM Commission has set the HBM I value at 2 ng PFOA/ml blood plasma and 5 ng PFOS/ml blood plasma.

The consistency of results from animal and epidemiological studies was taken into account in the derivation.

Animal studies support the above line of reasoning in two respects:

1. Analogies between animal and epidemiological studies enhance the plausibility that the effects chosen as endpoints are relevant (e.g. humoral immunity, birth weight, (puberty) development)
2. Recent animal studies have also found effects in the low-dose range.

The pathomechanisms involved currently do not seem to be sufficiently clarified to provide a logical explanation of the effects observed.

The data available do not appear to show proof of a genotoxicity of PFOA and PFOS.

1. Kommission HBM (2014a) Grundsatzpapier zur Ableitung von HBM-Werten. Bundesgesundheitsbl Gesundheitsforsch Gesundheitsschutz 57(1):138–147
https://www.umweltbundesamt.de/sites/default/files/medien/377/dokumente/art_10.1007_s00103-013-1867-2-2.pdf
<http://link.springer.com/article/10.1007/s00103-013-1867-2>

RTI Release

From: HProtSD_dchocorro
To: CHO_CHO
Subject: RE: Urgent Phone Message: Please ring Dr Ian Gardner from the Department of Defence in Canberra - 0419 236 228
Date: Friday, 1 May 2015 9:50:00 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Hi Jess

I have spoken with Greg Jackson and he said that Penny Hutchinson, Darling Downs Public Health Unit, is the best person to return his call. Can you please forward the request to Penny.

If Penny isn't available then Greg will call Dr Gardner and give the best advice he can.

Cheers
Myra

From: CHO CHO
Sent: Friday, 1 May 2015 9:34 AM
To: HProtSD_dchocorro
Subject: Urgent Phone Message: Please ring Dr Ian Gardner from the Department of Defence in Canberra - 0419 236 228

Hi Myra,

We have received a call from Dr Ian Gardner from the Department of Defence in Canberra

He rang to speak with Dr Young however Dr Young is currently unavailable and Yvonne has advised to send this through for Sophie or if anyone else is best to urgently ring him back.

It is in regards to a situation in Oakey regarding chemical contamination in ground water and subsequent testing.

Can someone please ring him urgently as he is expecting a call back.

Many thanks,
Jess

Correspondence Team

Chief Health Officer Branch | Health Services and Clinical Innovation
Department of Health | Queensland Government
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e. CHO_CHO@health.qld.gov.au | www.health.qld.gov.au

Phone:

Crystella: 3227 6617
Vanessa: 3234 0965
Tracey: 3239 0865 (Thursday & Friday)
Jess: 3008 7386

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HSCI Divisional template from QHEPS: <http://qheps.health.qld.gov.au/hsci/templates.htm>





RTI Release

Janet Cumming

From: Peter Boland
Sent: Wednesday, 26 August 2015 9:47 AM
To: Penny Hutchinson; Sophie Dwyer; Suzanne Huxley; Janet Cumming; Greg Jackson
Subject: RE: Feedback from last night's meeting

Hi,

My only other comment is that the community appears to be getting frustrated at how long the process is taking. They highlighted that a number of the health questions were first raised over a year ago with no adequate response/answer to date.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: 07 4699 8252 | **F:** 07 4699 8477
M:
E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Penny Hutchinson
Sent: Wednesday, 26 August 2015 9:24 AM
To: Sophie Dwyer; Suzanne Huxley; Janet Cumming; Greg Jackson
Cc: Peter Boland
Subject: Feedback from last night's meeting

Hi all,

Interesting meeting last night. Health was a big concern and the community are not buying the line that the only exposure is through drinking groundwater. There were several people there who had been tested through the retired GP and all stated that their blood levels were very high and what that meant for them. A lot of questions were raised that Defence took on notice as no defence doctors were present.

Helen Blain was at the meeting spoke to me afterwards. She advised that the result of the latest blood tests would be released at the beginning of September and was asking if QH would have access to the de-identified data. She also mentioned having another community meeting to discuss the blood results and had a vision of having booths with Doctors who could then discuss a residents result with them.

I think we will need a communication channel for residents but am cautious of following the lines of the CSG with 13HEALTH perhaps we need to get DoD to set something up with our assistance.

Peter, do you have anything you would like to add?

Regards

Penny

Dr Penny Hutchinson

Public Health Physician and Director | Darling Downs Public Health Unit

Darling Downs Hospital and Health Service

Darling Downs Public Health Unit

Ground Floor

Browne House

Baillie Henderson Hospital

Cnr of Tor & Hogg St

Toowoomba QLD 4350

P: 07 46998240 | **F:** 07 46998262

E: penny.hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

RTI Release

Janet Cumming

From: Peter Boland
Sent: Wednesday, 13 May 2015 9:12 AM
To: Janet Cumming
Subject: FW: Briefing Notes - Army Aviation Centre Oakey

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Janet,

Please find below my briefing notes from our meeting with Defence last week.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
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TOOWOOMBA QLD 4350

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E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Peter Boland
Sent: Tuesday, 12 May 2015 8:23 AM
To: DDHHS
Cc: Hwee Sin Chong; Penny Hutchinson
Subject: Briefing Notes - Army Aviation Centre Oakey

Hi,

Please find below some notes from Friday's meeting, for the CHO brief.

On 8 May 2015, Dr Ian Gardiner, Senior Physician in OEM, Department of Defence (DoD), provided a briefing to the DDHHS in relation to a perfluorooctane sulphonate (PFOS) and perfluorooctanic acid (PFOA) Blood Testing Program that is being conducted in Oakey.

Background

- The DoD is currently investigating the contamination of groundwater by the Army Aviation Centre Oakey (AACO) through the use of fire fighting foams containing PFOS and PFOA. These foams were used at the AACO between 1970 and 2005. The DoD no longer uses fire fighting foams containing these chemicals.

- In 2010 PFOS and PFOA were detected by groundwater monitoring on base. The impacted aquifer is approximately 20m deep.
- In 2012 the first of four community consultation sessions was held by the DoD.
- Subsequent testing has identified a plume of contamination spreading to the south west of the base (see attachments).
- The DoD has issued precautionary advice to the impacted landholders to not use bore water for drinking purposes.

Blood Testing Program

- Concerned residents have approached a local GP for advice on health effects from exposure to the contaminated water.
- Although he has advised the residents that the risks were minimal, he agreed to conduct a screening program to reassure people.
- The program received UQ Ethics Committee approval.
- Criteria to be included in the program were; lived in contaminated zone; bore water tested and found to be contaminated; and had drunk water from the contaminated bore within three years.
- Samples were collected through Sullivan and Nicolaides Pathology (SNP) and analysed by EnTOX.
- GP contacted DoD to seek funding/payment of analyst fees.
- DoD has agreed to fund up to 100 tests.
- Contractual issues delayed the commencement of the program by around nine months.
- 11 residents have already been tested. Results from these tests were released to GP in late April without the knowledge of the DoD. These test results showed significantly elevated levels of PFOS in 10 of 11 people, when compared to previously reported background levels in Australian studies. These results are well below occupational exposure levels.
- Testing will be offered to two other groups (Shine Lawyer clients and DoD direct contacts) along with the original group.
- SNP will contact people to arrange testing.
- Samples to be analysed by EnTOX in one batch.
- SNP will provide results to individuals.
- The DoD will provide a document to SNP, which will be included with the results, to aid people in interpreting the results. Advice will be given to contact your GP should further information be required. The DoD will brief GPs prior to the release of the results.
- Results are expected in late June.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

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 Cnr Tor & Hogg Street
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Myra Thompson

From: Janet Cumming
Sent: Tuesday, 26 May 2015 2:26 PM
To: HProtSD_dchocorro; Sophie Dwyer; Greg Jackson; Penny Hutchinson; Peter Boland; Suzanne Huxley; Rebecca Richardson
Subject: FW: 20150423 - Department Information Session Minutes - DNRM, DAF & Safe Food QLD [SEC=UNCLASSIFIED]
Attachments: DERP - EHP - Oakey Status - Minutes - 23 Apr 15.pdf

FYI. More minutes from Mark O'Connell

From: O'Connell, Mark MR 2 [<mailto:mark.oconnell2@defence.gov.au>]
Sent: Tuesday, 26 May 2015 2:20 PM
To: Janet Cumming
Subject: Fw: 20150423 - Department Information Session Minutes - DNRM, DAF & Safe Food QLD [SEC=UNCLASSIFIED]

Classification: Unclassified

Janet
EHP attached, any questions please let me know.
Regards

Mark O'Connell
Base Support Manager - Darling Downs
Defence Support and Reform Group
Swartz Barracks Oakey
Tel: (07)45777100
Mob: 0419742984
Email: mark.oconnell2@defence.gov.au

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From: Callinan, Scott MR 1
Sent: Tuesday, May 26, 2015 01:24 PM
To: O'Connell, Mark MR 2
Subject: RE: 20150423 - Department Information Session Minutes - DNRM, DAF & Safe Food QLD [SEC=UNCLASSIFIED]

UNCLASSIFIED

cheers

From: O'Connell, Mark MR 2
Sent: Tuesday, 26 May 2015 13:21

To: Callinan, Scott MR 1

Subject: Re: 20150423 - Department Information Session Minutes - DNRM, DAF & Safe Food QLD [SEC=UNCLASSIFIED]

Classification: Unclassified

Scott

Do you also have the EHP minutes please?

Mark O'Connell

Base Support Manager - Darling Downs

Defence Support and Reform Group

Swartz Barracks Oakey

Tel: (07)45777100

Mob: 0419742984

Email: mark.oconnell2@defence.gov.au

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From: Callinan, Scott MR 1

Sent: Monday, May 25, 2015 04:31 PM

To: O'Connell, Mark MR 2

Subject: 20150423 - Department Information Session Minutes - DNRM, DAF & Safe Food QLD [SEC=UNCLASSIFIED]

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Hi Mark

As requested.

cheers

Scott Callinan

ADDERP

02 6266 8076

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<i>Project Name:</i>	Army Aviation Centre Oakey (AACO) Groundwater Investigation		
<i>Date of Meeting:</i>	23 April 2015	<i>Location:</i>	400 George Street, Brisbane
<i>Minutes Prepared By:</i>	Kate Griffiths and Fran Mitchell		

Title of Meeting
Department Information Session – Queensland Department of Environment and Heritage Protection (EHP)

Attendance at Meeting		
Name		
Scott Callinan (Cth DERP)	Helen Blain (Acting Assistant Secretary Environment & Engineering)	Michael Lysewycz (Defence Legal Special Counsel)
Dr Ian Gardner (Defence Senior Physician in Occupational & Environmental Medicine)	Mark O'Connell (BSM Darling Downs)	Fran Mitchell (Golder)
Kate Griffiths (Golder)	Kelly Gleeson (QLD EHP) – Manager Contaminated Land Unit	Karen Trainor (Clayton Utz)
Chris Hill (QLD EHP) – Director with responsibility for Contaminated Land Unit.	David Cook (QLD EHP)	
Apology - Lindsay Delzoppo (QLD EHP)		

Discussion / Action Items		
Item	Description of Discussion	Action?
1.	<p>Information Presentation by Scott Callinan (SC) (PowerPoint slides and handout provided)</p> <p>Additional Points</p> <ul style="list-style-type: none"> • This presentation is a modified version from the community presentation given in July last year. • A policy has been in place since 2008 that prohibits the use of products containing PFOS PFOA in firefighting activities. • Defence considers this a long term project. <ul style="list-style-type: none"> ○ Question (Chris Hill, CH): What is "long term" to Defence? <ul style="list-style-type: none"> ▪ Response (SC): Too early to tell, some other Defence remediation projects are at the 14 year mark where another 10-20 years are expected. • Tender process currently in place to re-engage the current, or engage a new, lead consultant for the new phase of works. Lead consultant to be engaged by late May/early June. • Community meetings: Initial meeting was ~8 community members; the latest meeting in Dec 2014 was ~100 community members. <ul style="list-style-type: none"> ○ There will be a fifth community meeting this year (middle of 2015) • Decision tree in place to determine which bores needed to be tested. • PFOS Map is formed by joining dots of concentration levels. The base has high concentrations. Some are around a current fire training pad (location yellow 6 on provided plan) which drains to a waste water tank (yellow 4 location on provided plan). Some overflow incidents which seem to be the primary source of the contamination. • PFOA and PFOS act in different ways, pH levels result in different flow rates through the water for each contaminant. 	



Project Name:	Army Aviation Centre Oakey (AACO) Groundwater Investigation		
Date of Meeting:	23 April 2015	Location:	400 George Street, Brisbane
Minutes Prepared By:	Kate Griffiths and Fran Mitchell		

Discussion / Action Items		
Item	Description of Discussion	Action?
2.	<ul style="list-style-type: none"> There is no current use of the contaminants so all sources are residual only. Current activities have included cleaning of tanks, connection to town water, cleaning swimming pools. <p>Discussion</p> <ul style="list-style-type: none"> Question (CH): It seems much of the focus has been on groundwater, and perhaps less of soil and sediment sampling. Do you have a feel for surface water impacts and surface soil impacts? <ul style="list-style-type: none"> Response (SC): The chemical is highly mobile and has penetrated through the soils and to depth. Impacts may have also entered surface water systems. There has been some limited sampling of surface water drainage systems including sediment sampling. With respect to soil, the work to date has indicated that impacts are at depth in soil, but not at the surface. Question (CH): Have samples been taken from Oakey Creek? <ul style="list-style-type: none"> Response (SC): Yes, and there have been detections at the entry points where drainage channels meet the creek. Question (CH): Is it spreading through surface water? How far off the base? <ul style="list-style-type: none"> Response (Helen Blain): Monitoring plans are in place to determine this. Question (CH): When is the next community consultation? <ul style="list-style-type: none"> Response (SC): Once the new lead consultant is appointed, expecting the next meeting to be held in July. There is also some limited blood sampling results to come in which will hopefully be available for the next meeting. Question (Kelly Gleeson, KG): What other state agencies have been engaged? <ul style="list-style-type: none"> Response (SC): Just met this morning with DNRM, DAF and Safe Food Qld. Previous meetings have been held with QLD Health and regional councils. Question (KG): EHP would like to formalise regular update from Defence on the project. <ul style="list-style-type: none"> Response (Helen Blain, HB): DERP agreed to have a regular briefing (phone). Action: SC to arrange regular update schedule with DEHP. Comment (SC): There is an inter-departmental Commonwealth working group for PFOS/PFOA to establish assessment criteria. Representation from Defence, Air Services Australia, Dept of Environment (Cth) and Dept of Infrastructure and Regional Development (Cth). Likely that interim criteria from this group will come later in 2015. In parallel, CRC CARE is working towards development of national criteria. GHD have appointed to do this work via CRC CARE. Likely this national criteria may be available from CRC CARE by end of 2015/early 2016, then individual state governments will need to endorse as appropriate to their jurisdiction. <ul style="list-style-type: none"> Comment (David Cook, DC): EHP's Tony Bradshaw and Nigel Holmes from EHP are involved with the CRC CARE project. Question (HB): Is DEHP's draft paper about guiding the use of fire fighting foam (led by Nigel Holmes) focussed on pollution prevention or does it consider legacy groundwater issues? e.g., someone extracting and re-releasing the contaminant into the environment. <ul style="list-style-type: none"> Response (DC): It is about the current use of fire fighting foams and pollution prevention. DC doesn't think that Nigel had considered the re-release of existing contaminants. That was not the original focus. Comment (HB): Current fire fighting materials do not contain these PFC 	



<i>Project Name:</i>	Army Aviation Centre Oakey (AACO) Groundwater Investigation		
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<i>Minutes Prepared By:</i>	Kate Griffiths and Fran Mitchell		

Discussion / Action Items		
Item	Description of Discussion	Action?
	<p>contaminants, however there may be additional chemicals of concern that are the focus of the EHP policy.</p> <ul style="list-style-type: none"> o Comment (HB): Defence would like to explore if there may be potential for an exemption in the policy related to defence support to the civil community during bushfire events? o Comment (DC): Any guidance that is posted on the EHP website is available for formal comment. <ul style="list-style-type: none"> • Question (SC): There have been murmurs in the Oakey community regarding extraction exclusion. From discussions this morning DNRM do not intend implementing an extraction exclusion in the area. Does this impact EHP in any way? <ul style="list-style-type: none"> o Response (CH): EHP needs to form a view about what position they need to take and what actions may be appropriate. The EP Act, 1994 has <i>Area Management Advice</i> provisions that could be considered. o Comment (HB & Mark O'Connell, MO): There are concerns in the community about the residential/rural private properties being listed on the environmental management /contaminated land register. • Comment (DC): PFOS and PFOA are not currently listed as Prescribed Contaminants under EP Act so potentially may not meet definition of Hazardous Contaminant to be listed on the EMR. <ul style="list-style-type: none"> o Question (SC): Can DERP look to EHP for further dialog on how to disperse that message to the community? o Response (DC): EHP groundwater specialists would need to review the data and provide a recommendation up to the Director General or Minister for this to be pursued. As such, the door to EMR listing is still open for consideration by the DEHP. In an ideal world, residential properties should not end up on the EMR given the difficulty in these sites being managed. • Action (CH): EHP to have a discussion after the meeting. CH advised that DEHP can provide something in writing for Defence to review and provide comment. • Action: It was agreed that EHP would do this by July, 2015. <ul style="list-style-type: none"> o Comment (HB): The messaging to the community is that there are currently no EMRs intended over this land. o Response (DC): Have to be careful in how this message is relayed. The situation is that the private land is not listed right now, but may end up there in future. 	

Date/Time:	2 September 2015, 2:00pm to 3:30pm
Venue:	Conference Room, 3.1 Level 3, 15 Butterfield St, Herston
Attendees:	<p>Queensland Health Sophie Dwyer (Chair), Health Protection Unit Uma Rajappa, Environmental Hazards Dr Janet Cumming, Water Quality Unit Dr Suzanne Huxley, Health Protection Unit Dr Greg Jackson, Water Quality Unit Dr Penny Hutchinson, Darling Downs Public Health Unit Peter Boland, Public Health Unit – Toowoomba</p> <p>Department of Agriculture and Fisheries Dick Watt, Plant Biosecurity and Product Integrity Stephen Potts, Agricultural Resources and Planning Ross Savage, Agricultural Resources and Planning Jan Paff, Agricultural Resources and Planning</p> <p>Department of Environment and Heritage Protection Kelly Gleeson, Environmental Services David Cook, Technical Support and Community Response</p> <p>Department of Natural Resources and Mines Jason Chavasse, Water Services</p> <p>Department of the Premier and Cabinet Louise Mahoney, Social Policy</p> <p>Department of Science, Information Technology and Innovation Susie Vardy, Water Quality and Investigations</p> <p>Safe Food Production Queensland Brian Witherspoon, Manager Engagement</p>
Apologies:	

1. Welcome and Apologies

Queensland Health has invited interagency group members to discuss forthcoming release of blood test results.

2. Current status of incident

- Shine Lawyers has been engaged by thirty seven people with respect to the Oakey PFOS contamination.
- Qld government is still awaiting a response from DoD to Scope of Work developed by the Queensland Government interagency group in relation to Oakey.
- Results of blood tests are now expected to be released in the week beginning 7 September 2015. The group has not received a copy of the letter DoD is planning to send with results.
- Dr Matthew Klein and Mark O'Connell presented the briefing to local GPs at the Oakey Medical Centre. Peter Boland from DDPHU was present.
 - General impression was DoD were downplaying health risks associated with PFOS and PFOA. DoD based health risk assessment upon information provided in the ATSDR (Agency for Toxic Substances and Disease Registry) toxicological profile.
 - DoD stated that elevated PFCs "at levels seen in Oakey community would only result in a minor rise in cholesterol".
 - Local GPs were interested to hear PFOA was classified by an IARC working group as class 2B (possibly carcinogenic to humans), however they were reassured to discover risk is comparable to other chemicals currently in use in the community.
 - Peter Boland reminded the audience that research into health effects of PFOS and PFOA is ongoing and long term health risks are currently unknown, however local GPs were not concerned. The GPs showed no interest in ongoing blood testing.
 - Some level of interest in food and possibility of contamination of fish in the creek.
 - One of the local doctors in the audience suggested that by "not knocking concerns on the head quickly, we (Queensland Health) are building public anxiety".
- DoD held a community meeting on 25 August 2015.
 - Queensland Health attendees advised that community anxiety levels were higher than in previous meetings. The community is concerned about inconsistency of DoD health risk message. At the first meeting DoD described Oakey contamination as the "new asbestos" while more recently DoD appears to be significantly downplaying health risk.
 - Also concern as some community members with elevated levels claim to not have consumed contaminated bore water.
 - A nurse from Oakey Hospital has been agitating for further testing.
 - A local dairy farmer was present and was concerned his business would be targeted for audit by Safe Food Queensland.
 - Members of the community recalled DoD has said in the past they would test the plants and environment.
- s.73 - irrelevant

s.73 - irrelevant

- EHP is awaiting advice on DoD obligations on Crown land located in Queensland. As a minimum, it is expected Queensland Government will have jurisdiction in relation to pollution which flows from Crown land on to Queensland land.
- The group agreed responsibility for contamination and remediation lies with DoD but that Queensland Government will need to be prepared should DoD not meet obligations. May bring in communication expertise later in process.
- QH has prepared a letter from the Queensland Premier to the Prime Minister requesting a briefing on the environmental investigations at the Army Aviation Centre at Oakey. DPC advised that a briefing was to occur between DoD and the DGs of DPC and DoH.

3.

No.	Action	Agency	Responsible Person
1.	Define proactive actions required to safeguard future of beef industry	Safe Food and DAF	Brian Witherspoon Ross Savage
2.	DPC is to compile a document summarising each Qld government agency's requirements and regulatory tools that could be used for this issue. Once all input collected, completed information to be made available to all IDC members.	All agencies Premiers	Louise Mahoney
3.	QH to prepare holding statement in preparation for blood test results release.	Queensland Health	Greg Jackson

4.

Identification of all stakeholders

- Australian Department of Defence
- Queensland Health, Health Protection Unit, Water, Darling Downs PHU, Food Safety
- Department of Agriculture and Fisheries, Biosecurity
- Department of Environment and Heritage Protection
- Department of Justice and Attorney-General
- Department of Natural Resources and Mines
- Department of the Premier and Cabinet
- Safe Food Production Queensland
- Worksafe Queensland
- Entox
- Toowoomba Regional Council
- Other Commonwealth agencies

5.

Governance

- All email correspondence for the IDC is to be sent or cc'd to oakey-idc@health.qld.gov.au

6.

Next Meeting

To be advised

RTI Release



Project Name:	Army Aviation Centre Oakey (AACO) Human Health Risk Assessment Methodology Review		
Date of Meeting:	15 June 2016 (3-4 pm)	Location:	Meeting Room 2, Level 7, 143-167 Charlotte Street Brisbane and Telephone Conference
Minutes Prepared By:	Golder		

Purpose of Meeting
<p>Meeting to discuss comments from the QLD Department of Health on the Human Health Risk Assessment Methodology report (AECOM, 18 May 2016). Defence will also take the opportunity to update the Department of Health on the overall status of the human health risk assessment.</p> <p>Department of Health's comments are attached to the end of this agenda.</p> <p>Dial in details as follows Call in number: 1800 062 923 Account Number: 74198444 8628</p>

Name	Position/Organisation	Name	Position/Organisation
Vicki Pearce	Defence	Andrew Kolrusch	Technical Advisor / GHD
Renee Harvey	Defence	Andrew Pawlisz	Technical Advisor / GHD
Josie Huck	Defence	Virginia Berry	QLD DPC
Paul McCabe	Lead Consultant / AECOM	Sophie Dwyer	QLD Health
Frances Lee	Lead Consultant / AECOM	Suzanne Huxley	QLD Health
Michael Archer	Lead Consultant / AECOM	Janet Cummings	QLD Health
Roger Drew	Lead Consultant Subcontractor / ToxConsult	Stephen Potts	QLD DAF
Fran Mitchell	Project Manager/Contract Administrator / Golder Associates	Adrian McKay	QLD DNRM
Stuart Derham	Project Manager/Contract Administrator / Golder Associates		

Apologies

Item	Description of Discussion	Actions
1.0	Defence introduce meeting (Renee Harvey) <ul style="list-style-type: none"> Update on status of human health risk assessment Key upcoming report review dates Process for communicating comments, responses and report updates to Department of Health 	
2.0	AECOM respond to Department of Health's comments on Human Health Risk Assessment Methodology report (AECOM, 18 May 2016) (Michael Archer) [refer below comments from Department of Health's attached to agenda]	
3.0	AECOM provide an update on proposed amendment to Human Health Risk Assessment Methodology	
4.0	Defence close meeting (Renee Harvey)	



<i>Project Name:</i>	Army Aviation Centre Oakey (AACO) Human Health Risk Assessment Methodology Review		
<i>Date of Meeting:</i>	15 June 2016 (3-4 pm)	<i>Location:</i>	Meeting Room 2, Level 7, 143-167 Charlotte Street Brisbane and Telephone Conference
<i>Minutes Prepared By:</i>	Golder		

Queensland Health comments on the Oakey human health risk assessment methodology document

27 May 2016

Section 2 of the PHHRAM states “health advisory levels adopted from the US EPA have been adopted to facilitate preliminary decision making with regard to potable water uses”.

AECOM will be aware that USEPA has revised its drinking water advisory to take into account lifetime exposure? Will AECOM use the previous or new guideline, or an alternative?

Section 3.1 states “AECOM is currently conducting further environmental assessment works including soil, sediment, surface water and groundwater sampling and biological sampling (refer to the AECOM (2016) Biota Sampling, Analysis and Quality Plan). These data will be included in the HHRA upon completion of the works and confirmation that the data meet the DQOS for the investigations”

Will this data be available in time for the completion of the HHRA, or will there be an amendment at a later date?

Section 3.5 Vapour Pathway Considerations. This section outlines various sources on the low vapour pressure of PFOS to justify not including inhalation of vapour phase PFOS in the risk assessment. A USEPA report (which appears to be no longer available) is cited as evidence that inhalation of PFOA contaminated water from showering or bathing is not a significant exposure pathway.

However, the recent publications at USEPA state:

“PFOS has a low vapor pressure and is not expected to be present in air except as bound to particulate matter *and aerosols formed from devices such as shower heads and humidifiers that aerosolize tap water.*” (our italics)

“PFOA has a low vapor pressure and is not expected to be present in air except as bound to particulate matter *and in aerosols formed from devices such as shower heads and humidifiers that aerosolize tap water.*” (our italics)

As inhalation can be a significant pathway, due to uptake directly to the blood, QH believes that inhalation of liquid aerosols containing PFOS, PFOA and PFHxS should be considered in the risk assessment.

Section 5.2 states: “The identified CoPC will be assessed as threshold chemicals, as a potential for genotoxic carcinogenic mode of action has not been confirmed.”

Again, the recent USEPA publications state:

“Under EPA’s Guidelines for Carcinogen Risk Assessment (USEPA 2005a) there is Suggestive Evidence of Carcinogenic Potential of PFOS in humans based on the liver and thyroid adenomas observed in the chronic rat bioassay (Thomford 2002). The data lack a dose-responsive relationship; thus, they were not used quantitatively in the derivation of a cancer slope factor.”



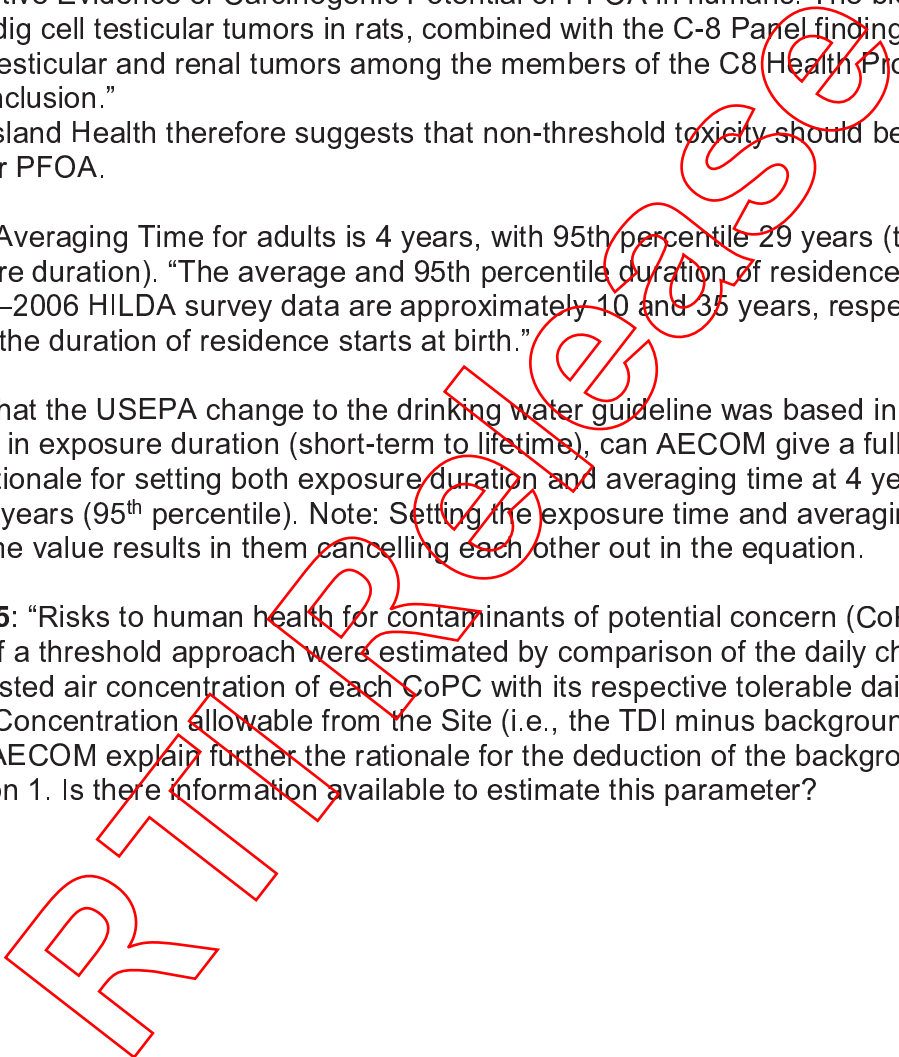
<i>Project Name:</i>	Army Aviation Centre Oakey (AACO) Human Health Risk Assessment Methodology Review		
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“Under EPA’s Guidelines for Carcinogen Risk Assessment (USEPA 2005) there is Suggestive Evidence of Carcinogenic Potential of PFOA in humans. The bioassay findings for Leydig cell testicular tumors in rats, combined with the C-8 Panel finding of a probable link to testicular and renal tumors among the members of the C8 Health Project, support this conclusion.”
 Queensland Health therefore suggests that non-threshold toxicity should be considered, at least for PFOA.

Appendix A. Averaging Time for adults is 4 years, with 95th percentile 29 years (this is the same as the exposure duration). “The average and 95th percentile duration of residence in Australia from the 2001–2006 HILDA survey data are approximately 10 and 35 years, respectively. It is assumed that the duration of residence starts at birth.”

Given that the USEPA change to the drinking water guideline was based in part on a change in exposure duration (short-term to lifetime), can AECOM give a fuller indication of their rationale for setting both exposure duration and averaging time at 4 years (average) and 29 years (95th percentile). Note: Setting the exposure time and averaging duration as the same value results in them cancelling each other out in the equation.

Appendix B25: “Risks to human health for contaminants of potential concern (CoPCs) assessed on the basis of a threshold approach were estimated by comparison of the daily chemical intake or exposure adjusted air concentration of each CoPC with its respective tolerable daily intake (TDI) or Reference Concentration allowable from the Site (i.e., the TDI minus background intakes).”
 Could AECOM explain further the rationale for the deduction of the background from TDI in Equation 1. Is there information available to estimate this parameter?



Suzanne Huxley

From: Derham, Stuart <SDerham@golder.com.au>
Sent: Tuesday, 14 June 2016 3:44 PM
To: vicki.pearce1@defence.gov.au; Huck, Josephine MISS; Harvey, Renee MS; Mitchell, Fran; McCabe, Paul; Archer, Michael J.; Frances.Lee@aecom.com; 'Andrew Kohlrusch (Andrew.Kohlrusch@ghd.com)'; Roger Drew; Virginia.Berry@premiers.qld.gov.au; Sophie Dwyer; Suzanne Huxley; Pawlisch, Andrzej; Janet Cumming; POTTS Stephen; MCKAY Adrian (Adrian.Mckay@dnrm.qld.gov.au)
Subject: Army Aviation Centre Oakey - Stage 2C Environmental Investigation - QLD government feedback on HHRAM
Attachments: 20160614- HHRAM Agenda.pdf

Hi All,

Please find attached agenda for tomorrow's meeting to discuss comments from the Department of Health on the Human Health Risk Assessment Methodology report.

Regards,

Stuart Derham (BEnvSc (Hons), CEnvP0589, MEIANZ) | Senior Environmental Scientist | Golder Associates Pty Ltd
147 Coronation Drive, Milton, Queensland 4064, Australia (PO Box 1734, Milton BC, QLD 4064)
T: +61 7 3721 5400 | **D:** +61 7 3721 5406 | **F:** +61 7 3721 5401 | **M:** +61 [REDACTED] | **E:** SDerham@golder.com.au
| www.golder.com

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Please consider the environment before printing this email.

Myra Thompson

From: AUBNE1 - Defence Oakey <Defence.Oakey@aecom.com>
Sent: Friday, 7 August 2015 5:11 PM
To: DON Oakey
Cc: Sophie Dwyer
Subject: Army Aviation Centre Oakey Environmental Investigation
Attachments: 20150807_Oakey Hospital.pdf

Dear Lois,

Please find letter attached in response to your recent enquiry about the blood testing program being undertaken by Defence as part of the Army Aviation Centre Oakey Environmental Investigation.

As detailed in the letter, enquiries from the Hospital about the Investigation should be directed to Queensland Health (Sophie Dwyer is copied on this email).

Community members can direct general enquiries about the Investigation to the project information hotline on 1800 136 129 or email defence.oakey.anz@aecom.com.

Regards,

Defence Oakey Project Team
P: 1800 136 129
E: Defence.Oakey@aecom.com
W: www.defence.gov.au/id/Oakey

RTI Release



Australian Government
Department of Defence
Estate and Infrastructure Group

Mark O'Connell
Base Support Manager Darling Downs
Department of Defence
B45 Orr Road
Oakey, QLD 4401
☎: (07) 4577 7100
✉: mark.oconnell2@defence.gov.au

7 August 2015

Ms Lois Cobon
Director of Nursing
Oakey Hospital
Oakey QLD 4401

Dear Ms Cobon

The Department of Defence is writing in response to your enquiry regarding the blood testing being undertaken by Defence as part of the Army Aviation Centre Oakey (AACO) Environmental Investigation Project.

Defence acknowledges your advice in relation to a concerns being expressed by some of your staff about potential exposure to Perfluorooctane Sulphate (PFOS) and Perfluorooctanoic Acid (PFOA) through past use of bore water at the Hospital and that these staff have expressed an interest in having their blood tested.

Ms Sophie Dwyer from Queensland Health has advised that all queries from the hospital should be directed through Queensland Health in the first instance. The Queensland Government has established an interdepartmental working group to assist in addressing and responding to health and other related concerns arising out of the AACO investigation.

Defence is undertaking preliminary and limited blood testing for up to 100 serum samples. Defence understands the main exposure pathway for PFOS and PFOA is direct oral ingestion. The testing is focused on a sample of residents who have drunk contaminated bore water on a regular basis over the last 3 years.

The representative sample group is made up of Oakey residents who have:

1. lived within the contamination/detection area; and
2. had bores tested that indicate elevated levels of either PFOS or PFOA; and
3. been drinking bore water on a regular basis over the last 3 years.

The testing is nearing completion. However if staff at the Hospital meet the above criteria in a private capacity and have any questions, they should contact the project team on 1800 136 129 or email defence.oakey.anz@aecom.com for further information.

For anyone interested in further information about the AACO Groundwater Investigation Project, please visit the project website at: www.defence.gov.au/id/Oakey.

Yours sincerely

[Redacted Signature Box]

Mark O'Connell
Base Support Manager
Defence Estate & Infrastructure
Darling Downs

Myra Thompson

From: Sophie Dwyer
Sent: Monday, 10 August 2015 4:57 PM
To: Penny Hutchinson; Rebecca Richardson
Cc: oakey-idc
Subject: FW: Army Aviation Centre Oakey Environmental Investigation
Attachments: 20150807_Oakey Hospital.pdf

Fyi
sophie

Sophie Dwyer

Executive Director, Health Protection Branch
Prevention Division, Department of Health | Queensland Government
15 Butterfield Steet, QLD
t. 07 33289266 m. 0412422181
e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: AUBNE1 - Defence Oakey [<mailto:Defence.Oakey@aecom.com>]
Sent: Friday, 7 August 2015 5:11 PM
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Regards,

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RTI Release



Australian Government
Department of Defence
Estate and Infrastructure Group

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Yours sincerely

[Redacted Signature]

Mark O'Connell
Base Support Manager
Defence Estate & Infrastructure
Darling Downs

Myra Thompson

From: Sophie Dwyer
Sent: Monday, 10 August 2015 4:57 PM
To: AUBNE1 - Defence Oakey
Subject: RE: Army Aviation Centre Oakey Environmental Investigation

Thanks for the advice
regards

Sophie Dwyer

Executive Director, Health Protection Branch
Prevention Division, Department of Health | Queensland Government
15 Butterfield Steet, QLD
t. 07 33289266 m. 0412422181
e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: AUBNE1 - Defence Oakey [<mailto:Defence.Oakey@aecom.com>]
Sent: Friday, 7 August 2015 5:11 PM
To: DON Oakey
Cc: Sophie Dwyer
Subject: Army Aviation Centre Oakey Environmental Investigation

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Regards,

Defence Oakey Project Team
P: 1800 136 129
E: Defence.Oakey@aecom.com

RTI Release

Myra Thompson

From: Katie Panaretto
Sent: Tuesday, 13 September 2016 3:20 PM
To: Roger Drew
Cc: Penny Hutchinson; Sophie Dwyer; joanne@ddwmpfn.com.au
Subject: RE: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence - meeting in Toowoomba

Thanks for that Roger. We will confer with the Primary Health Network and we will get back to you
Regards
Katie Panaretto

From: Roger Drew [<mailto:rogerdrew@toxconsult.com.au>]
Sent: Tuesday, 13 September 2016 9:10 AM
To: Katie Panaretto
Cc: Penny Hutchinson; Sophie Dwyer; joanne@ddwmpfn.com.au
Subject: RE: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence - meeting in Toowoomba

Hello Katie,

Thank you for the contact.

I am back in the office Thurs 13th Oct so anytime of the week of 17th (preferably towards the end of the week so I can catch up with stuff) or the week after is OK.
I currently have nothing on that can't be rearranged for those two weeks.

Please advise what format you would like, e.g. brief group presentation with Q & A during day or evening, or one-on-one with GPs.

While I am away I will have access to email, although not necessarily on a daily basis.

Regards Roger

Roger Drew, PhD, DABT, FACTRA
Toxicologist & Risk Assessor



ToxConsult Pty Ltd
PO Box 316
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Fax: +61 3 9563 5330
Mobile: +61 412 108 394

Adjunct Associate Professor
Dept Epidemiology & Preventative Medicine
Monash University

From: Katie Panaretto [<mailto:Katie.Panaretto@health.qld.gov.au>]
Sent: Monday, 12 September 2016 12:06 PM
To: rogerdrew@toxconsult.com.au
Cc: Penny Hutchinson; Sophie Dwyer; joanne@ddwmpfn.com.au
Subject: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence - meeting in Toowoomba

Roger

I work with Penny Hutchinson at the Darling Downs PHU.

We are hoping you might be able to come up to Toowoomba to provide local GPs with information as background to the blood testing of residents in Oakey as part of the Army Aviation Centre Oakey Environmental Investigation Project. This will enable them to give more informed information to their patients about testing and their levels once the results come back.

I understand you are away overseas for about a month, so will not be able to come up till mid to late October

Would you have time this week to perhaps nominate a couple dates that you could come up so that we lock down a date?

Thanks for your help

Katie Panaretto

Dr Kathryn Panaretto
Locum Population Health Physician
Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Browne House
Baillie Henderson Hospital
Cnr Hogg & Tor Streets
Toowoomba QLD 4350

P: 07 46998253 M:

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RTI@lease

Myra Thompson

From: Sophie Dwyer
Sent: Wednesday, 25 November 2015 9:28 AM
To: Louise Mahoney; Christine Castley; Jeannette Young; Penny Hutchinson; Peter Boland
Subject: RE: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

Dear all

Given the media coverage of the proposed event next week, when we meet with Defence on Friday I think it will be important we discuss how health issues will be handled at that public meeting. At this stage, there is no plan to have a medical presence at the meeting. Of course, it will be good that Peter, you are there, but you should not be expected to answer community concerns regarding health risk.

regards

Sophie Dwyer PSM

Executive Director, Health Protection Branch
Prevention Division, Department of Health | Queensland Government
15 Butterfield Stee
t. 07 33289266 m.
e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: Louise Mahoney [mailto:Louise.Mahoney@premiers.qld.gov.au]
Sent: Wednesday, 25 November 2015 8:42 AM
To: Christine Castley; Jeannette Young; Sophie Dwyer; Penny Hutchinson; Peter Boland
Subject: RE: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

Media coverage of this event fyi

<http://readnow.isentia.com/articlepresenter.aspx?guid=be77e83a-f5c2-4d23-81d9-a8e6fae161f6&serid=69340&ArticleID=502543422&output=txt&serid=69340>

From: Louise Mahoney
Sent: Tuesday, 24 November 2015 6:26 PM
To: 'Peios, Stephen MR' <stephen.peios@defence.gov.au>
Cc: Christine Castley <Christine.Castley@premiers.qld.gov.au>; Jeannette Young (Queensland Health) <Jeannette.Young@health.qld.gov.au>; Sophie Dwyer <Sophie.Dwyer@health.qld.gov.au>; Penny Hutchinson <Penny.Hutchinson@health.qld.gov.au>; 'Peter.Boland@health.qld.gov.au' <Peter.Boland@health.qld.gov.au>

Subject: RE: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

Hi Steve

I've been advised Peter Boland, Manager, Environmental Health, Darling Downs Hospital and Health Service (Peter.Boland@health.qld.gov.au) is able to attend in an observer capacity.

Regards
Louise



Louise Mahoney
A/Director
Social Policy
Department of the Premier and Cabinet
P 07 3003 9353
Executive Building, Level 14, 100 George Street, Brisbane QLD 4000
PO Box 15185, City East, QLD 4002

From: Peios, Stephen MR [<mailto:stephen.peios@defence.gov.au>]

Sent: Thursday, 19 November 2015 4:33 PM

To: Louise Mahoney <Louise.Mahoney@premiers.qld.gov.au>

Cc: Greet, Maureen MS 1 <maureen.greet1@defence.gov.au>; Clifton, Alison MS <alison.clifton@defence.gov.au>

Subject: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

UNCLASSIFIED

Good afternoon Louise,

I am writing to advise you of a public community forum that is taking place on Friday 4 December 2015 at the Oakey RSL between 0800h and 1000h.

The Hon Ian Macfarlane MP as the Federal Member for Groom, has invited the Assistant Minister for Defence, the Hon Darren Chester MP, to attend this forum to provide an update to the community on contamination at Oakey. AMINDEF has accepted.

Attendees will include Mr Macfarlane and staff; Assistant Minister for Defence Chester and staff; along with Commonwealth Defence representatives. Dr Mathew Klein will also be attending. The audience will be members of the public (expected 30-50, room capacity is 100 max).

The intent is to provide an update to the community on the status of the contamination issue at Oakey, including health issues.

Noting Dr Klein's attendance and the community presence, we feel it would be positive if a QLD Health representative could be present at this meeting to assist on the day and discuss any concerns with the Minister and the community.

Can you please advise if this can be arranged.

Thanks
Steve

Stephen Peios

Strategic Contamination Management
Environment and Engineering Branch
BP26-2-B070, Department of Defence
CANBERRA ACT 2600

☎ Ph: 02 6266 8501 | Mobile:
✉ stephen.peios@defence.gov.au

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RTI Released

Myra Thompson

From: Peter Boland
Sent: Friday, 4 December 2015 4:28 PM
To: Louise Mahoney
Cc: Christine Castley; Jeannette Young; Sophie Dwyer; Penny Hutchinson; DDHHS
Subject: RE: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

Hi Louise,

This morning's meeting was well attended by the community. I would estimate that around 120 people would have been present. This is significantly more than previous community meetings.

Vicki Pearce, Director Environmental Remediation Programs, Department of Defence (DoD), gave a presentation to provide an overview of the incident and the actions taken by the DoD to date. The meeting was then opened up to questions from the floor.

The community openly expressed their anger at the management of the incident. This was largely due to the perceived inaction by the DoD in addressing the community's concerns. In the eyes of the community this meeting did not answer any of the questions raised at the previous community meeting in August. Concerns focussed on the following:

- Human health impacts
- Ongoing exposure to PFCs
- Lack of ongoing human blood testing
- Poor treatment of ex DoD personnel
- Animal health (mainly horses)
- Land values including the inability to sell or develop land.

Numerous people stated that their PFC levels were above the national average. They wanted blood testing expanded to include other family members and ongoing monitoring to ensure that their PFC levels were declining. As well as human bloods they also wanted expanded water, soil, animal and crop testing.

Some people highlighted the different responses between the Oakey and Williamtown incidents. The DoD explained that this was due to different environmental receptors and State Government responses. They stressed that they were working closely with the Qld Government in their response to the incident.

The Hon Ian Macfarlane MP stated that he would talk to the Defence Minister to advocate for the following:

- Human blood testing for anyone who requests such a test
- That any health survey (DoD human health assessment) include anyone within the plume, on the fringe of the plume or who requests inclusion
- Further testing of water, stock and fodder
- Someone from the DoD, based in Canberra, to come to Oakey every fortnight to meet the public and listen to their concerns.

The Hon Darren Chester MP stated that he would take the following issues to the Minister:

- Mental health support for the community
- Support to address health concerns
- The need to review all types of testing to meet the community's expectations

- Provision of a point of contact for the community (including the possibility of a community consultative committee).

The meeting highlighted the extent of anxiety and anger that this issue has caused the community. They are seeking definitive answers to their questions. Things have become very emotive due to the perceived lack of action to address their concerns.

At this stage the anger is directed towards the DoD. To their credit, I thought that the DoD representatives handled themselves well during the meeting.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: 07 4699 8252 | **F:** 07 4699 8477
M: 0417 791 607
E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Louise Mahoney [mailto:Louise.Mahoney@premiers.qld.gov.au]

Sent: Tuesday, 24 November 2015 6:26 PM

To: Peios, Stephen MR

Cc: Christine Castley; Jeannette Young; Sophie Dwyer; Penny Hutchinson; Peter Boland

Subject: RE: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

Hi Steve

I've been advised Peter Boland, Manager, Environmental Health, Darling Downs Hospital and Health Service (Peter.Boland@health.qld.gov.au) is able to attend in an observer capacity.

Regards
Louise



Louise Mahoney

A/Director

Social Policy

Department of the Premier and Cabinet

P 07 3003 9353

Executive Building, Level 14, 100 George Street, Brisbane QLD 4000

PO Box 15185, City East, QLD 4002

From: Peios, Stephen MR [<mailto:stephen.peios@defence.gov.au>]

Sent: Thursday, 19 November 2015 4:33 PM

To: Louise Mahoney <Louise.Mahoney@premiers.qld.gov.au>

Cc: Greet, Maureen MS 1 <maureen.greet1@defence.gov.au>; Clifton, Alison MS <alison.clifton@defence.gov.au>

Subject: Assistant Minister for Defence, the Hon Darren Chester MP attendance at Public Forum - Update on Contamination at Oakey - Oakey RSL - 0800h to 1000h - FRIDAY, 4 DECEMBER 2015. [SEC=UNCLASSIFIED]

UNCLASSIFIED

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Attendees will include Mr Macfarlane and staff; Assistant Minister for Defence Chester and staff; along with Commonwealth Defence representatives. Dr Mathew Klein will also be attending. The audience will be members of the public (expected 30-50, room capacity is 100 max).

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Noting Dr Klein's attendance and the community presence, we feel it would be positive if a QLD Health representative could be present at this meeting to assist on the day and discuss any concerns with the Minister and the community.

Can you please advise if this can be arranged.

Thanks
Steve

Stephen Peios

Strategic Contamination Management
Environment and Engineering Branch
BP26-2-B070, Department of Defence
CANBERRA ACT 2600

☎ Ph: 02 6266 8501 | Mobile: 0477 393 074

✉ stephen.peios@defence.gov.au

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RTI Release

Myra Thompson

From: Penny Hutchinson
Sent: Friday, 24 July 2015 2:44 PM
To: Sophie Dwyer; HProtSD_dchocorro
Subject: FW: Contact in Queensland Health to include on PFOS blood testing results letters re Defence funded program [SEC=UNCLASSIFIED]
Attachments: Results letter draft 20150716mod.docx; Oakey Information Pamphlet.pdf
Importance: High

Hi Sophie and Myra
Letters as requested.
Regards
Penny

From: Blain, Helen MS [<mailto:helen.blain@defence.gov.au>]
Sent: Friday, 17 July 2015 2:42 PM
To: Penny Hutchinson
Cc: Taloni, Kerry MS; Callinan, Scott MR 1; Pearce, Vicki MISS 1
Subject: Contact in Queensland Health to include on PFOS blood testing results letters re Defence funded program [SEC=UNCLASSIFIED]
Importance: High

UNCLASSIFIED

Dear Penny

As you are aware Defence has funded some blood testing for presence of PFOS etc for some members of the Oakey community. We have been advised that the laboratory has completed some testing and we seeking to make arrangements in terms of provision of the results back to the residents. If possible I would like to include a reference to people being able to contact Queensland Health for further information if required. Attached is our proposed draft letter and information pamphlet to accompany the results.

I would be most grateful for your urgent review please and advise whether you are able to provide a contact for Queensland Health. It would be our intention for Entox to forward the results as soon as possible

Many thanks Helen

Helen Blain
Acting Assistant Secretary
Environment and Engineering Branch

DSRG Infrastructure Division | DEPARTMENT OF DEFENCE

Ph: 02 6266 8052 | Fax: 02 6266 8077 | Mob: | Address: BP26-2-B001 | PO Box 7925 | Canberra BC 2610

Email: Helen.Blain@defence.gov.au

Website: www.defence.gov.au/environment

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RTI Release

Oakey Citizen
Address line 1
Address line 2

July 2015

Dear Citizen,

I refer to your recent blood test for the presence of perfluoroalkyl acids (PFAAs). As you may know these chemicals are present in some formulations of Aqueous Fire Fighting Foams. The chemicals also occur in everyday products such as wet-weather clothing, water and stain repellents, and non-stick cookware. **We have included further information in a pamphlet enclosed with this letter.**

This blood testing measured several PFAAs present in your blood, and your personal results are reported below. Fluorochemicals are commonly found in every person's blood. We have included your personal levels as well as information about how your levels compare to the general Australian population, the United States population, and to workers who are known to be occupationally exposed to fluorinated chemicals in the US. Please note that previous studies have not identified any specific health effects caused by these chemicals.

You may wish to discuss the results of the testing with your doctor or alternatively by having discussions with Queensland Health at

Yours sincerely,

Entox

RTI REQUEST

Results from Perfluoroalkyl Acids Chemical Analysis

Participant name: HBSOAK15_01
Blood collection date:

What levels of PFAAs were measured in my blood?

Your serum concentration of PFOS, PFOA and PFHxS is shown below in Table 1. Importantly, despite many studies in people who have had higher exposure than residents in Oakey, there have been no health issues directly attributable to high levels of PFOS and PFHxS.

Table 1. Your serum concentration (ng/mL serum) of PFOS, PFOA and PFHxS

	PFOS	PFOA	PFHxS
You	54.8	3.0	110
Australian average	10.25	4.45	3.34
USA average	9.32	3.07	1.66

¹Geometric mean concentrations from a Queensland study. Samples from 2010-2011

²Geometric mean concentrations from a USA study. Samples from 2009-2010

How does my level compare to others in the community?

In the figure below we show how your level of PFOS compares to levels that were measured in:

1. The general Australian community in 2006-2007 (shown in blue)
2. The general United States community in 2009-2010 (shown in orange).
3. A group of people who were occupationally exposed to fluorochemicals in a manufacturing facility in the USA in 2000 (shown in red).

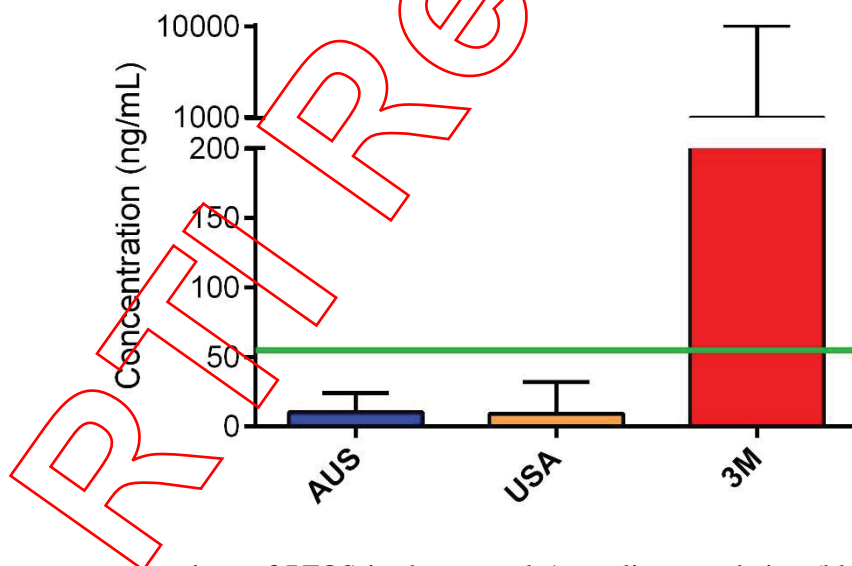


Figure 1: Serum concentrations of PFOS in the general Australian population (blue), general USA population (orange), and 3M manufacturing workers (red). Your serum concentration of PFOS is shown by the green line. The vertical axis shows PFOS concentration in ng/mL serum, the coloured boxes indicate the geometric mean concentrations, and the whiskers indicate the 95th percentile concentration reported in these groups (maximum concentration for 3M study). The levels in 3M workers are much higher so the vertical (y-) axis of this graph has been split in two.

Abbreviations: perfluorooctanesulfonic acid (PFOS); perfluorohexanesulfonic acid (PFHxS); perfluorooctanoic acid (PFOA); ng/mL (nanograms per millilitre). 1 nanogram = 0.000001 milligram. 1 ng/mL = 1 part of a substance in a billion parts of serum.

Background information: perfluoroalkyl acids in serum

What are PFOS/PFOA and where are they found?

PFOS and the related chemicals PFHxS and PFOA are types of perfluoroalkylated substances that are used as, and referred to, as fluorosurfactants. Fluorosurfactants are a type of man-made organic compound that alter the surface tension of a liquid. They can be found in everyday products such as all-weather clothing, water and stain repelling agents, and non-stick cookware. Fluorosurfactants are also used in aqueous film forming foams (AFFFs), used by Defence for training and operational firefighting purposes. AFFFs were also used by Aviation Rescue Fire Fighting up until 2010.

Why are PFOS and related chemicals being phased out of use?

The manufacture and use of PFOS is being discontinued through international agreements and voluntary actions by manufacturers primarily because of its persistence in the environment, rather than because of any established health effects. Fluorosurfactants break down very slowly in the environment under naturally occurring conditions. They are resistant to biological and most chemical degradations. Because of this, they tend to accumulate in the food chain and in human tissue. The international scientific community has identified this characteristic as undesirable because of the potential for unforeseen effects resulting from accumulating levels, and the difficulty in removing these chemicals from the environment once they are released.

Have I been exposed to PFOS/PFOA?

Yes, fluorosurfactants are found in the blood of the general population all over the world. The sources of exposure in the general population are not fully understood, but it is known that exposure to trace levels can occur through the food supply and in some cases, from the presence of these chemicals in drinking water supplies. Fire fighters may also have been exposed to PFOS and related compounds because of the presence of these chemicals in AFFFs. Small amounts of PFOS may be absorbed through the skin when handling the concentrated or diluted AFFFs, but there is currently no direct evidence of the extent to which this could occur.

Are there any health effects linked to exposure to PFOS/PFOA in humans?

The potential effects of exposure to PFOS and PFOA to human health continue to be studied. These studies involve occupationally exposed workers (i.e. manufacturing workers), residents in communities with higher exposure, and large studies of the general population in the USA. Some studies have shown changes in serum lipids and other biochemical indicators which are related to the blood levels of PFOS, PFOA and other fluorochemicals. However there is no clear evidence that this is related to any adverse health effects. Even in heavily exposed manufacturing workers (up to 1,000 fold higher than the general population), studies have not found any specific health effects directly attributable to this exposure.

Should I be concerned about the results of the animal studies describing exposure to PFOS/PFOA?

Studies of chemical effects in animals are conducted at very high doses in order to give scientists an idea of what effects might occur and to provide a basis for estimating safe human doses. For example, adverse effects are observed in animal studies of PFOA only at exposures that lead to blood levels 1,000 to 10,000 times higher than the levels observed in people in the general population. While such studies help scientists to identify toxic responses to a chemical, this information cannot be directly related to humans who are exposed at much lower concentrations. While everyone in the community has been exposed to PFOS and PFOA, mainly through food sources, PFOS exposures in the community are substantially less than the exposure determined by animal studies. Also, animals clear these chemicals from their body in different ways to humans so results from animal testing cannot be directly extrapolated to humans.

Myra Thompson

From: Sophie Dwyer
Sent: Thursday, 25 August 2016 1:58 PM
To: Harvey, Renee MS
Cc: Siemionow, Stef MS; Pearce, Vicki MS 1
Subject: RE: Copy of HHS response [SEC=UNCLASSIFIED]
Attachments: 091-16 Stacey Hannon_Dept Defence_Oakey water_counselling_HSCE signed 20....pdf

Copy of letter attached, Renee

Sophie Dwyer PSM

Executive Director, Health Protection Branch
Prevention Division, Department of Health | Queensland Government
15 Butterfield Street, QLD
t. 07 33289266 m. 0412422181
e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: Harvey, Renee MS [<mailto:renee.harvey@defence.gov.au>]
Sent: Thursday, 25 August 2016 10:27 AM
To: Sophie Dwyer
Cc: Siemionow, Stef MS; Pearce, Vicki MS 1
Subject: Copy of HHS response [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi Sophie,

As discussed, we are chasing the response to the letter dated 16 June 2016 from Stacey Hannon regarding: *Mental health and counselling support services for residents of the Oakey investigation area*

Based on our discussion just now, the response was issued by the Darling Downs Hospital and Health Service.

Our policy team has not seen this response. It would be very helpful if you could forward a copy to me.

Many thanks
Renee

Renee Harvey

Contractor to Defence
Environmental Remediation Programs
Department of Defence
M:

BP3-2-B021
Brindabella Circuit
Brindabella Business Park
PO Box 7925 Canberra BC 2610

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Office of Chief Executive

**Darling Downs Hospital
and Health Service**

Enquiries to: Dr Peter Gillies
Telephone: (61 7) 4699 8412
Facsimile: (61 7) 4699 8400
Our Ref: HSCE 091-16
Your Ref: ASEE-ID/OUT/2016/AF25557500

Ms Stacey Hannon
Acting Assistant Secretary
Environment and Engineering Branch
Brindabella Business Park
PO Box 7925
Department of Defence
CANBERRA ACT 2610

Dear Ms Hannon

Thank you for your letter dated 16 June 2016 in relation to mental health and counselling support for residents of the Oakey investigation area which was addressed to Ms Sophie Dwyer, Executive Director Health Protection Branch, Queensland Department of Health. Ms Dwyer forwarded your letter to me via email on 20 June 2016.

In response to your queries, I am able to provide the following:

a) Whether there are ample clinical mental health and counselling support services available to the Oakey community?

Counselling services were commenced at Oakey Hospital on Monday 20 June 2016. These pre-booked sessions with a dedicated staff member available were offered Monday, Wednesday and Friday at different times to cater for the community needs. These services were advertised throughout the community (newspaper and social media) and launched via a drop-in session with the Darling Downs Hospital and Health Service (DDHHS) representatives and myself on Thursday 16 June in Oakey. These scheduled counselling sessions were ceased on Friday 1 July 2016 due to poor attendance – only 1 community member attended. The counselling service remains available to community members on request through the Oakey Hospital.

b) Are these clinical services fully utilised?

The clinical services offered were not fully utilised – 1 community member attended on the first day of the counselling sessions (20 June 2016) and nil since. There have been no presentations or queries made at the Oakey Hospital or of its Community Nurses for counselling or mental health issues related to ground water contamination. There has been some contact made at the Oakey Hospital from community members enquiring when and where they can get their bloods taken and tested for PFOS and PFOA levels.

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Telephone +61 7 4699 8888
Facsimile +61 7 4699 8933
www.health.qld.gov.au/darlingdowns

c) Are there any actual barriers to residents accessing these services (such as payment, transport, operating hours)?

The counselling services were offered free to the community and there is adequate transport options available for community members to attend the Oakey Hospital. The counselling sessions were available both in-hours and after-hours to cater for the community needs.

d) Are there any perceived barriers (such as stigma of participation, lack of awareness)?

There are no obvious barriers to participation of which we are aware. It is difficult to gauge barriers associated with stigma without direct feedback from the community. There has been no feedback in this regard.

e) Whether Queensland Health considers there are initiatives that may assist in overcoming actual or perceived barriers, or complement the available services?

No. Note that counselling services were ceased from Friday 1 July 2016 due to lack of attendance and there has been no contact made with the Oakey Hospital or of its Community Services for counselling sessions around this issue.

f) Is there any gap in services that may benefit the Oakey community?

Onsite Social Work services.

Darling Downs Hospital and Health Service looks forward to continuing to work with the Department of Defence on this matter. If you require any further information, please don't hesitate to contact me on (07) 4699 8412.

Yours sincerely



Dr Peter Gillies FRACMA MBA MBChB GAICD
Health Service Chief Executive
Darling Downs Hospital and Health Service
29 / 07 / 2016

Myra Thompson

From: Sophie Dwyer
Sent: Friday, 11 December 2015 8:10 AM
To: bscal@doh.health.nsw.gov.au
Subject: Fwd: Corrections to presentation
Attachments: Oakey - December 2015 v2.ppt; ATT00001.htm

Sent from my iPad

Begin forwarded message:

From: Janet Cumming <Janet.Cumming@health.qld.gov.au>
Date: 10 December 2015 at 11:55:39 AM AEDT
To: Sophie Dwyer <Sophie.Dwyer@health.qld.gov.au>, HProtSD_dchocorro <HProtSD_dchocorro@health.qld.gov.au>
Cc: Suzanne Huxley <Suzanne.Huxley@health.qld.gov.au>
Subject: Corrections to presentation

Some minor corrections thanks to Greg's eagle eye.

Dr Janet Cumming BSc(Hon) PhD
Advanced Environmental Health Scientist (Water)
Water Unit, Health Protection Branch
Prevention Division
Department of Health
15 Butterfield Street, Herston Qld 4006

PO Box 2368
Fortitude Valley BC 4006
Phone: 07 3328 9346
Fax: 07 3328 9354

RTI Release

Oakey Update

Sophie Dwyer
Department of Health
Queensland

RTI Release

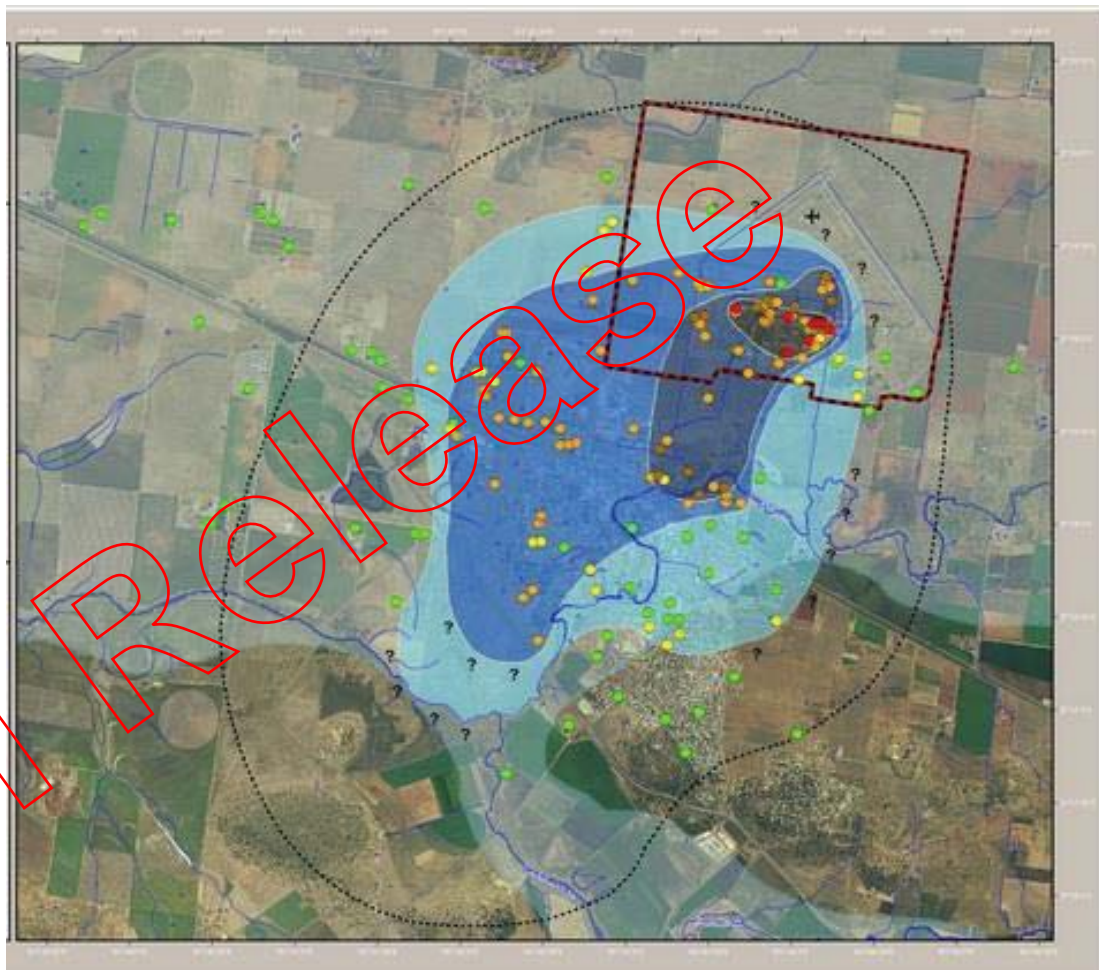
Timeline

- Use of AFFF at Oakey 1977-2006
- 1988: First investigations & controls implemented
- 1997: First remediation of training pad area
- 2010: PFOS detected in groundwater on base
- 2013: PFOS detected in groundwater off base
- 2014: extended off base sampling, first community consultations
- 2015: Coordination with Queensland Government
 - May: First meeting DoH and DoD
 - June: First Interdepartmental Committee (IDC)
 - October: DP&C assume responsibility for IDC

Extent

Large plume extends from base towards the town of Oakey

- Highest conc range on base: PFOA & PFOS 50-500 $\mu\text{g/L}$;
- Highest conc range off base: PFOA 0.4-9.99 $\mu\text{g/L}$, PFOS 10-49 $\mu\text{g/L}$



Exposure



- Area known to be affected largely small scale rural holdings, reliant on bore water for some purposes
 - Irrigation, stock watering, some domestic use
 - Agriculture includes cropping (e.g. corn, cotton) and livestock production
- The area includes an export abattoir that uses some groundwater (1 of 3 bores affected)
- RO treated groundwater was used for Oakey supply 2008-2010, blended 30-50% with piped water from Toowoomba

RTI RELEASES

Concerns



- Blood sampling initiated by private citizen, then followed by DoD testing
 - Results show elevated concentrations of PFOS and PFHxS, but not PFOA
 - No exposure data to inform the blood test results

	Mean (ng/mL)	Max (ng/mL)
PFOA	3.05 (6.4)	19.21 (9.1)
PFHxS	45.67 (3.1)	372.62 (11.3)
PFOS	69.38 (15.2)	381.29 (28.5)

- Australian data in brackets from the following reference:
- Toms, L.-M. L., Calafat, A. M., Kato, K., Thompson, J., Harden, F., Hobson, P., Sjödin, A., Mueller, J. F., Jun. 2009. Polyfluoroalkyl chemicals in pooled blood serum from infants, children, and adults in Australia. Environ. Sci. Technol. 43 (11), 4194-4199.

- Community Perception of importance of blood testing

Issues

- 'Cycling' of PFAS groundwater→soil→groundwater
 - Irrigation activities on rural holdings
 - Reuse of water from abattoir
- Complex hydrology with aquifers at different depths
 - Currently no depth profile of plume
 - Contaminated area overlies GAB
- Exposure limits
 - No water guideline
 - No food standard
- Risks to industry
- Recognition of differences between contamination sites

RTI Release

Suzanne Huxley

From: Penny Hutchinson
Sent: Friday, 16 December 2016 11:46 AM
To: Sophie Dwyer; Suzanne Huxley; Janet Cumming
Subject: FW: PFAS - Blood Testing Program for Per- and Poly-fluoroalkyl Substances

Hi Sophie, Suzanne and Janet,
Below is what the PHN has sent out to GPs in our region.
The following website is from the Hunter new England PHN
<http://www.hneccphn.com.au/programs/pfas/>

It is interesting to compare the two.

I raised the issue of the Oakey meetings not being well attended at the PHN clinical council. The GPs on the council just felt that having access to the information readily available was all that was needed.
I spoke with the Hunter New England Public Health Unit who advised that their sessions had a reasonable attendance.

I have advised that if they require further assistance I am available to help but I get the impression that the PHN really doesn't want my involvement(they don't want to upset the Commonwealth).

Regards
Penny

From: Communications [mailto:communications@ddwmpohn.com.au]
Sent: Friday, 16 December 2016 10:18 AM
Subject: PFAS - Blood Testing Program for Per- and Poly-fluoroalkyl Substances



**PFAS Voluntary Blood Testing Program for past
and previous residents of Oakey, QLD**



Australian Government
Department of Health

ATTN: GP Practices & Mental Health Service Providers








Dear Colleagues,

As you may know, the Oakey community has been affected by the presence of Per- and poly-fluoroalkyl substances (PFAS) in their ground water. The Darling Downs & West Moreton PHN has been engaged by the Department of Health to assist you to provide support to the community through the provision of pre- and post-blood test counselling (GPs) and psychological therapies and mental health services. I have attached the media release for your information.

All related forms and information sheets can be located on our website under the '**referral forms**' menu ([CLICK HERE](#)) and it has been advised that any queries relating to the PFAS program can be sent to pfas@health.gov.au for the Department to follow up directly.

RESOURCES:

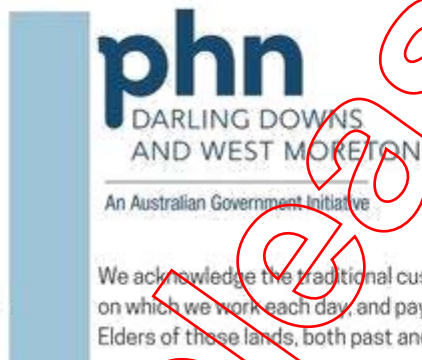
- [CLAIM FORM – PFAS Poly-fluorinated alkyl substances: Pre and Post Blood Tests](#)
- [CLAIM FORM – PFAS Poly-fluorinated alkyl substances: Psychological Therapies & Mental Health Services](#)
- [Department of Health Media Statement – Voluntary blood testing available for people in Oakey and Williamtown – 30 November 2016](#)
- [Map of Oakey Investigation Area](#)
- [Voluntary Blood Testing Program for PFAS – Presentation Notes by Dr Tony Hobbs, Australian Government Chief Medical Officer](#)
- [Voluntary Blood Testing Program for PFAS – Factsheet](#)
- [Voluntary Blood Testing Program for PFAS – Pre-test consultation advice for GPs](#)
- [Voluntary Blood Testing Program for PFAS – Post-test consultation advice for GPs](#)

-  [Voluntary Blood Testing Program for PFAS – Advice on PFAS for GPs](#)
-  [Voluntary Blood Testing Program for PFAS – Program information for GPs](#)
-  [Per- and Poly-fluoroalkyl Substances \(PFAS\): an epidemiological study](#)
-  [Statutory Declaration – Blood testing for PFAS \(for adults\)](#)
-  [Statutory Declaration – Blood testing for PFAS \(for adults\)](#)
-  [Statutory Declaration – Blood testing for PFAS \(for minors\)](#)
-  [Statutory Declaration – Blood testing for PFAS \(for minors\)](#)

Sincerely,

Ph: 07 4615 0900
 Direct: 07 4615 0935
 Fax: 07 4615 0999

PO Box 81, 145 Taylor Street,
 Toowoomba, Queensland, 4350
 Email: communications@ddwmpn.com.au
 Website: www.ddwmpn.com.au



We acknowledge the traditional custodians of the lands on which we work each day, and pay our respects to Elders of those lands, both past and present.

*Merry Christmas
& happy New Year*

Darling Downs & West Moreton PHN acknowledges the GPs, Allied Health service providers, nurses, hospital staff and ambulance & emergency services workers who work tirelessly over the Christmas period.

Our office will be closed from Monday 26 December 2016 to Tuesday 3 January 2017.



Suzanne Huxley

From: Penny Hutchinson
Sent: Monday, 12 December 2016 4:01 PM
To: Sophie Dwyer; Suzanne Huxley; Janet Cumming
Subject: FW: GP presentations - Voluntary Blood Testing Program [SEC=UNCLASSIFIED]
Attachments: PFAS slides for DCMO - Presentation to PHNs and GPs - Blood Testing Program - face to face.pdf; Voluntary Blood Testing Program - Program Information for GPs.pdf

Hi Sophie, Suzanne and Janet,

The Commonwealth has attempted to provide information sessions for the GPs both here and in Newcastle. There was a teleconference held on 7/12/16 which I didn't know about (only heard about through NSW colleagues) and a face to face meeting to be held on Thursday 15/12/16. This face to face meeting has been cancelled due to lack of attendees (although they only advertised it today). The PHN has kindly sent me the powerpoints that were to be used for the face to face. My feeling is the lack of notice and the time of year. I also think that Toowoomba GPs are still not aware that this is relevant to them.

I thought I might do something locally. I will raise at the PHN clinical council meeting tomorrow evening and take things from there.

Regards
Penny

From: Communications [<mailto:communications@ddwmpnh.com.au>]
Sent: Monday, 12 December 2016 3:55 PM
To: Penny Hutchinson
Subject: FW: GP presentations - Voluntary Blood Testing Program [SEC=UNCLASSIFIED]

Hi Penny

As discussed, I confirm that the face to face information session scheduled for this Thursday has now been cancelled.

Please refer to the attached presentation slides and info sheet provided by the Department.

Additionally, all relevant forms and info sheets can be located on our website at www.ddwmpnh.com.au/pfas

Please advise if you require anything further or if there is anything that I can assist with.

Kind regards,

John Hewitt

Communications Manager

Ph: 07 4615 0900

Direct: 07 4615 0935

Fax: 07 4615 0999

PO Box 81, 145 Taylor Street,

Toowoomba, Queensland, 4350

Email: communications@ddwmpnh.com.au

Website: www.ddwmpnh.com.au

phn
DARLING DOWNS
AND WEST MORETON

An Australian Government Initiative

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Our office will be closed from Monday 26 December 2016 to Tuesday 3 January 2017.

From: FEARNE, Julie [<mailto:Julie.Fearne@health.gov.au>]

Sent: Monday, 12 December 2016 2:24 PM

To: Debbie Frost <debbie@ddwmpnh.com.au>

Cc: Communications <communications@ddwmpnh.com.au>; TOMS, Cindy <Cindy.Toms@health.gov.au>

Subject: RE: GP presentations - Voluntary Blood Testing Program [SEC=UNCLASSIFIED]

Hi Debbie

Thank you for making enquiries within your team with regard to the proposed Oakey face to face GP consultation on 15 December. I have discussed this with Cindy and we have agreed that we shall cancel this face to face consultation, based your advice below. Can you please advise the GPs in the region to this effect.

Noting that you have received one RSVP for this event already, please find attached the "Program information for GPs" fact sheet and a copy of the presentation that was to be delivered by Dr Tony Hobbs which can be provided to any interested physicians in the area. In addition, the factsheets for this program are available online at www.health.gov.au/PFAS.

Also please let GPs know that if they have any queries about the program to email pfas@health.gov.au and we will follow up with them.

Please let me know if you have any queries.

Kind regards

Julie Fearne

Acting Assistant Director | PFAS Coordination Unit
Health Protection Policy Branch | Office of Health Protection
Department of Health | 02 6289 9231 | julie.fearne@health.gov.au

Office hours: Monday, Tuesday, Thursday & Friday



Australian Government
Department of Health

VOLUNTARY BLOOD TESTING PROGRAM FOR PFAS

Dr Tony Hobbs
Australian Government Deputy Chief Medical Officer

RTI Release



Background

What are Per- and Poly-fluoroalkyl Substances (PFAS)?

- Man made chemicals widely used since the 1950s in household and industrial products.
- Most people living in Australia will have measurable levels of PFAS in their blood.



Human Health Effects

The current health advice for PFAS exposure is:

- *There is currently **no consistent evidence** that exposure to PFOS and PFOA causes adverse human health effects.*
- *Because these chemicals persist in humans and the environment, enHealth recommends that human exposure to these chemicals **is minimised as a precaution.***



Exposure

Exposure pathways

- Primarily ingestion of contaminated groundwater or food.
- Low level exposure sources include:
 - Inhalation of dust contaminated with PFAS; and
 - Transdermal absorption

Minimising exposure

- For advice on minimising exposure in the Williamtown area see:
 - Department of Defence's Human Health Risk Assessment :
<http://www.defence.gov.au/id/Master/docs/Williamtown/DefenceWilliamtownHHRAFactsheetAug16.pdf>
 - NSW EPA: <http://www.epa.nsw.gov.au/protectingyourenvironment.htm>
- For advice on minimising exposure in the Oakey area see:
 - Department of Defence's Human Health Risk Assessment:
<http://www.defence.gov.au/id/Master/docs/Oakey/Defence%20Oakey%20HHRA%20fact%20sheet%20Sept16%20WEB.pdf>
 - QLD Government: <https://www.qld.gov.au/environment/pollution/management/investigation-pfas/oakey/index.html>



Voluntary Blood Testing Program for PFAS

- The Program commenced on 30 November 2016 and offers a free single voluntary blood test to eligible people.
- Free blood testing available until 31 March 2018.
- Program will run concurrently with the Epidemiological Study, whereby, where consent is given, PFAS Blood Test results can be included in Study.
- Patients must be referred to a Sonic Healthcare Collection Centre for this PFAS blood test.
- This Program replaces the Department of Defence interim blood testing arrangements.



The Role of the GP

- General Practitioners will play a key role in the Voluntary Blood Testing Program.
- Patients are required to go through their local GP in order to request the PFAS blood test under this program.
- The Australian Government is funding Pre and post-test counselling by the GP.
- The Department of Health has released a number of factsheets to assist GPs in understanding their responsibilities under this program. These are available at www.health.gov.au/PFAS.



Patient Eligibility



- People eligible for a blood test include:
 - Those who currently live or work in the Oakey, QLD, Investigation Areas; OR
 - previously lived or worked in the Investigation Areas of Oakey but now live elsewhere
 - Children who live in the Oakey Investigation Areas or who undertake day to day activities in the Investigation Areas are also eligible
- Statutory Declaration
- Additional considerations:
 - Eligibility if Patient has received a blood test previously received under the Department of Defense Interim arrangement
 - Eligibility for Australian Defence Force Personnel



Pre-Test Consultation

- See the *Voluntary Blood Testing Program for PFAS: Pre-test consultation advice for GPs* factsheet for detailed information on the pre-test consultation.
- Key discussion points with the patient may include:
 - Limitations of the blood test.
 - Treatment.
- Requesting a test.
 - Please call 02 9855 5437 or email commercial.path@sonichealthcare.com to request a PFAS Test Request Form from Sonic Healthcare.
- Advice on additional testing.
- The epidemiological study.



An Epidemiological Study for Williamstown and Oakey

- The Australian Government has commissioned the National Centre for Epidemiology and Population Health at the Australian National University (ANU) to examine the potential health effects resulting from PFAS exposure through an epidemiological study.
- Participation in the study will be purely voluntary, however, it will be important for as many people as possible to participate in this study to ensure that the results are as meaningful as possible.



Post-test Consultation

- See the *Voluntary Blood Testing Program for PFAS: Post-test consultation advice for GPs* factsheet for detailed information on the post-test consultation.
- Key discussion points with the patient may include:
 - There are no normal reference ranges for PFAS.
 - Minimising exposure.
 - Testing frequency.
 - If required, referral to additional Mental Health and Counselling Services.



Australian Government
Department of Health

Further Information

- Further information is available from the Department of Health website at: <http://www.health.gov.au/pfas>
- Epidemiological Study questions:

Dr Martyn Kirk

T: (02) 6125 5609

E: martyn.kirk@anu.edu.au

Dr Rosemary Korda

T: (02) 6125 5583

E: rosemary.korda@anu.edu.au



Australian Government

Department of Health

QUESTIONS?

Please forward any further questions to
PFAS@health.gov.au

RTI Release



Voluntary Blood Testing Program for PFAS

PROGRAM INFORMATION FOR GPs

From 30 November 2016, the Australian Government will provide a free blood test for Per- and Poly-fluoroalkyl Substances (PFAS) to people who live or work, or have lived or worked, in the Williamtown, NSW and Oakey, QLD, Investigation Areas.

The Voluntary Blood Testing Program will run concurrently with an epidemiological study and free blood testing will be available to eligible individuals until 31 March 2018.

Where individual consent is given, the PFAS blood test results from these areas may be used as part of an epidemiological study to improve the understanding of potential health effects relating to PFAS exposure. Please refer to the factsheet *Per- and Poly-fluoroalkyl Substances (PFAS): an epidemiological study* for more information on the epidemiological study.

The Australian Government has commissioned the National Centre for Epidemiology and Population Health (NCEPH) at the Australian National University (ANU) to examine the potential health effects resulting from PFAS exposure in the affected communities of Williamtown, NSW, and Oakey, QLD, through an epidemiological study.

Both the Voluntary Blood Testing Program and the epidemiological study are available on an opt-in basis and people who decide to have a blood test under this program are not obliged to participate in the epidemiological study.

The Australian Government will not be provided with the personal details of anyone seeking a blood test under this program.

While the Voluntary Blood Testing Program was being developed, the Department of Defence established interim arrangements to reimburse individuals in the Williamtown, NSW and Oakey, QLD, Investigation Areas who have already obtained blood tests. These interim arrangements will cease following the commencement of the Voluntary Blood Testing Program.

The following information will assist you if a person presents to your practice wishing to obtain a free PFAS blood test.

Eligibility for testing

Eligibility for testing under this program should be discussed with those seeking a blood test in the context of possible exposure pathways. For further information on exposure pathways and information to discuss with individuals seeking a blood test please refer to the factsheets *Voluntary Blood Testing Program for PFAS - Advice on PFAS for GPs* and *Pre-test consultation advice for GPs*.

People eligible for a single free blood test under this program include those who:

- currently live or work in the Williamtown, NSW and Oakey, QLD, Investigation Areas.

OR

- have previously lived or worked in the Investigation Areas of Williamtown and Oakey but now live elsewhere.

Statutory Declaration

A Statutory Declaration will be required from the individual seeking a blood test, or the parent or guardian of a minor, to confirm they are eligible for a free blood test under this program.

People seeking blood tests should print and sign the pre-filled Statutory Declaration on the Department of Health website before presenting at your practice. The Department of Health will also supply your practice with pre-filled Statutory Declaration forms to be used by patients who do not bring the form.

Requesting a PFAS blood test

Sonic Healthcare has been engaged by the Australian Government to conduct the blood testing for the Voluntary Blood Testing Program. Sonic Healthcare will provide your practice with specially marked PFAS request forms that are pre-filled with the PFAS testing and billing requirements. This form should be provided to eligible people seeking a blood test under the Voluntary Blood Testing Program. For additional PFAS request forms please email commercial.path@sonichealthcare.com or call 02 9855 5437.

All blood tests under the Voluntary Blood Testing Program must be done by Sonic Healthcare. The Australian Government will not reimburse the costs of blood tests performed by other pathology providers.

The specially marked request forms will include a section for the individual to consent to their blood sample and result being transferred to the ANU to be included in the epidemiological study and to consent to the study team contacting them in the future.

Patients must take their completed Statutory Declaration and specially marked PFAS request forms to a Sonic Healthcare Pathology Collection Centre. Sonic Healthcare will use the Statutory Declaration as evidence to bill the Australian Government for the cost of the test.

Can people not eligible for the Voluntary Blood Testing Program get a blood test for PFAS?

Individuals not eligible for PFAS blood testing under this program or not willing to sign the Statutory Declaration form can be referred for a blood test but at their own cost.

In this instance, a standard pathology request form should be issued and the pathology provider will bill the patient directly. The private testing fee is approximately \$500 plus GST and is not covered by Medicare.

Patients should also be advised on the diagnostic and prognostic value of the blood test — see factsheet *Advice on PFAS for GPs*.

Can a person who has already had a blood test, either privately or through the interim Department of Defence arrangement, get a blood test under the Voluntary Blood Testing Program?

Yes, however:

- repeat blood testing for PFAS is not recommended and has no clinical value. In humans, studies suggest that it can take many years for PFAS blood levels to go down by half; and
- if the individual wants to get another blood test, and is otherwise eligible for the Voluntary Blood Testing Program, then it is recommended that it is done in the context of the epidemiology study being conducted by the ANU.

Please refer to the factsheet *Per- and Poly-fluoroalkyl Substances (PFAS): an epidemiological study* for more information on the Epidemiological Study.

Australian Defence Force personnel

Full-time Australian Defence Force personnel (including Reserves rendering continuous full-time service) should seek testing through their usual Defence garrison health facility.

If eligible, families of Australian Defence Force personnel can access testing through the Voluntary Blood Testing Program for PFAS.

Cost of testing and consultation

The laboratory test for PFAS is free for those eligible for a blood test under the Voluntary Blood Testing Program for PFAS.

Under the Voluntary Blood Testing Program, a free blood test and two free general practice consultations are available to eligible people — one prior to the blood test, and one following the blood test. This will ensure that they are adequately informed of the limitations of the blood test and have their follow up questions addressed.

Practitioners from anywhere in Australia who provide eligible consultations, should bill consultations to:

- Hunter New England Central Coast Primary Health Network for people who currently live or work, or have previously lived or worked, in the Williamtown, NSW, Investigation Area; and
- Darling Downs and West Moreton Primary Health Network for people who currently live or work, or have previously lived or worked, in the Oakey, QLD, Investigation Area.

Please see the Hunter, New England & Central Coast PHN website or the Darling Downs West Moreton Primary Health Network website for further details.

Any other consultations in relation to possible PFAS-related health issues, including with individuals not eligible for a free blood test under the Voluntary Blood Testing Program, or further consultations regarding blood test results should follow your practice's normal fee arrangements.

Management of PFAS test results

Under the Voluntary Blood Testing Program, individual blood tests results will be reported to the requesting GP within seven days through the practice's usual channel for receiving pathology results. It is recommended that an individual's blood test result be discussed with them in person so that an appropriate explanation of the results can be provided; including the limitations of PFAS blood testing in individuals. Those tested may also be referred to mental health and support services if required.

For further information on interpreting PFAS blood test results please refer to the factsheet *Post-test consultation advice for GPs*.

As mentioned above, the results will also be provided to the ANU for inclusion in the epidemiological study where consent for that process has been provided.

Investigation Areas

Williamtown, NSW

Click [here](#) to view the current Investigation Area map.

Further information about the Williamtown Investigation Area, including recommendations for how affected residents can minimise PFAS exposure in the future is available:

- in the Department of Defence's Human Health Risk Assessment (HHRA) Fact Sheet; and
- on the NSW Environmental Protection Agency website.

Oakey, QLD

Click [here](#) to view the current Investigation Area map.

Further information about the Oakey Investigation Area, how to interpret the map and recommendations for how affected residents can minimise PFAS exposure in the future is available:

- in the Department of Defence's Human Health Risk Assessment (HHRA) Fact Sheet; and
- on the QLD Government website.

Further information

The Department of Health

For further information regarding the Australia Government Department of Health's response to PFAS contamination, including health advice published by the Australian Health Protection Principal Committee (AHPPC) and its subcommittee enHealth, please go to the Department of Health website.

The Department of Defence

For further information regarding to the Department of Defence's response to PFAS contamination and site specific information please go the Department of Defence website.

Suzanne Huxley

From: Penny Hutchinson
Sent: Monday, 28 November 2016 1:42 PM
To: Simone; Sophie Dwyer
Cc: Roger Drew; Suzanne Huxley; Tarah Hagen
Subject: RE: meeting with Oakey and Toowoomba GPs PFAS blood testing

Hi Simone

The Commonwealth is finalising fact sheets for GPs and consumers and I was wondering if the contract has been finalised so we can look at holding meetings for GPs. I know NSW is looking at holding some sessions in December.

Regards
Penny

From: Simone [mailto:simone@ddwmpnh.com.au]
Sent: Wednesday, 16 November 2016 11:29 AM
To: Sophie Dwyer
Cc: Roger Drew; Penny Hutchinson; Suzanne Huxley; Tarah Hagen
Subject: Re: meeting with Oakey and Toowoomba GPs PFAS blood testing

Really? That's interesting - will need to make sure the Cth are aware.

Simone

Simone Finch
Chief Executive Officer
Darling Downs and West Moreton PHN
P |
M |

Sent from my iPad

On 16 Nov 2016, at 11:25 AM, Sophie Dwyer <Sophie.Dwyer@health.qld.gov.au> wrote:

Dear Simone Penny and Roger
Doing several events is sensible given that the base at Amberley has now come into play, albeit a lower risk profile.
Regards
Sophie Dwyer

From: Simone [mailto:simone@ddwmpnh.com.au]
Sent: Wednesday, 16 November 2016 11:13 AM
To: Roger Drew
Cc: Penny Hutchinson; Sophie Dwyer; Suzanne Huxley; Tarah Hagen
Subject: Re: meeting with Oakey and Toowoomba GPs PFAS blood testing

Thanks Roger and Penny.

I have met with the Commonwealth Department of Health this week and am expecting a contract for delivery this week (although I'm not holding my breath).

Once I have that document, we will be able to pin down dates for working with the various GPs. I suggest that we do a couple of events as getting them together in one place will be a huge challenge.

We will also have a communications plan developed - in line with DOH - that will assist. I'm sure you understand how political this is & that the community are feeling very vulnerable.

Looking forward to working with you.

Simone

Simone Finch
Chief Executive Officer
Darling Downs and West Moreton PHN

P |

M

Sent from my iPad

On 16 Nov 2016, at 11:07 AM, Roger Drew <rogerdrew@toxconsult.com.au> wrote:

Hello Penny,

Thank you for the note. At this stage I can accommodate just about any date between now and 22nd December if given sufficient notice.

Do you have in mind say an evening group presentation with Q & A, or 'one-one' road show?

Either way travelling from Melbourne will require an overnight in Toowoomba, car hire, and obviously flights. I think Sophie indicated financial support would be available.

I am happy to reduce my usual out of office day rate by 50%, also my hourly rate for preparation of materials (if needed) for GPs also by 50%.
I can provide a quote when I have more details.

Regards Roger

Roger Drew, PhD, DABT, FACTRA
Toxicologist & Risk Assessor

<image001.gif>

From: Penny Hutchinson [mailto:Penny.Hutchinson@health.qld.gov.au]
Sent: Friday, 11 November 2016 6:10 PM
To: rogerdrew@toxconsult.com.au
Cc: Sophie Dwyer; Suzanne Huxley; Simone (simone@ddwmpnh.com.au)
Subject: meeting with Oakey and Toowoomba GPs PFAS blood testing

Dear Roger

Sorry it has been a while and hope you are well.

You may recall at the meeting held in Oakey at the beginning of September, we discussed having you come to Toowoomba to speak to the GPs from both Oakey and Toowoomba.

Things are not clear as to when the funded testing program will commence, however, I think it is still worthwhile arranging a meeting between yourself and the

GPs. As mentioned at the meeting in September, I felt you explained the results in a meaningful way for doctors.

I am aware we are approaching the holiday season so just wanted to check if there would be an opportunity for you to visit Toowoomba before Christmas.

Please advise of your availability.

Regards

Penny

Dr Penny Hutchinson
Public Health Physician and Director | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor Browne House
Baillie Henderson Hospital
Cnr Tor and Hogg St
Toowoomba QLD 4350

P: 07 46998240 | **F:** 07 46998262
E: Penny.Hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

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Follow Up Flag: Follow up
Flag Status: Flagged

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Subject: Re: meeting with Oakey and Toowoomba GPs PFAS blood testing

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Chief Executive Officer
Darling Downs and West Moreton PHN
P | 07 4615 0900
M |

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Thanks Roger and Penny.

I have met with the Commonwealth Department of Health this week and am expecting a contract for delivery this week (although I'm not holding my breath).

Once I have that document, we will be able to pin down dates for working with the various GPs. I suggest that we do a couple of events as getting them together in one place will be a huge challenge.

We will also have a communications plan developed - in line with DOH - that will assist. I'm sure you understand how political this is & that the community are feeling very vulnerable.

Looking forward to working with you.

Simone

Simone Finch
Chief Executive Officer
Darling Downs and West Moreton PHN

P |

M |

Sent from my iPad

On 16 Nov 2016, at 11:07 AM, Roger Drew <rogerdrew@toxconsult.com.au> wrote:

Hello Penny,

Thank you for the note. At this stage I can accommodate just about any date between now and 22nd December if given sufficient notice.

Do you have in mind say an evening group presentation with Q & A, or 'one-one' road show?

Either way travelling from Melbourne will require an overnight in Toowoomba, car hire, and obviously flights. I think Sophie indicated financial support would be available.

I am happy to reduce my usual out of office day rate by 50%, also my hourly rate for preparation of materials (if needed) for GPs also by 50%.
I can provide a quote when I have more details.

Regards Roger

Roger Drew, PhD, DABT, FACTRA
Toxicologist & Risk Assessor

<image001.gif>

From: Penny Hutchinson [mailto:Penny.Hutchinson@health.qld.gov.au]

Sent: Friday, 11 November 2016 6:10 PM

To: rogerdrew@toxconsult.com.au

Cc: Sophie Dwyer; Suzanne Huxley; Simone (simone@ddwmpnh.com.au)

Subject: meeting with Oakey and Toowoomba GPs PFAS blood testing

Dear Roger

Sorry it has been a while and hope you are well.

You may recall at the meeting held in Oakey at the beginning of September, we discussed having you come to Toowoomba to speak to the GPs from both Oakey and Toowoomba.

Things are not clear as to when the funded testing program will commence, however, I think it is still worthwhile arranging a meeting between yourself and the GPs. As mentioned at the meeting in September, I felt you explained the results in a meaningful way for doctors.

I am aware we are approaching the holiday season so just wanted to check if there would be an opportunity for you to visit Toowoomba before Christmas. Please advise of your availability.

Regards
Penny

Dr Penny Hutchinson
Public Health Physician and Director | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor Browne House
Baillie Henderson Hospital
Cnr Tor and Hogg St
Toowoomba QLD 4350

P: 07 46998240 | **F:** 07 46998262
E: Penny.Hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

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Suzanne Huxley

From: Penny Hutchinson
Sent: Friday, 11 November 2016 5:10 PM
To: rogerdrew@toxconsult.com.au
Cc: Sophie Dwyer; Suzanne Huxley; Simone (simone@ddwmpnh.com.au)
Subject: meeting with Oakey and Toowoomba GPs PFAS blood testing

Dear Roger

Sorry it has been a while and hope you are well.

You may recall at the meeting held in Oakey at the beginning of September, we discussed having you come to Toowoomba to speak to the GPs from both Oakey and Toowoomba.

Things are not clear as to when the funded testing program will commence, however, I think it is still worthwhile arranging a meeting between yourself and the GPs. As mentioned at the meeting in September, I felt you explained the results in a meaningful way for doctors.

I am aware we are approaching the holiday season so just wanted to check if there would be an opportunity for you to visit Toowoomba before Christmas.

Please advise of your availability.

Regards
Penny

Dr Penny Hutchinson
Public Health Physician and Director | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor Browne House
Baillie Henderson Hospital
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P: 07 46998240 | **F:** 07 46998262
E: Penny.Hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

Suzanne Huxley

From: Peter Boland
Sent: Thursday, 8 September 2016 11:31 AM
To: Janet Cumming; Katie Panaretto; Suzanne Huxley
Subject: FW: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence

Hi,

Following the release of the Human Health Risk Assessment Report by the Department of Defence the Oakey Hospital wants to recommence using its bores to water their gardens. It appears as though they fall into zone 1.

Your thoughts would be appreciated.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: 07 4699 8252 | **F:** 07 4699 8477

M:

E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Peter Jones
Sent: Thursday, 8 September 2016 11:11 AM
To: Campbell McKinlay; Peter Boland
Cc: Richard Hart
Subject: RE: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence

Peter B your thoughts?

I don't like the idea of vege watering but will take advice from the pros.

PJ

From: Campbell McKinlay
Sent: Thursday, 8 September 2016 11:05 AM
To: Peter Jones; Peter Boland
Cc: Richard Hart
Subject: FW: Army Aviation Centre Oakey Environmental Investigation Project : Department of Defence

Hi Pete and Pete

This morning I received a work order 94427741 from Oakey to have their irrigation bore turned back on so as they can use the bore water to irrigate their flowers, vegetables and fruit trees.

What I am asking is what is the DDHHS thoughts on these risks and as we all know there will be a lot of skin contact and the odd drink of water in gardening.

At present they use TRC water to irrigate their plants. The garden taps are signed (Do Not Drink) and if we do turn the bore back on I would prefer to have the taps replaced with key taps so as the patients and public cannot access the bore water from these taps.

Please see link below from the Defence Department.

<http://www.defence.gov.au/id/oakey/Guidance.asp>

I would like your guidance on this one.

Cheers

Ross

RTI Release

Suzanne Huxley

From: Suzanne Huxley
Sent: Wednesday, 31 August 2016 9:37 AM
To: Matthew Boyd; Penny Hutchinson
Subject: FW: Army Aviation Centre Oakey Environmental Investigation – Community Information Events

Hi Penny and Matt

FYI if you have not yet seen the invitation to the community.

Regards

Suzanne

From: Virginia Berry [<mailto:Virginia.Berry@premiers.qld.gov.au>]
Sent: Tuesday, 30 August 2016 11:21 AM
To: Suzanne Huxley
Subject: FW: Army Aviation Centre Oakey Environmental Investigation – Community Information Events

From: AUBNE1 - Defence Oakey [<mailto:Defence.Oakey@aecom.com>]
Sent: Monday, 29 August 2016 4:27 PM
To: AUBNE1 - Defence Oakey <Defence.Oakey@aecom.com>
Subject: Army Aviation Centre Oakey Environmental Investigation – Community Information Events

Dear Oakey Resident/Business Owner,

The Department of Defence is holding community information sessions to provide local residents and business owners with an update on the environmental investigation into per- and poly-fluoroalkyl substances (PFAS) at the Army Aviation Centre Oakey.

The Community Information Session will provide a presentation on the results of the Human Health Risk Assessment. The Information Session will be followed by two Community Walk-In Sessions that provide local residents and business owners with an opportunity to ask questions about the environmental investigation to date including the results of the Human Health Risk Assessment.

The Human Health Risk Assessment addresses questions such as:

- Which PFAS could people be exposed to in and around Oakey?
- Do some exposure pathways result in greater exposure than others?
- Where are these pathways likely to occur (e.g. at home, at work, during recreation)?
- What is the risk of potential health effects?
- How can exposure be minimised in the future?

Community Information Session – Day 1

Date: Monday 5 September 2016
Time: 5:30pm - 7:00pm
Venue: Oakey Cultural Centre, Corner McDonald and Campbell Streets, Oakey Qld 4401.

This Community Information Session will include a presentation of the findings of the HHRA report. It will be followed by two Community Walk-In Sessions to give local residents and business owners an opportunity to ask questions about the findings of the HHRA report and the Environmental Site Assessment report at <http://www.defence.gov.au/id/oakey/Documents.asp>.

Community Walk-In Sessions – Day 2

Date: Tuesday 6 September 2016

Time: Morning session: 10:00am – 1:00pm

Afternoon session: 3:30pm – 7:00pm

Venue: Oakey Cultural Centre, Corner McDonald and Campbell Streets, Oakey Qld 4401

RSVP: 1800 136 129 or defence.oakey.anz@aecom.com before 5:00pm Friday 2 September 2016.

Light refreshments will be provided at all sessions. **If you would like to attend, please RSVP to ensure adequate catering.**

For more information about the Environmental Investigation, please visit the project website at www.defence.gov.au/id/Oakey/Default.asp.

If you have any questions about the Community Information Session or Walk-In Sessions, or the Environmental Investigation, please contact the project team on 1800 136 129 or email defence.oakey.anz@aecom.com.

Yours sincerely,

AACO Environmental Investigation Project Team

P: 1800 136 129

E: Defence.Oakey@aecom.com

W: www.defence.gov.au/id/Oakey

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RTI Release

Suzanne Huxley

From: Peter Boland
Sent: Wednesday, 24 June 2015 12:48 PM
To: Rebecca Richardson; Sophie Dwyer; Greg Jackson; Suzanne Huxley; Janet Cumming; Penny Hutchinson; Matthew Boyd
Subject: RE: Oakey Taskforce Minutes
Attachments: 3112_001.pdf

Hi,

Please find attached briefing notes for Toowoomba Regional Council, prepared by Alan Kleinschmidt, Council's Manager Water Operations. This document outlines the history of water supplied to the town and an assessment of the PFOS and PFOA impact. Water from the impacted Council bores was treated by reverse osmosis before use. Since 2012 Oakey has been supplied with treated water from Toowoomba. During a discussion with Mr Kleinschmidt, on 5 May, he confirmed that this was still the case.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: 07 4699 8252 | **F:** 07 4699 8477

M:

E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Rebecca Richardson
Sent: Wednesday, 17 June 2015 8:59 AM
To: Sophie Dwyer; Greg Jackson; Suzanne Huxley; Janet Cumming; Penny Hutchinson; Peter Boland; Matthew Boyd
Subject: Oakey Taskforce Minutes

Hi all,

Please find attached the meeting minutes

Regards
Rebecca

Rebecca Richardson
A/Senior Environmental Health Officer
Water Team, Health Protection Unit
Chief Health Officer Branch
Department of Health
Level 3, 15 Butterfield Street, Herston QLD 4006

PO Box 2368
Fortitude Valley BC QLD 4006

Telephone: 07 3328 9348

Fax: 07 3328 9354

email: Rebecca.richardson@health.qld.gov.au | www.health.qld.gov.au



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BRIEFING NOTES
WATER AND WASTE SERVICES GROUP

**Potential Contamination of Oakey Drinking Water Supply by Army Aviation
Centre Oakey Activities**

PREPARED BY: Alan Kleinschmidt Manager Water Operations

DATE: 18 July 2014

Summary

A study undertaken by the Department of Defence (DoD) shows that groundwater in the vicinity of the Army Aviation Centre Oakey has been contaminated with the chemicals perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA). These chemicals have been identified as having potential human health impacts when present in drinking water.

Sampling and testing undertaken by DoD shows that PFOS is present in water samples collected from Council's Oakey Bore 7 and Bore 8 at concentrations in excess of the United States Environmental Protection Agency's (USEPA) provisional limit of 0.2 micrograms/L.

Historical data shows that the only time when Oakey water supply consumers may have been exposed to potentially contaminated water was in the period between 2008 and 2012 when these bores were used to supply the Oakey Reverse Osmosis Plant (ROP). The maximum possible average concentration of PFOS in the water supply during this period is 0.5 micrograms/L. This concentration exceeds the USEPA's provisional limit but is unlikely to pose a significant health risk given the relatively short possible exposure period and the inherent conservatism in the calculation of the provisional limit, which assumes lifetime exposure.

Further, reverse osmosis has been demonstrated to effectively treat PFOS at concentrations significantly higher than those potentially present in the Oakey ROP feed water and can therefore be expected to have reduced the PFOS concentration in the treated water to less than the USEPA provisional value.

It is considered highly unlikely that Oakey and Jondaryan residents have been exposed to drinking water containing PFOS at concentrations likely to cause an adverse health impact.

Background

- The chemicals perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA) have been identified by the United States Environmental Protection Agency (USEPA) as potential groundwater contaminants which may adversely impact on human health.
- The Department of Defence (DoD) identified that PFOS and PFOA were present in firefighting foams used for training activities at the Army Aviation Centre Oakey (AACO) between 1970 and 2005, and that as a result may have contaminated groundwater underlying the AACO.

- In 2012, DoD commenced a study into the potential groundwater contamination. Council's Principal Scientist Laboratory Services (John Mills) attended a public briefing on the study in the latter part of 2012.
- This study indicated the potential for off-site groundwater contamination and a targeted groundwater sampling program commenced in November 2013. Council was approached to provide access for the collection of water samples from a number of water supply bores in the vicinity of the AACO.
- In early May 2014, stakeholders, including TRC, were advised that groundwater impacts were identified in a number of bores and that further sampling was to be undertaken in May 2014. Council's Bore 7 and Bore 8 (both located at the Oakey Showgrounds) were amongst the identified impacted bores. At this time I contacted DoD seeking detailed information about the water quality testing results but no information was forthcoming.
- In addition to seeking access to Bores 7 and 8 for further sampling, DoD's consultants requested detailed information in relation to the construction and historical usage of these bores. This information was provided by Water Operations branch as requested.
- On 17 July 2014, Council's Customer Swr4vice Centre was contacted by an Oakey GP in relation to concerns expressed by a patient who had received a letter from the DoD advising not to drink the water from their home bore due to water contamination concerns, and inviting them to a community meeting on Tuesday 29 July 2014 at the Oakey Community Centre. The GP was concerned that Council may not have been aware of possible contamination of the town water supply. The call was referred to me and I was able to advise that Council was aware of the DoD's investigation, but that we had not yet received specific advice about contaminant concentrations or the public meeting.
- I subsequently determined that 2 letters had been forwarded to Council, one addressed to the Mayor giving general information about the outcomes and the second addressed to John Mills containing detailed test results. Both letters were dated 14 July 2014, were received by Council on 17 July 2014 and were distributed through Pathway on the morning of 18 July.

Public Health Considerations

- PFOS and PFOA are considered to be "emerging contaminants", defined by the USEPA as *a chemical or material that is characterised by a perceived, potential or real threat to human health or the environment or by a lack published health standards.*
- Studies have found small quantities of PFOS and PFOA in blood samples from humans and wildlife across the USA. The chemicals readily bioaccumulate in serum, kidneys and liver and are relatively persistent. Animal studies have shown these chemicals to have potential developmental, reproductive and other systematic effects. Long term exposure may promote tumour formation. Data from human clinical studies does not appear to be available. The USEPA identified consumption of contaminated fish as the primary exposure route for humans.

Drinking Water Guideline Values

- Due to the status of PFOS and PFOA as emerging contaminants, neither the Australian Drinking Water Guidelines (ADWG) or the World Health Organisation Guidelines for Drinking Water Quality contain health based limits.

- In January 2009, the USEPA established provisional guideline values of 0.2 micrograms/L for PFOS and 0.4 micrograms/L for PFOA. These values assume lifetime exposure, are based on a conservative treatment of the available animal study data and have been adopted as the basis for assessing the Oakey bore water test result. As of February 2014 the USEPA has initiated peer review of human health effects documents for PFOS and PFOA. When finalised, the USEPA will use these documents to determine final water concentration limit values.

Detection of PFOS and PFOA in Oakey Groundwater

- Untreated bore water was sampled in all cases.
- PFOS and PFOA were detected in water samples taken from Oakey Bore 7 and Oakey Bore 8 in November 2013, January 2014 and May 2014.
- Water samples from Oakey Bore 7 contained PFOS in concentrations ranging from 0.25 – 0.54 micrograms/L, and PFOA from <0.02 – 0.03 micrograms/L.
- Water samples from Oakey Bore 8 contained PFOS in concentrations ranging from 1.00 – 2.25 micrograms/L, and PFOA from 0.06 – 0.09 micrograms/L.
- Untreated water from both Bore 7 and Bore 8 therefore contains PFOS in concentrations exceeding the USEPA provisional limit value.

Assessment of Oakey Water Supply Impacts

- Oakey water supply source history:

Pre 1997: Water wholly sourced from bores Oakey Bore 1 – 6. Note that Bore 7 and 8 were constructed specifically to supply the Oakey Reverse Osmosis Plant.

1997 – 2008: Water wholly sourced from the Toowoomba – Oakey pipeline. No local groundwater used.

2008 – 2012: Combination of Toowoomba – Oakey Pipeline and Oakey ROP. The contribution from Oakey Bore 7 and 8 ranged between 12.6% and 35.9% of the groundwater supplied to the Oakey RO and between 8.2% and 22.6% of total Oakey water supply.

2012 - : Water wholly sourced from Toowoomba – Oakey pipeline.

- Assuming the maximum recorded PFOS concentration of 2.25 micrograms/L and the maximum recorded bore 7/8 contribution of 35.9% of groundwater, the maximum possible average concentration of PFOC in the water supplied to the Oakey ROP during the period 2008 – 2012 is estimated at 0.8 micrograms/L. The maximum overall average concentration in the Oakey water supply for the same period is estimated at 0.5 micrograms/L. This value assumes no removal of PFOC during treatment.
- The USEPA advises that reverse osmosis is effective at removing PFOS and PFOA from drinking water. A 2008 study undertaken for the Minnesota Department of Health demonstrated that reverse osmosis was capable of treating PFOS at a starting concentration of 2.5 – 3.5 micrograms/L to <0.02 micrograms/L.

- PFOS concentrations in Oakey RO feed and treated water were obviously not tested, however the Minnesota Department of Health study indicates that a reverse osmosis system would be expected to effectively treat feed water containing the estimated maximum concentration of 0.8 micrograms/L PFOS to a final concentration well below the USEPA provisional value of 0.2 micrograms/L.

Conclusions

- PFOS and PFOA are emerging drinking water contaminants of potential human health concern.
- A study undertaken by the DoD has determined that historical activities undertaken at the AACO have resulted in the contamination of groundwater by these chemicals.
- PFOS is present in water from Council's Oakey Bore 7 and Oakey Bore 8 at concentrations in excess of the USEPA's provisional limit of 0.2 micrograms/L. This limit is derived from animal studies and includes highly conservative safety factors.
- Water from these bores was used to supply the Oakey ROP from its commissioning in 2008 until its temporary decommissioning in 2012. This is the only time frame in which residents could have been exposed to PFOS contaminated drinking water.
- Without treatment, the maximum possible PFOS in the Oakey water supply during this period is 0.5 micrograms/L.
- Reverse osmosis has been shown to be highly effective in removing PFOS from drinking water at concentrations significantly higher than the estimated maximum Oakey RO feed water concentration. The Oakey ROP is therefore reasonably expected to have reduced the PFOS concentration in the treated Oakey water supply to less than the USEPA provisional limit.

RTI RELEASE

Suzanne Huxley

From: Penny Hutchinson
Sent: Thursday, 4 June 2015 1:52 PM
To: Rebecca Richardson; Sophie Dwyer; Greg Jackson; Janet Cumming; Suzanne Huxley; Peter Boland
Subject: RE: Oakey Task force - catch up

Hi all

I think it would be useful if Matt Boyd, cluster operations manager for the Oakey region participated in this T/C as he can provide the latest information from the affected area. It is also important to have Matt on board when considering our communication strategy.

Would you please provide the dial in details for Matt so he can participate.

Regards
Penny

-----Original Appointment-----

From: Rebecca Richardson
Sent: Tuesday, 2 June 2015 2:43 PM
To: Rebecca Richardson; Sophie Dwyer; Greg Jackson; Janet Cumming; Suzanne Huxley; Penny Hutchinson; Peter Boland
Subject: Oakey Task force - catch up
When: Friday, 5 June 2015 1:00 PM-1:30 PM (GMT+10:00) Brisbane.
Where: Sophie's office










A weekly catch up to update on progress I have attached is the project plan.

Penny and Peter we will call you at 1pm.

Regards
Rebecca

<< File: Oakey Task Force Project Plan May 2015 v1.doc >>

Project Plan – Current Queensland Government Task Force activities to address the contamination of Oakey groundwater by chemicals from the Army Aviation Centre at Oakey. On track key: **Green** =on track or completed; **Amber** = delayed; **Red**=not progressing

No.	Task	Responsibility	Current status	Expected delivery date	On track?
1	Epidemiology – check of cancer registry	DoH – Suzanne Huxley	List of possible cancers determined. To be requested from Epi on 01 June 2015.	07 June 2015	
2	Consult with DNRM regarding exclusion zone	DoH – Janet Cumming	List of contacts at DNRM received from DoD	15 June 2015	
3	Validation of analytical results (EnTOX, NMI)	DoH – Sophie/Janet	Email received from DoD that they have authorised UQ to discuss issues with Sophie Dwyer and Penny Hutchinson. Jochen Mueller (UQ)acknowledged request.		
4	Prepare medical communication to GPs treating Oakey residents	DDPHU			
5	Consult with Biosecurity QLD re food crops in contamination zone	DoH – Janet Cumming	List of contacts at Biosecurity received from DoD	15 June 2015	
6	Consult with EnTOX re literature review prepared for Air Services Australia (ASA)	DoH – Sophie Dwyer	This report has not been publicly released and as such Jan Gardner is unable to release his copy of the report and suggests contacting ASA directly.	01 June 2015	
7	Collate and prepare all relevant matters for briefing up (matter to note)	DoH – Sophie/Janet	Brief sent 02 June 2015	30 June 2015	
8	Consult with Safe Food Production Queensland (SFPQ) re Oakey abattoir and water use	DoH – Sophie/Janet	List of questions prepared for SFPQ and provided to Sophie on 01 June 2015. SFPQ emailed on 02 June 2015.		
9	Contact ASA directly for a full copy of the health report	DoH			

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No.	Task	Responsibility	Current status	Expected delivery date	On track?

RTI Release

Suzanne Huxley

From: Penny Hutchinson
Sent: Friday, 22 May 2015 11:54 AM
To: Sophie Dwyer; Janet Cumming; Greg Jackson; Peter Boland; Suzanne Huxley; Clive Paige
Subject: RE: Internal meeting to discuss Army Aviation centre Oakey investigation into contaminated groundwater

Hi all

I can do 12 midday Monday or 2 pm Wednesday. Please provide your preferred time as soon as possible.

Regards

Penny

From: Sophie Dwyer
Sent: Wednesday, 20 May 2015 3:07 PM
To: Penny Hutchinson; Janet Cumming; Greg Jackson; Peter Boland; Suzanne Huxley; Clive Paige
Subject: RE: Internal meeting to discuss Army Aviation centre Oakey investigation into contaminated groundwater

Dear Penny

That would be great. We should have draft notes from the meeting and a small 'plan' ready by then. Monday between 10 and 1, or after 2 on Tuesday is ok for me.

regards

Sophie Dwyer

Executive Director, Health Protection

Chief Health Officer Branch, Department of Health | Queensland Government

15 Butterfield Street, QLD

t. 07 33289266 m.

e. sophie.dwyer@health.qld.gov.au | www.health.qld.gov.au



From: Penny Hutchinson
Sent: Wednesday, 20 May 2015 2:41 PM
To: Sophie Dwyer; Janet Cumming; Greg Jackson; Peter Boland; Suzanne Huxley; Clive Paige
Subject: Internal meeting to discuss Army Aviation centre Oakey investigation into contaminated groundwater

Hi all

Following on from today's meeting with Department of Defence I think it would be useful for DDPHU and HPU to discuss these issues. Would it be possible to catch up early next week say Monday or Tuesday?

Please advise your availability.

Regards
Penny

Dr Penny Hutchinson
Public Health Physician and Director | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Darling Downs Public Health Unit
Ground Floor
Browne House
Baillie Henderson Hospital
Cnr of Tor & Hogg St
Toowoomba QLD 4350

P: 07 46998240 | **F:** 07 46998262
E: penny.hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

RTI Release

Suzanne Huxley

From: Peter Boland
Sent: Friday, 4 September 2015 12:33 PM
To: oakey-idc
Cc: Suzanne Huxley; Janet Cumming; Uma Rajappa; Penny Hutchinson
Subject: RE: Version 2 - Draft dot points for media
Attachments: Dot points for press release SueH JC changes.docx

Hi Peta,

Generally it looks good. Penny and I only have a couple of minor comments.

You could replace "has taken action to prevent further contamination and has provided" with "is taking action to prevent further contamination and is providing" (see Penny's comment). We should also continue to refer people with concerns to the DoD project hotline.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: 07 4699 8252 | **F:** 07 4699 8477

M:

E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: oakey-idc
Sent: Thursday, 3 September 2015 3:14 PM
To: Suzanne Huxley; Uma Rajappa; Peter Boland; Janet Cumming
Subject: Version 2 - Draft dot points for media

Good afternoon,

Attached is version 2 (incorporating Janet and Suzanne's feedback) for your input.

Would it be possible to receive all feedback as soon as possible – we would like to clear it through Sophie tomorrow before she goes on holiday.

Kind Regards,
Peta

From: oakey-idc
Sent: Thursday, 3 September 2015 12:00 PM

To: Suzanne Huxley; Uma Rajappa; Peter Boland; Janet Cumming
Subject: Draft dot points for media

Good afternoon,

Please find attached draft dot points for your feedback.

Kind Regards,

Peta Mason

A/Administration Officer,

Health Protection Branch | Office of the Chief Health Officer and DDG Prevention Division

Department of Health | Queensland Government

15 Butterfield St Herston QLD 4006

t. 07 3328 9205

e. peta.mason2@health.qld.gov.au | www.health.qld.gov.au



RTI Release

PFOS Oakey Incident

Media statement

- Between 1970 and 2005 the Department of Defence used fire-fighting foam containing perfluorinated chemicals (PFCs) (perfluorooctane sulphonate (PFOS) and perfluorooctanoic acid (PFOA)) at the Oakey Army Aviation Centre on the Darling Downs.
- Ground water at the base site and in the surrounding area has since been identified as contaminated with PFCs.
- The Department of Defence has taken action to prevent further contamination and has provided alternative drinking water to residents who were using groundwater in the contaminated area as their potable water supply. As further exposure pathways are identified, it is expected that advice will be provided to the community, and appropriate remedial action taken.
- Defence has also initiated a long-term environmental investigation and assessment of the contamination.
- Queensland Government continues to liaise with Defence on the issue and is confident that they are taking steps to investigate and manage the contamination. Queensland Government has offered to provide support and assistance should Defence require it.
- We would like to reassure the community that we will continue to monitor this issue.
- Our most important concern is ensuring that the health and livelihood of the community in the area are safeguarded.
- Currently there is limited research into the health risks to humans. Our understanding is exposure to PFCs, while producing elevated blood levels, does not cause any acute health effects. While we believe the long term risks to health from exposure to PFCs is low, there is still uncertainty in this regard.
- We know that overall levels of PFCs in the blood will decrease over time if exposure is minimised. We recommend that residents reduce their exposure to these chemicals.
- Queensland Government advises concerned community members to contact the Department of Defence. The Department of Defence has committed to continue to research and explore additional exposure pathways and provide updates on their findings.
-

Comment [PH1]: They aren't preventing contamination the water tank is still leaking PFOS and PFOA

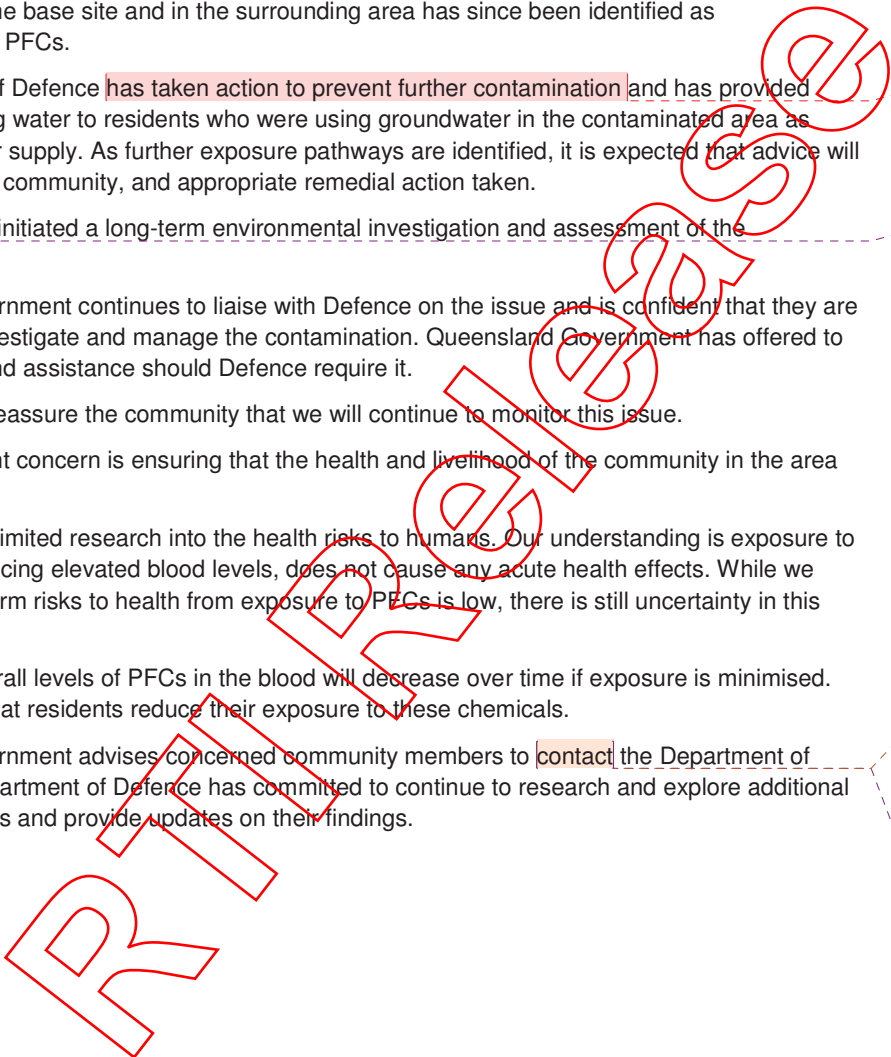
Comment [JC2]: Department of?

Comment [PB3]: I would continue to refer people to the hotline and website set up by the DoD to manage the incident.

Community Hotline Number 1800 136 129
 For more information, email defence.oakey.anz@aecom.com

Comment [JC4]: It took a bit of finding, but the DoD website says:
Exposure to Hazardous Materials
 If you suspect you have been exposed to a hazardous substance contact the Defence Exposure to Hazardous Substance or Material Inquiry Line on **1800 000 655**

Or
 Environment & Engineering Branch -
 For more information please email environmentandheritage@defence.gov.au.
 02 6266 8051



ppportunity.



Suzanne Huxley

From: Peter Boland
Sent: Wednesday, 26 August 2015 9:47 AM
To: Penny Hutchinson; Sophie Dwyer; Suzanne Huxley; Janet Cumming; Greg Jackson
Subject: RE: Feedback from last night's meeting

Hi,

My only other comment is that the community appears to be getting frustrated at how long the process is taking. They highlighted that a number of the health questions were first raised over a year ago with no adequate response/answer to date.

Thanks,
Peter.

Peter Boland
Manager Environmental Health | Darling Downs Public Health Unit
Darling Downs Hospital and Health Service

Ground Floor, Browne House
Baillie Henderson Hospital
Cnr Tor & Hogg Street
PO Box 405
TOOWOOMBA QLD 4350

P: **F:** 07 4699 8477
M:
E: Peter.Boland@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

From: Penny Hutchinson
Sent: Wednesday, 26 August 2015 9:24 AM
To: Sophie Dwyer; Suzanne Huxley; Janet Cumming; Greg Jackson
Cc: Peter Boland
Subject: Feedback from last night's meeting

Hi all,

Interesting meeting last night. Health was a big concern and the community are not buying the line that the only exposure is through drinking groundwater. There were several people there who had been tested through the retired GP and all stated that their blood levels were very high and what that meant for them. A lot of questions were raised that Defence took on notice as no defence doctors were present.

Helen Blain was at the meeting spoke to me afterwards. She advised that the result of the latest blood tests would be released at the beginning of September and was asking if QH would have access to the de-identified data. She also mentioned having another community meeting to discuss the blood results and had a vision of having booths with Doctors who could then discuss a residents result with them.

I think we will need a communication channel for residents but am cautious of following the lines of the CSG with 13HEALTH perhaps we need to get DoD to set something up with our assistance.

Peter, do you have anything you would like to add?

Regards

Penny

Dr Penny Hutchinson

Public Health Physician and Director | Darling Downs Public Health Unit

Darling Downs Hospital and Health Service

Darling Downs Public Health Unit

Ground Floor

Browne House

Baillie Henderson Hospital

Cnr of Tor & Hogg St

Toowoomba QLD 4350

P: 07 46998240 | **F:** 07 46998262

E: penny.hutchinson@health.qld.gov.au

Web: <http://www.health.qld.gov.au/darlingdowns/>

RTI Release

Suzanne Huxley

From: Suzanne Huxley
Sent: Monday, 21 September 2015 8:28 AM
To: Peter Boland; Madhumati Chatterji
Subject: FW: Hight Priority! : Oakey - Army Aviation Centre - Groundwater Investigation
Attachments: Att. 1 RAAF-site-contamination.pdf; ATT2 PFC Oakey Factsheet.pdf; Att 3 DoH Advice to GPs final.pdf; MOD Qld Health Oakey18092015.doc

Importance: High

Hi Peter and Madhu

Please find attached copies of info re Oakey, including a proforma of the results letter.

The decision to distribute the fact sheets was not made until late Friday night, so sorry I didn't send them to you sooner.

Regards

Suzanne

From: Victoria Chalmers
Sent: Friday, 18 September 2015 8:07 PM
To: Kim McFarlane; Andrew Love; Antoinette Filius; Caroline Jones; Damian Killoran; David Karle; Jane Conrad; Jillian Martin; Joanne Lohrisch; Judith Dickson; Kay Davidson; Keryn Crane; Lisa Courtney; Lisa Lee; Louise Smith; Lynette Cramb; Marinda Vorster; Melissa Tonks; Michael Pawsey; Pam Patch; Patrice Peebles; Rachel Olorenshaw; Tracey Chadwick; Vanessa Tait; Vee Leddiman; Wynita Maher; Anne Bradley; Catherine McIntyre; Donna Dawson; Gary Bennett; Graeme Filippi
Cc: Suzanne Huxley; Helen Little; Jeannette Young
Subject: Hight Priority! : Oakey - Army Aviation Centre - Groundwater Investigation
Importance: High

Good evening all

I have just been advised by the Chief Health Officer of the following situation.

Over the past couple of months there has been an issue that the Dept of Deference has been addressing in Oakey. There has been a ground water contamination issue in relation to the Oakey Defence Force base.

The following website is a good resource in regards to the situation and can be provided to callers.

<http://www.defence.gov.au/ld/oakey/>

The development this week is that approx. 75 local residents have taken up the offer to have blood tests done by S&N. On Wednesday S&N mailed the results of the tests directly to patients. The letter template is attached for your reference and you will notice it refers to people who are concerned to see their GP or call 13 HEALTH. The letters also included the attached Att. 1 RAAF-site-contamination.pdf document which is in relation to a similar situation in NSW. Some residents may have received the letter today but it is more likely letters will be received early next week.

Damian and Marinda please ensure tonight that all nursing staff are made aware of the situation and of the following process.

In the event we receive calls over the week please ensure:

- Normal triage assessment process is followed for people with symptoms
- RN's to advise OC or TL that they have/had a caller regarding the Oakey situation. OC/TL to maintain a record of callers (either caller name or Psaim ID).
- RN's to use the attached factsheet ATT 2 PFC Oakey Factsheet.pdf to respond to patient concerns. This factsheet can be emailed to patients and if any callers asked it to be mailed please note the patients name so as SIFT can retrieve address, etc from Psiam and the factsheet will be posted on Monday.
- RN's to use the attached factsheet named Att 3 DoH Advice to GPs final/pdf to respond to healthcare professionals concerns. This factsheet can be emailed to healthcare professionals (I am of the view mail will not be required).

Please contact me at any time if you have questions/concerns my mobile number is 0438 732 106.

Victoria Chalmers
Director
Health Contact Centre
Health Support Queensland | Department of Health | Queensland Government
GPO Box 48 Brisbane QLD 4001
t. 07 3877 8252
m. 0438 732 106
e. Victoria.Chalmers@health.qld.gov.au | www.health.qld.gov.au



HealthSupport
Queensland

RTI Release

PFOS and PFOA

Williamstown RAAF site contamination

What is the issue?

The issue is that some related chemicals (perfluorinated compounds) have been used and remain in the environment around the Williamstown RAAF site. The Australian Defence Force (ADF) has informed the NSW government that the Williamstown site has been found to contain high concentrations of PFOS and other closely related chemicals. These chemicals are present on the site and over the past decades have slowly worked their way through the soil to the groundwater underneath the site. These substances have not only contaminated the RAAF site itself, but also land close to the site. Surface water samples from Dawsons Drain, Moors Drain, Upper Tilligerry Creek and Fourteen Foot Drain have been found to contain PFOS. Ground water and fish from the local creeks were tested for PFOS and were found to contain high levels. Tomago sands, a drinking water catchment site is close to the Williamstown site.

The NSW Government is investigating this issue. This fact sheet is interim advice by NSW Health and will be updated as further investigations are undertaken.

What areas are potentially affected?

See attached map for the area with potentially affected groundwater and for the location of fishery closures. Further testing will be undertaken to clearly identify areas of potential health risk.

What are PFOS and PFOA?

Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are man-made chemicals belonging to the group known as perfluorinated chemicals (PFCs). PFCs have been used by numerous industries and have been contained in products such as in textiles, leather products, metal plating, protective

coating, cleaning products, pesticides and fire fighting foams.

PFOS and PFOA are both very stable chemicals that do not break down in the environment and can persist for a long time both in the environment and in humans.

What are the potential health effects of PFOS and PFOA?

Whether PFOS or PFOA causes adverse health effects in humans is currently unknown, but on current evidence, the potential for adverse health outcomes cannot be excluded. Studies of workers exposed to these chemicals have not consistently shown adverse health effects, though impact on blood cholesterol levels, thyroid function and liver size have been reported in some studies. Mothers exposed to high levels of PFOA in the drinking water did not have an increased risk of birth defects in their children. There are approximately 30 000 chemicals in use across Australia. For the vast majority of these, including PFOS and PFOA, very little is known about possible health effects in people.

Where there is not enough scientific evidence to assess health effects in humans, any effects in animals are then assessed. Certain laboratory experiments on rats have indicated some potential to promote cancer, but it is not clear if these results have implications for human health.

How are people exposed to PFOS and PFOA?

Studies in America have shown that almost everyone is exposed to low levels of PFOS and PFOA just by living in the modern world. People may be exposed to PFCs from the air, indoor dust, food, water, and various consumer products. Contaminated foods, particularly fish and eggs, are thought to be the main source of exposure.

What can I do to reduce my exposure?

Don't eat fish, prawns or oysters from the following areas: Dawsons Drain, Moors Drain, Upper Tilligerry Creek, Fourteen Foot Drain and Fullerton Cove. See map for fishery closures.

If you live in the area with potentially affected groundwater indicated on the accompanying map additional precautions are advised:

- Don't drink or prepare food with bore water from this area. It is safe to drink water from the reticulated water supply (town water).
- Don't eat eggs from your own backyard
- Don't drink milk from cows or goats grazing in this area

Is there a test to determine likely health effects?

While blood tests can provide a measure of PFOS, they are not recommended because they don't predict level of health risk.

If you have any health concerns, please consult your general practitioner.

Further information

www.health.nsw.gov.au

Updated 11 September 2015

RTI Release

Perfluorinated chemicals

Oakey Army Aviation Centre
contamination incident

What are perfluorinated chemicals?

Perfluorooctanesulfonic acid (PFOS) and the related chemicals perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS) are types of perfluorinated chemicals (PFCs). They can be found in everyday products such as all-weather clothing, water and stain repelling agents and non-stick cookware. These chemicals are also used in aqueous film forming foams (AFFFs), used by the Department of Defence and others, for training and operational firefighting purposes.

Between 1970 and 2005 the Department of Defence used fire-fighting foam containing PFCs at the Oakey Army Aviation Centre on the Darling Downs. PFCs are present on the site, and over the past decades have slowly worked their way through the soil to the groundwater underneath the site and contaminated land close to the site. The Department of Defence is undertaking environmental monitoring to determine the extent of the contamination.

Why are these chemicals being phased out?

The manufacture and use of some PFCs are being discontinued or limited through international agreements and voluntary actions by manufacturers primarily because of their persistence in the environment, rather than because of any established health effects. PFCs break down very slowly in the environment under naturally occurring conditions. Because of this, they tend to accumulate in the food chain and in human tissue. The international scientific community has identified this characteristic as undesirable because of the potential for unforeseen effects resulting from accumulating levels, and the difficulty in removing these chemicals from the environment once they are released.

How are people exposed to PFCs?

PFCs are found at very low levels in the blood of the general population all over the world. The sources of exposure in the general population are not fully understood, but it is known that exposure to trace levels can occur through the air, indoor dust, food, water and various consumer products such as non-stick cookware, paints and cleaning products. In Oakey, some members of the community may have higher levels of PFCs than the general Australian community, indicating that there has been additional exposure to PFCs. As PFCs have been detected in the ground water at Oakey, it is most likely that this is the source.

Are there any health effects linked to PFCs in humans?

The potential effects of exposure to PFCs to human health continue to be studied. These studies involve occupationally exposed workers (i.e. manufacturing workers), residents in communities with higher exposure and studies of the general population in the USA and other countries.

Some studies have shown changes in serum lipids and other biochemical indicators that appear to be related to blood levels of PFOS, PFOA and other PFCs. There are no acute (immediate) health effects reported to be associated with exposure at levels observed at Oakey. There is also no conclusive evidence at this stage which links exposure to these chemicals with long term adverse health effects in humans, such



as cancer. Even in heavily exposed manufacturing workers (up to 1,000 times higher than the general population), studies have not consistently found any adverse health effects directly attributable to this exposure. However, as research in this area is still in its early stages, a cautious approach is best and so exposure should be minimized.

Should I be concerned about the results of the animal studies describing exposure to PFCs?

Studies of chemical effects in animals are conducted at very high doses in order to give scientists an idea of what effects might occur and to provide a basis for estimating safe human exposure levels. For example, adverse effects are observed in animal studies of PFOA at exposures that lead to blood levels 1,000 to 10,000 times higher than the levels observed in people in the general population. While such studies help scientists to identify toxic responses to a chemical, this information cannot be directly related to humans who are exposed at much lower concentrations. While everyone in the population is likely to have been exposed to PFCs, the level of these exposures is substantially less than the exposures used in animal studies. Also, animals clear these chemicals from their bodies in different ways from humans, so results from animal testing cannot be directly applied to humans.

What can I do to reduce my exposure?

If you live in the area with potentially affected groundwater, as indicated on the accompanying map provided by Department of Defence, you should not drink or prepare food with bore water from this area. While the exposure is likely to be low, you may also consider avoiding consumption of eggs or drinking milk from animals raised on your own property and avoiding consumption of fish caught from Oakey Creek, downstream from the Army Aviation Centre.

Ongoing investigations by the Department of Defence are expected to provide further information on the likelihood of exposure to PFCs from sources other than groundwater.

It is safe to drink water from the reticulated water supply (town water), and to consume commercial produce from the Oakey area.

Should I get my blood tested?

Department of Defence has arranged for a limited number of people to have their blood tested for PFCs. The Department of Health does not recommend blood testing because this does not predict the level of health risk.

Concerned community members should first contact the Department of Defence Community Hotline Number 1800 136 129. For more information about the monitoring program at Oakey, email defence.oakey.anz@aecom.com. Anyone concerned about their own health or that of family members should talk to their GP or call 13HEALTH (13 43 25 84).

AACO PFOS DETECTION AREA AND INVESTIGATION AREA



Datum: GDA 1994, Projection: MGA Zone 56

LEGEND

PFOS Concentrations (µg/L)

- < LOR
- LOR - 0.2
- 0.2-9.99
- 10-49
- 50-500
- Drainage

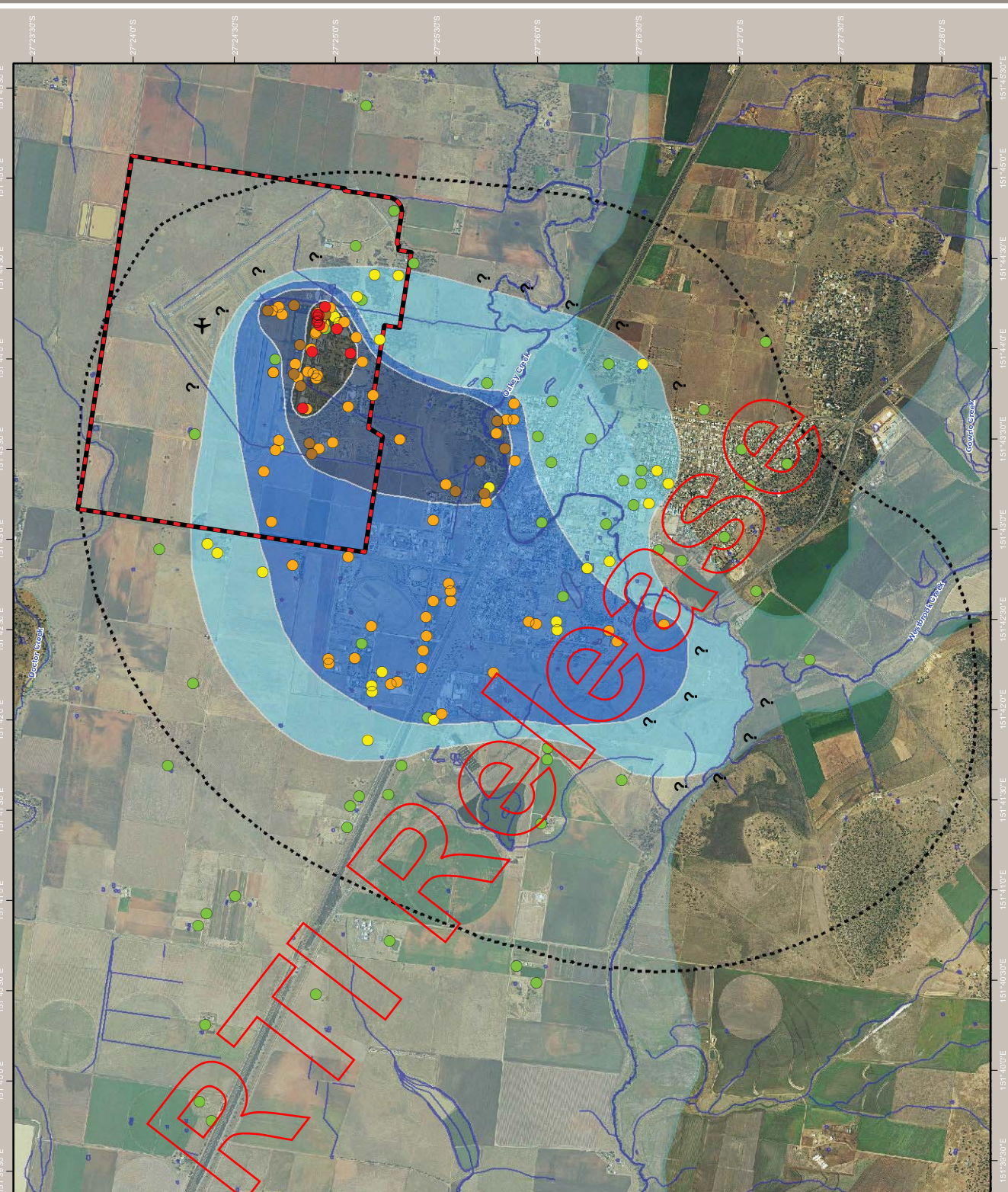
Estimated PFOS Concentration Ranges (µg/L)

- Limit of Reporting - 0.2
- 0.2 - 9.99
- 10 - 49
- 50 - 500
- Investigation Area
- Oakey Creek Groundwater Management Area
- AACO Base Boundary

- ? Indicates that limited data has been able to be collected in this area

Disclaimers
 PFOS concentration ranges displayed on this figure are based on the highest PFOS detection reported for any given location (i.e. from one or more sampling events), which includes data from Parsons Brinckerhoff (2012-2013) and AECOM (2013-2015) groundwater investigations.
 LOR = Laboratory Limit of Reporting. Note: This figure has been compiled to provide a visual representation of PFOS concentrations in sampled bores, and does not represent the full nature and extent of bore water impacts in the area, nor does it represent inferred aquifer conditions.
 Bore water has been sampled directly from the bores represented on this figure at the point of extraction (i.e. at the ground surface or as close to the extraction point as possible). Details of bore construction is not available for all bores sampled, however those bore where construction information is available are not all screened within the same portion of the aquifer (i.e. the ground) and caution should be taken in extrapolating PFOS concentrations between data points. The shading provided on this figure represents the area over which PFOS has been detected at various concentration intervals (refer to legend above). This figure is not intended to be used for the purpose of understanding the full extent of bore water and/or aquifer impacts, but provides an indication of potential exposure point concentrations. Caution should be used when using this figure for any other than for preliminary indicative purposes.

Last Update: August 2015



AACO PFOA DETECTION AREA AND INVESTIGATION AREA



1 cm = 350 metres

Datum: GDA 1994, Projection: MGA Zone 56

LEGEND

PFOA Concentrations (µg/L)

- < LOR
- LOR - 0.4
- 0.4 - 9.99
- 10 - 49
- 50 - 500

Drainage

Estimated PFOA Concentration Ranges (µg/L)

- Limit of Reporting - 0.4
- 0.4 - 9.99
- 10 - 49
- 50 - 500

Investigation Area

Oakey Creek Groundwater

Management Area

AACO Base Boundary

? been able to be collected in this area

Disclaimers

PFOA concentration ranges displayed on this figure are based on the highest PFOA detection reported for any given location (i.e. from one or more sampling events), which includes data from Parsons Brinckerhoff (2012-2013) and AECOM (2013-2015) groundwater investigations.

LOR = Laboratory Limit of Reporting. Note: This figure has been compiled to provide a visual representation of PFOA concentrations in sampled bores, and does not represent the full nature and extent of bore water impacts in the area, nor does it represent inferred aquifer conditions.

Bore water has been sampled directly from the bores represented on this figure at the point of extraction (i.e. at the ground surface or as close to the extraction point as possible). Details of bore construction is not available for all bores sampled, however those bores where construction information is available are not all screened within the same portion of the aquifer (i.e. the water sampled is not all from the same depth below ground) and caution should be taken in extrapolating PFOA concentrations between data points. The shading provided on this figure represents the area over which PFOA has been detected at various concentration intervals (refer to legend above). This figure is not intended to be used for the purpose of understanding the full extent of bore water and/or aquifer impacts, but provides an indication of potential exposure point concentrations. Caution should be used when using this figure for any other than for preliminary indicative purposes.

Last Update: August 2015

Oakey Army Aviation Centre contamination incident

Information for Medical
Practitioners

Key Points

Residents living in some areas adjacent to the Oakey Army Aviation Centre have been alerted to potential exposures to perfluorinated chemicals (PFCs).

Health effects are not expected but the potential for adverse health effects cannot be excluded.

Exposure of Residents

Blood testing of some of these residents for perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS) was undertaken by S&N Pathology, as part of an agreement with the Department of Defence. Results of these blood tests have been distributed directly to the individuals in the week commencing 14 September 2015.

It is possible that residents will present with health concerns for further assessment. Blood tests are not helpful in predicting the level of health risk, are not readily available and are not recommended.

Advice to Residents

Queensland Health advises that residents in the potentially affected area should not drink or prepare food with bore water. While the exposure is likely to be low, residents have also been advised to consider avoiding consumption of eggs or drinking milk from animals raised on their own property and avoiding consumption of fish caught from Oakey Creek, downstream from the Army Aviation Centre.

It is safe to drink water from the reticulated water supply (town water) and to consume commercial produce from the Oakey area.

Ongoing investigations by the Department of Defence are expected to provide further information on the likelihood of exposure to PFCs from sources other than groundwater.

Source of Contamination

Between 1970 and 2005 the Department of Defence used fire-fighting foam containing PFOS and PFOA at the Oakey Army Aviation Centre on the Darling Downs. PFCs are present on the site, and over the past decades have slowly worked their way through the soil to the groundwater underneath the site and contaminated land close to the site. The Department of Defence is undertaking environmental monitoring to determine the extent of the contamination.

Health Effects

There are no acute health effects reported to be associated with exposure at levels observed at Oakey.

There is also no conclusive evidence, at this stage, which links exposure to these chemicals with long term adverse health effects in humans, such as cancer. Some studies have shown changes in serum lipids and other biochemical indicators which are related to the blood levels of PFOS, PFOA and other PFCs.

Even in heavily exposed manufacturing workers, studies have not consistently found any adverse health effects directly attributable to PFC exposure. However, as research in this area is still ongoing, a cautious approach is recommended and exposure should be minimized.

Details on PFOS and PFOA are provided in the fact sheet available on the Queensland Health website. Further information will be shared as it becomes available.

Please contact the Darling Downs Health Public Health Unit on 46998240 if you require additional health advice related to this issue.



September 2015

Dear

Defence has been communicating with Oakey residents living near the Army Aviation Centre Oakey (AACO) about perfluorinated chemicals (PFCs), including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) detected in local ground (bore) water. PFOS and PFOA were included in fire fighting foams used between 1970 and 2005 at AACO. PFOS and PFOA have historically been used widely, including in fabric protection, water proofing and non-stick cooking appliances. It is therefore likely that most Australians have had some exposure to these chemicals. PFCs are commonly found in every person's blood.

Late last year, Defence invited residents to participate in blood testing. The main focus of testing was on those who:

1. lived within the contamination detection area, and
2. had bores tested that indicate elevated levels of either PFOS or PFOA, and
3. have been drinking bore water on a regular basis over the last three years.

It was also open to residents who did not meet the above criteria to make an application to be tested.

As a participant in this Defence funded testing, we are writing to inform you of your results. This blood testing measured several PFCs present in your blood; PFOS, PFOA and perfluorohexanesulfonic acid (PFHxS), which is another PFC known to be associated with PFOS and PFOA.

Your personal test results are reported below along with information about how your levels compare to the general Australian population, the United States population, and to workers who are known to be occupationally exposed to PFCs in the United States.

Although PFOS and PFOA are recognised as emerging contaminants, scientific studies are not conclusive about their potential to affect health. Limited official information has been published in Australia, however, the Department of Health in New South Wales has recently developed a fact sheet, available at <http://www.health.nsw.gov.au/factsheets/Pages/RAAF-site-contamination.aspx>

If you have any concerns regarding your results, or about the potential effects of PFCs on your health, you may wish to speak to Queensland Health (telephone: 13HEALTH - 13 43 25 84) or your general practitioner. We understand that Defence has consulted with the Queensland Health and briefed local general practitioners in anticipation that residents may wish to seek advice.

Yours sincerely,

David Rowbottom,
Business Development Manager,
Commercial Testing,
Sullivan Nicolaides Pathology

Results from Perfluorinated Chemical Analysis

Participant name:
Blood collection date:

What levels of PFCs were measured in my blood?

Your serum concentrations of perfluorooctanesulfonic acid (PFOS); perfluorooctanoic acid (PFOA) and perfluorohexanesulfonic acid (PFHxS) are shown below in Table 1.

Table 1 Your serum concentration (ng/mL serum) of PFOS, PFOA and PFHxS

	PFOS	PFOA	PFHxS
You			
Australian average ¹	10.25	4.45	3.34
USA average ²	9.32	3.07	1.66

¹Average concentrations from a Queensland study. Samples from 2010-2011

²Average concentrations from a USA study. Samples from 2009-2010

How does my level compare to others in the community?

In the figure below we show how your level of PFOS (green line) compares to levels that were measured in:

1. The general Australian community in 2006-2007 (shown in blue)
2. The general United States community in 2009-2010 (shown in orange).
3. A group of workers who were occupationally exposed to fluorochemicals at a 3M manufacturing facility in the USA in 2000 (shown in red).

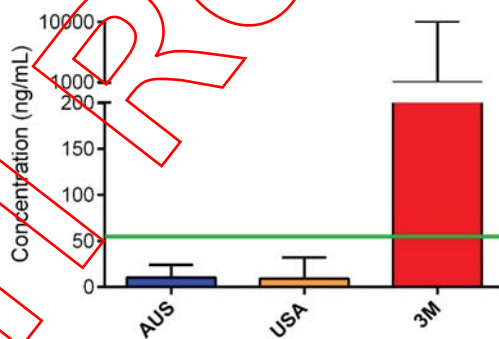


Figure 1: Serum concentrations of PFOS in the general Australian population (blue), general USA population (orange), and 3M manufacturing workers (red). Your serum concentration of PFOS is shown by the green line. The vertical axis shows PFOS concentration in ng/mL serum, the coloured boxes indicate the geometric mean concentrations, and the whiskers indicate the 95th percentile concentration reported in these groups (maximum concentration for 3M study). The levels in 3M workers are much higher so the vertical (y-) axis of this graph has been split in two.

Abbreviations: perfluorooctanesulfonic acid (PFOS); perfluorohexanesulfonic acid (PFHxS); perfluorooctanoic acid (PFOA); ng/mL (nanograms per millilitre). 1 nanogram = 0.000001 milligram. 1 ng/mL = 1 part of a substance in a billion parts of serum.