



Keeping Secrets: Mustard Gas in Australia

Learn about the experiences of Australians during
World War II

Topic 1: Background information

The following education resources were created to acknowledge the dedication and bravery of the chemical warfare personnel and to inform Australians of a neglected part of our war history.



North Brook Island, 1944. Volunteers wear full protective clothing. AWM P01831027.

Can you keep a secret?

As a class or in pairs discuss the following questions.

- Have you ever been asked to keep a secret? How did you feel?
- Can you think of examples of good and bad secrets?
- Why do people keep secrets? List as many reasons as you can.
- Have you ever told someone a secret? Did it make you feel better, worse or neutral?
- Sometimes secrets are kept by groups of people e.g., companies, secret societies, governments. Can you name organisations that keep secrets? Why do they?

In 1942 the Australian Government had a big secret...it was mustard gas. To understand why this was a secret we need to go back to World War I 1914-1918 and learn more about what mustard gas is.

Mustard Gas in World War I (1914-1918)

Mustard Gas is a poisonous gas which was used as a weapon on people during WWI with devastating effects. It is a pale yellow colour and some describe it as having a mustard or garlic smell. The following accounts were written by three Australian soldiers who were gassed on the French battlefields during WWI. Their letters were published in local newspapers. Read their accounts and make a list of the effects mustard gas had on them.



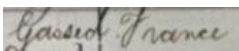
Sergeant Angus
Anderson

"The gas he [Germans] used was what is known as mustard gas, and it has a delayed effect. It causes temporary blindness, blistering of the skin, weakens the heart and has a deadly effect on the lungs. During the morning our men began to develop blindness, and before night we had evacuated 70 out of the company of about 140. The scene at the dressing table was one to be remembered. The gas caused terrible pains in the eyes and the only thing they could do for us at the dressing station was to bathe them, which did not relieve them much. Men lay about on the grass in hundreds groaning with the pain, and all the time Fritz was shelling with a heavy gun, but they were too miserable to take any notice. Many of the cases were sent to England, and have not yet returned."¹



John James Craigie

"About five weeks ago I got a dose of gas, mustard gas it was, and it burned every bit of skin off my body, besides affecting my eyes very badly. I didn't get a great deal inside for I kept my mask on as long as it was possible to. I was sent away to a Rest Camp and soon got right, outwardly at any rate, but for a few days it was about the most painful things I remember."²



Private Jack Black

"I am in hospital again with a stomach full of Fritz's gas. I have been here since the 15th and am improving as well as can be expected. I have completely lost my voice, and don't want to experience another dose of his chemical factory. It never affected me for about three days; and one night, whilst carrying a coil of barbwire on my shoulder up to the front line, I collapsed and started to vomit, and went practically blind. They call it mustard gas and it burns like blazes; so much so that it will singe a man's uniform. A wound is alright but this confounded stuff ruins a fellow for life."³

¹ *Koroit Sentinel and Tower Hill Advocate* (VIC), 23 November 1918, 4.

² *The Avoca Mail*, 19 November 1918, 2.

³ *The Dalby Herald*, 19 June 1918, 2.

Using the above accounts make a list of the effects of mustard gas on humans.

Who was Fritz? Why did they use this name?

The effects of mustard gas

Mustard gas has the power to burn and blister any tissue or area with which it comes in contact, either as a liquid or vapour. Depending on the dose, mustard gas can severely affect the eyes, the entire respiratory and digestive tracts and destroy white blood cells. Symptoms can include: vomiting, diarrhea, breathing difficulties and death. It is a known carcinogen. Mustard gas vapour does not dry off, but actually penetrates the clothing and attacks the body.⁴

It is estimated that 90,000 soldiers were killed by gas on all sides during WWI.⁵ The number of injuries was far greater with 186,000 British injuries alone caused by mustard gas.⁶

What does 'carcinogen' mean?

⁴ Geoff Plunkett, *Chemical Warfare in Australia: Australia's Involvement in Chemical Warfare 1914 – Today*, (Sydney: Leech Cup Books), 2013, 391.

⁵ Marek Pruszewicz, "How deadly was the poison gas of WWI?", accessed 21 February 2021, <https://www.bbc.com/news/magazine-31042472>.

⁶ Gerard J Fitzgerald, "Chemical Warfare and Medical Response During World War I", accessed 18 March 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2376985/>; "This Day in History 22 April 1915", accessed 18 March 2021, <https://www.history.com/this-day-in-history/germans-introduce-poison-gas>.

... I pity the poor French civilians getting their homes blown down on them and the Germans sent gas shells into one village and gassed about five hundred women and children and I think gas is the worst thing of the whole lot. We carry two respirators to wear to protect us from gas and they are good ones too. Our gas is worse than Fritz's gas and Fritz gets his share of it too when the weather is suitable.

7

What does this personal account tell you about who was using gas in WWI?

These photographs were taken during WW1.

Examine each photograph and answer the questions below.



AUSTRALIAN WAR MEMORIAL

P03063.006

AWM, PO3063.006.

⁷ Joanne Crawford, "WWI letters home describe life on the Western Front: Les Harrison, 1917", *Coastal Leader*, 9 November 2018, accessed 18 March 2021, <https://www.coastalleader.com.au/story/5713730/postcards-from-the-western-front/>.



AUSTRALIAN WAR MEMORIAL

AWM, K00035

K00035

1. What are each of the photographs showing?

2. Why might these photographs have been taken? Who were the intended audiences?

3. What do these photos tell you about everyday life during WW1?

Geneva Protocol

In 1925 in Geneva, Switzerland a protocol was signed by most of the world's countries banning the use of chemical and biological weapons in warfare. It was created to stop countries from repeating the atrocities that were committed during WWI. Australia and the UK signed up to the protocol in 1930,⁸ however some countries including the US and Japan did not.⁹

World War II (1939-1945)

During Japan's invasion of China in the 1930s which extended throughout WWII, there was mounting evidence that Japan was using mustard gas on the Chinese population. It was feared that if the Japanese forces made it to Australia that they would use mustard gas on the Australian population. This idea became very real in February 1942 when Japan captured Singapore in what is called the "Fall of Singapore". It was one of the last countries stopping Japan reaching Australia.

In 1942, Australia and its allies, the UK and US, secretly imported one million chemical weapons from the UK into Australia to use against the enemy if necessary. But Australia and the UK had signed the Geneva Protocol 1925 which banned them from storing or using chemical weapons. What could they do? They couldn't let the Australian or international population know what they were doing, and they certainly couldn't risk the enemy knowing.



An island in Japan, Okunoshima, was found to be making mustard gas during WWII. Containers filled with mustard gas, 1946. AWM, 131766.

⁸ "The Geneva Protocol 1925", Australian Government Department of Foreign Affairs and Trade, accessed 18 March 2021, <https://www.dfat.gov.au/international-relations/security/non-proliferation-disarmament-arms-control/chemical-weapons/cwc/Pages/the-geneva-protocol-1925>.

⁹ "Treaties, States Parties and Commentaries", ICRC, accessed 18 March 2021, https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesParties&xp_treatySelected=280; Jeanne Guillemin, "The 1925 Geneva Protocol: China's CBW Charges Against Japan at the Tokyo War Crimes Tribunal", accessed 18 March 2021, https://link.springer.com/chapter/10.1007/978-3-319-51664-6_15.



Topic 2: Armourers

Use the following resources to build a picture of who LAC Ross Ashley Bryan was. You will need to conduct further searches on the internet to explore the clues. Make notes about each of the resources in order to answer:

- Who was Ross Ashley Bryan?
- What role did he play during WWII?

Source 1: Photograph

This photograph is of a carved rock outside the disused Glenbrook Railway Tunnel in the Blue Mountains. It was sent to a family history society in Taree in 2020 to discover who did this engraving and why.



Inscription:

8 / 43
R A Bryan
Taree
NSW

Photo courtesy of Neil McGlashan, Glenbrook Historical Society.

Source 2: Extract of service record

There are lots of codes used in this document. Can you find out what "1 C R" or "1 Central Reserve" means? How does that relate to what we know about Ross so far?

AIRMAN'S RECORD SHEET (Active Service—Overseas).

Official No. 130838 Name BRYAN, Ross Ashley Rank AC1 LAC
(In full in block capitals, surname first.) (Or acting appointment.)

Mustering To Tech Armoured Special Qualifications _____
(e.g., Gas Instructor, Fire Fighter, Boxing Instructor.)

Date of Birth 11.9.24 Religion meth Occupation in Civil Life Saw Sharpener

Last Enlisted 9/2/43 Current Engagement DURATION OF WAR & 12 MONTHS

If Reservist, which Class ("E," 1-5) _____ Whether Married, Single, or Widower Single

NEXT of KIN. Enter in Pencil.

Name <u>BRYAN Williams A</u>	Person to be Informed of Casualties.	Name _____
Relationship <u>Sister</u>		Relationship <u>Same as</u>
Address <u>106 Albert St. Same</u>		Address <u>near 17 King</u>

Any alteration to above (e.g., Promotions) to be made by crossing out and writing above.

SECTION 1.—MOVEMENTS AND CASUALTIES.			SECTION 2.—PROMOTIONS, ACTING APPOINTMENTS (PAID OR UNPAID), REDUCTIONS, REMUSTERINGS.		
Unit FROM which.	Unit TO which.	Date of effect.	Authority.	Description.	Date of Effect.
<u>2RC</u>	<u>2RD</u>	<u>9/2/43</u>	<u>POR 34/43</u>	<u>AC1</u>	<u>9/2/43</u>
<u>2RD</u>	<u>No 1 S.T.T</u>	<u>20/6/43</u>	<u>arm. Sch.</u>	<u>Armoured</u>	<u>20/8/43</u>
<u>1 S.T.T.</u>	<u>ARMAMENT SCHOOL</u>	<u>7. 2. 43</u>	<u>P.O.R. 78/43</u>		
<u>Armament School</u>	<u>1 C.R.</u>	<u>31. 5. 43</u>	<u>1.C.A.</u>	<u>LAC</u>	<u>1/12/43</u>
		<u>23.8.43</u>	<u>POR 34/43</u>		

NAA: A9301, 130838, BRYAN ROSS ASHLEY.

Source 3: Daily Routine

This paragraph comes from a book by Geoff Plunkett, *Chemical Warfare in Australia I* (Sydney: Leech Cup Books, 2013), 190.

THE ARMOURERS REMEMBER: DAILY ROUTINE AT THE CHEMICAL WARFARE SITES

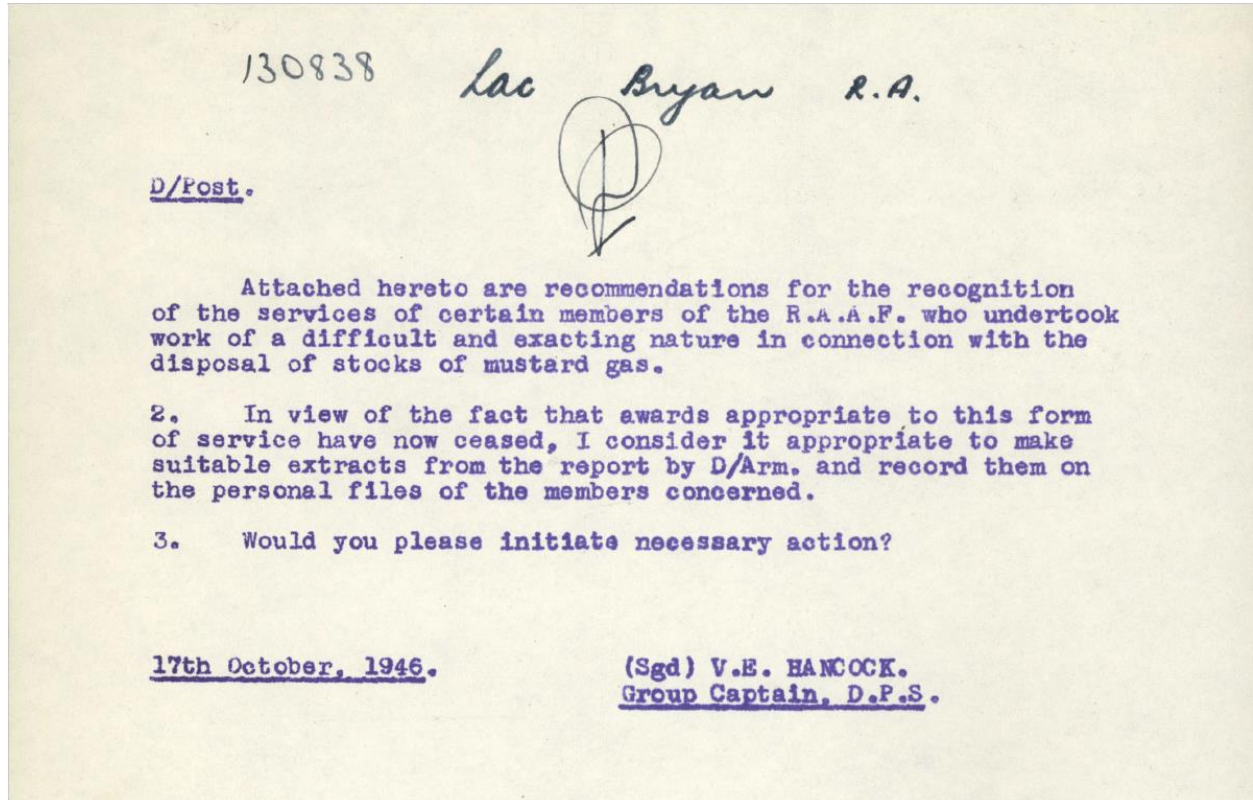
Many of the chemical warfare armourers saw themselves as glorified ‘general hands’ and their daily routine among the chemical agents as extremely monotonous. Yet they never lost sight of the fact that they were dealing daily with deadly chemicals—proven killers from a previous war. By far the armourers’ most important daily task was to vent the mustard gas drums and bombs. An oily liquid, the mustard gas needed a regular and measured release to prevent a dangerous build-up of pressure. The drums and bombs were dragged from the tunnels to the ‘cutting’ maintenance areas, de-rusted, de-pressurised and coated with mustard gas detector paint on areas of possible leakage.

Source 4: Photograph Glenbrook Tunnel



Glenbrook Tunnel, circa 1944. Photo supplied by Geoff Plunkett.

Source 5: Letter of recommendation



NAA: A9301, 130838, BRYAN ROSS ASHLEY.

Note: The recognition was never given to the 30 men listed in the letter.

Source 6: Interview quotes

The following quotes come from men who did similar work to Ross A Bryan during WWII. The men were in their 80s when they were interviewed for a book by Geoff Plunkett, *Chemical Warfare in Australia I* (Sydney: Leech Cup Books, 2013).

Ray Minahan *“Air Force life had two things: one, that it was extremely boring, and the other one was that you made wonderful friends. If I’d have got my wish to be an armour air gunner, I could have been dead and buried within three or four years in the aerial fights that went on. So who knows, you know, you accept what you’ve got and that’s it.”*

Harry Evans *“They were just a heap of blisters, this arm and this arm, both of them...When I took my overalls off, my missus seen my arms, she’d start to cry. So did I. Sorry, I can’t go any further.”* [At this point, Harry broke down and recording stopped.]

Ron Watts *“In the 50s or 60s I went to the Repatriation Office and was told by the doctors there was no such thing as mustard gas here. I walked straight out!”*

Noel Stoneman *“I’m proud of the effort that I put in. Hopeful, possibly by having to use these things [mustard gas], it was going to get a stop to the war and get so many of our boys back home. But I never had any desire to really use it at all. It was the most despicable thing that we could have ever done.”*

Ron Barker *“I was not informed in any great detail of what the type of work would be, except that it was of a highly secret nature and I was required to give a written undertaking to observe strict secrecy, any breach of which would be a court-martial offence.”*

What do you notice about the men’s responses? Are there positive aspects?

Source 7: Wedding photo



**Mr. and Mrs. Ross Bryan, of
Lansdowne, who were mar-
ried at the Church of Eng-
land, Cooperbrook, on April
21.—(Photo by Berney Stu-
dios.)**

Wingham Chronicle and Manning River Observer, 18 May 1951, 6.

Who was Leading Aircraftman Ross Ashley Bryan?



Ross Ashley Bryan wasn't interviewed for the book that was mentioned in Source 6. Imagine you are Ross. What would you have told the interviewer about your time as an armourer in WWII? Look closely at the photograph. You were 19 years old when this photo was taken and now you are 85. Reflect on your life and the work you did as an armourer in WWII.

These questions may guide you in writing your response.

- Where were you born and what did you do before you joined the Royal Australian Air Force (RAAF)?
- Why did you want to join the RAAF?
- What tasks did you do as an armourer?
- What did you think of the work you did at the time?
- Did you feel your work was important?
- What did it feel like keeping a secret for 50 years? Did you keep it secret? Why or why not?
- Have there been any consequences on you or your family due to your role during the war?
- Are you happy with how your life has turned out?

This task could also form the basis for a performance piece.



Topic 3: Mustard gas trials

It was discovered during WWII that mustard gas behaved differently in hot weather (compared to the cooler climates of Europe during WWI). The Australian, US and UK governments wanted to understand the nature of mustard gas in hotter weather so it could be used to maximum effect against the enemy if necessary. To do this they conducted secret human trials in Australia. These trials mostly occurred in the tropics of North QLD and NT but some also occurred for example at Minnie Waters in NSW. Male and female military personnel were asked to volunteer for the trials while others were given no choice.

Watch the following excerpts from Bridget Goodwin's 1989 documentary "Keen as Mustard" and note the different techniques used by the government to convince people to take part in mustard gas trials.



https://midcoaststories.com/wp-content/uploads/2021/03/Mustard-gas-techniques_tiny.mp4

Transcript available at end. Footage used with the kind permission of Bridget Goodwin.

1. What techniques did the government employ to convince people to take part in mustard gas trials during WWII?

After the Fall of Singapore in February 1942, it was assumed that the Japanese would continue south to Australia, an idea which was strengthened when they bombed Darwin a week later. The fear was that the Japanese would invade and conquer Australia. This propaganda poster was created in 1942 playing on those fears.



1. This poster was seen as so alarmist that it was not published in Queensland or Melbourne. What would be the purpose for creating such a poster?

2. Briefly describe the poster's imagery.

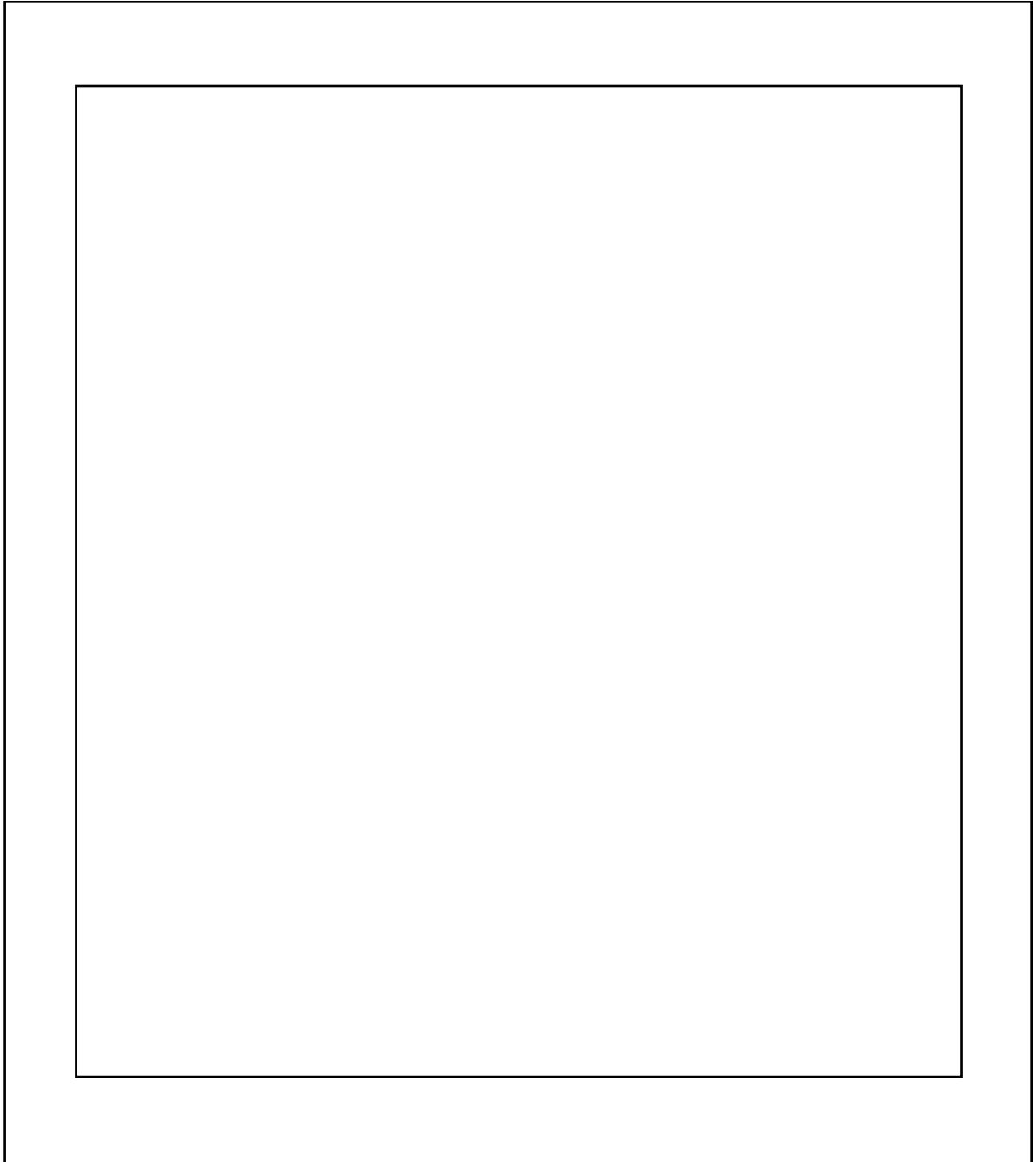
3. Who created this poster?

4. Who is the intended audience of this poster?

5. What is the main message of this poster?

Create your own propaganda poster

Using the techniques employed by the government to entice people to participate in mustard gas trials identified above, create your own propaganda poster. Think about the imagery, main message, intended audience and the government’s perspective when designing your poster. Make sure you provide a short justification for your design.



The following clips from Bridget Goodwin's 1989 documentary "Keen as Mustard" show some of the mustard gas trials that volunteers went through.



https://midcoaststories.com/wp-content/uploads/2021/03/Mustard-gas-effects_tiny.mp4

Transcript available at end. Footage used with the kind permission of Bridget Goodwin.

1. Why were the volunteers made to carry heavy containers and forced to sweat?

2. Have you ever received a burn? Describe what you did to ease the pain. Would that technique work with mustard gas blisters?

3. Secrecy was a big aspect of these trials. For 50 years afterwards, volunteers were not allowed to mention their role. Would you be able to keep a secret for that long or would you have to confide in someone? Why was it important to keep these secrets – what could have been the consequences?

Mustard gas “demonstrations”

Many service personnel were not volunteers but were involved in mustard gas “demonstrations” which affected them similarly. The man below is RAAF Leading Aircraftman Bryce Daniel. When Bryce was alive his daughter recorded a video of her father talking about the mustard gas demonstrations of which he was a participant. Read his transcript and answer the questions:



Leading Aircraftman in the RAAF Bryce Daniel. Photos and transcript courtesy of Rhonda McGovern.

“(Coughs) Well that’s a good way to start.

I first had a gas demonstration at Richmond in NSW. I remember the day, it was overcast and drizzly, and the instructors or those rather who brought the equipment around were grizzly about the weather being no good for their demonstrations.

I next had gas, or a “gas demonstration”.

We were formed into a long straight line shoulder to shoulder, and the fellow with a pack on his back, cylinder rather, and a hose, and a fine spray through a nozzle, started at one end of the line and of course we were told that we just had to breathe normally.

Anyway he came along the line, took his time about it, at a slow, slow march with the gas spraying from the cylinder on his back and through a handheld nozzle.

He only went slowly, right down to the end of the line and then stopped. I suppose that in the time he took to go past myself and the other adjacent to me, that would be something like a minute, you just had no chance of not breathing. But when he got to the end of the line, he never came back again thank God, I think his cylinder was just about empty.

The officer in charge of the demonstration said a few words, basically it was just to carry on as normal, and if you found that you had to stop and cough a bit, that was only part of the course. I had to stop and cough on several occasions, and so I presume did the others who were in the line. It knocked me about for a couple of days and then I just seemed normal.

LAC Bryce Daniel was involved in these same “demonstrations” again when he was posted to North QLD and PNG:

There were many of us who just had to stoop, and cough, and spit, and that went for maybe a minute to five minutes. Just how long I was bending over, stooping, coughing and taking gulps of fresh air I just can’t remember.

Well, quite a few got sicker than me, but I don’t know what happened to them. Everybody was sort of coughing, but some of them just sort of collapsed on the ground in the heat, with legs kicking and arms flaying. Quite a few of us just collapsed and went to hospital.

I did notice some effects when I went swimming. I just couldn't duck dive and hold my breath as long as I used to...I’d get these fits of coughing. Gradually I eased, and I only ever seemed to get them after I’d gone home on leave in the colder weather of Melbourne.”



Bryce Daniel aged 17 years. Photo courtesy of Rhonda McGovern.

1. Why were those conducting the mustard gas demonstrations “grizzly” about the weather being drizzly and overcast?

2. How do you feel about this activity being called a “demonstration” rather than a “trial”?

3. Most of the men and women involved with mustard gas have now passed away. Do you think these people’s experiences should be acknowledged? Why or why not? If so, how would you want to see them acknowledged?

Task: This was a real post on a website about mustard gas. The name has been changed and the responses deleted. Knowing what you know now about mustard gas what would your response to this post be?



LYAL NOWAK

March 12, 2021 at 5:15pm

Thank God that the use of mustard gas was limited to WWI, and not repeated in later conflicts!

[Reply](#)



Conclusion

Do you think the storage and human trials of mustard gas were justified in Australia during WWII?

How does the topic of mustard gas fit into the broader context of the atomic bombs dropped on Japan?

What questions do you now have about mustard gas during WWII? Formulate an inquiry question to explore these questions.

Other sub-topics you may wish to explore:

- The disposal of the mustard gas stores and the subsequent reports of found or washed up canisters.
- Human trials held on Brook Island in Northern QLD.
- The role of women in the mustard gas trials in Australia.
- The poisonous gas factory on Okunoshima Island, Japan.
- "Hoaxville" a secret village created in Marrangaroo, NSW to hide the mustard gas stores.
- The push for Glenbrook Tunnel to be opened as a cycle trail through the Blue Mountains and the possible consequences of that proposal.

Notes

The following resources are highly recommended:

The entire documentary “Keen as Mustard” is freely available on YouTube in three parts. If time permits this is a brilliant resource for students to watch in full. Running time approx. 45 mins.

Goodwin, Bridget. “Keen as Mustard.” Filmed 1989. Accessed 17 March 2021.

Part 1: <https://www.youtube.com/watch?v=uz1Z12T2DFY>

Part 2: <https://www.youtube.com/watch?v=srZmmbWRU1U>

Part 3: <https://www.youtube.com/watch?v=7udMjh5cCVo>

Plunkett, Geoff. *Chemical Warfare in Australia: Australia’s Involvement in Chemical Warfare 1914 – Today*, Sydney: Leech Cup Books, 2013.

Plunkett, Geoff, “Chemical Warfare in Australia: Australia’s Involvement in Chemical Warfare.” Accessed 18 March 2021. <https://mustardgas.org/>.

Australian War Memorial, <https://www.awm.gov.au/>

National Archives of Australia, <https://www.naa.gov.au/>

This education resource was prepared by:

Janine Roberts, MidCoast Stories, 2021, <https://midcoaststories.com/>

For suggestions and feedback please email info@midcoaststories.com

Transcript Video 1

Mustard gas techniques

https://midcoaststories.com/wp-content/uploads/2021/03/Mustard-gas-techniques_tiny.mp4

Australian Prime Minister, 1941-1945, John Curtin:

“Gentlemen, the truth is, if we do not strip ourselves to save our country, the enemy will do it for us with ruthless efficiency, imposing upon us a maximum of misery.”

Research Unit Physiologist, Jack Legge:

“There’s no way of finding out what damage mustard gas could do in the tropics except by using human volunteers. The initial letter going out calling for volunteers was I think a little obscure, simply mentioning experiments in the tropics. Well the tropics always have a certain charm and it got on the grapevine that members of the Australian Women’s Army Service were in the unit as well as a lot of scientists.”

Unit Lab Assistant, Cynthia Harney:

“The further north you went the more beautiful it was. It was rather mind-boggling to we girls from the south. I think that the excitement of all this contrast with our southern states and the different life we were leading it deadened or hid away from us the implications of the deadliness of what we were actually doing.”

Trial Volunteer, Maurice Maunder:

“The reason for volunteering was to assist the war effort because they had actually called for it and they would not have called for it unless it was necessary. And I didn’t anticipate anything going wrong anyway because I had faith in our service areas. I’m afraid I didn’t even think of my health. I didn’t even think we would suffer as much as we did.”

Transcript Video 2

Mustard gas effects

https://midcoaststories.com/wp-content/uploads/2021/03/Mustard-gas-effects_tiny.mp4

Trial Volunteer, Maurice Maunder:

“When we went in the object of the exercise was to pick up gunny sacks filled with sand from one corner of the chamber and carry it across to the other corner of the chamber. It was not long before we were covered in perspiration or actually sweat. This went through all our clothing, it picked up the gas which was in the air and clung to the uniforms. After a couple of hours we really became very, very tired.”

Trial Volunteer, Jack Baird:

“And the next day it started to come up in all little blisters and from there on day after day they got bigger and bigger until the fourth day they were just one big sheet of blisters. Well I was burnt I reckon over 95 %, I was burnt all over and all around my privates and that you could hardly walk in the finish, it was that bad.”

Trial Volunteer, Tom Mitchell:

“We were continually put in a big hut and hammered with secrecy. And they used many different forms, some fellows signed papers and everything. The secrecy was a big thing about it.”