

Before An Independent Hearing Panel

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*Under:* the Resource Management Act 1991 (**RMA**)  
*In the matter of:* Plan Change 14 to the Christchurch District Plan  
*And:* A submission by Ravensdown Limited (Submitter 243)

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**Statement of evidence of Peter Hay for Ravensdown Limited**

21st September 2023

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## **Qualifications and experience**

- 1 My name is Peter William Hay, and I am the Works Manager of the Christchurch Works for Ravensdown Limited. I have been employed by Ravensdown for a total of 25 years and my previously held positions within the company have been South Island Stores Operations Manager, South Island Logistics and Stores Manager, South Island Logistics Manager, Upper North Island Logistics and Horticultural Field Officer. I have been in my current position for the last 17 years.
- 2 I hold a Bachelor of Horticultural Science from Lincoln University.
- 3 As the Christchurch Works Manager I am responsible for all aspects of the Works operation on site. The primary functions of the role include:
  - (a) Overall management of the receipt, processing and manufacturing, storage and despatch of raw material fertilisers and finished fertiliser.
  - (b) Maintaining, developing, and enhancing safety and wellbeing management to ensure a healthy and safe workplace.
  - (c) Personnel management and leadership of the Christchurch Works.
  - (d) Maintaining, developing, and enhancing our site environmental management so we comply with all our resource consent conditions, understand all our environmental impacts, continually look to reduce our effects on the receiving environment and improve our overall environmental performance.
  - (e) Financial management of operational and capital budgets.
  - (f) The continuous improvement and optimisation of all operations and chemical processes.
- 4 I am familiar with the Ravensdown submission on Plan Change 14 and had input into the development of it. In preparing this evidence I have also reviewed the evidence of Ravensdown's expert witnesses Mr Chilton and Ms Whyte.

## **Scope of evidence**

- 5 My evidence addresses:
  - (a) An Overview of Ravensdown and the Christchurch Works;
  - (b) Residential Development around the Christchurch Works; and
  - (c) Air Discharge Permit CRC080001

## Overview of Ravensdown and Christchurch Works

### Ravensdown

- 6 Ravensdown is a farmer-owned co-operative with approximately 18,000 shareholders throughout New Zealand. Thirty-seven percent (37%) of these shareholders are dairy farmers, with the balance comprising a mix of sheep, beef, and other livestock (46%), horticulture and cropping systems (10%) and others (7%).
- 7 Ravensdown exists to support smarter farming for a better New Zealand. As a farmer-owned co-operative, Ravensdown's products, expertise and technology helps farmers manage their environmental impacts and optimise returns from the land.
- 8 Ravensdown is an integral part of the food creation process, where the food is grown for livestock or for people. Ravensdown tests for, advises about, buys, manufactures, ships, stores, spreads, measures and maps food-creating nutrients and fertiliser for its farmers in an integrated way. Ravensdown operates a network of fertiliser bulk stores, quarries and three superphosphate manufacturing plants throughout New Zealand.
- 9 Ravensdown is a science-focussed organisation delivering quality agri-products, technologies, and services.
- 10 In summary, Ravensdown provides the nutrients that nourish New Zealand's soil which, in turn, feed the plants and animals that deliver the products that can command a premium on the world stage. Smarter farming is all about smarter choices for the environment. Sales are important, but as a farmer-owned cooperative, it is not Ravensdown's policy to sell farmer shareholders more than they need. Precision agriculture is about the right amount of the right inputs in the right place, applied at the right time. Smarter farming is also about always having the right reason - the focus on the environment, community and kaitiaki (stewardship).

### The Christchurch Works

- 11 The manufacture of fertiliser started in 1922, following the construction of a new plant and associated facilities at the Hornby site. Ravensdown understands, at this point in time, there were only five residences in the immediate area of the works.
- 12 Figure 1 below contains an aerial photograph of the surrounding area in the 1940s. While some residential development existed to the southwest of the site (on the south side of Main South Road) the surrounding area was predominantly undeveloped rural farmland, with the exception of the Wigram air base, making it an appropriate location from which to conduct an industrial activity.

Figure 1: The Christchurch Works' Facility and Surrounding Area in the 1940's



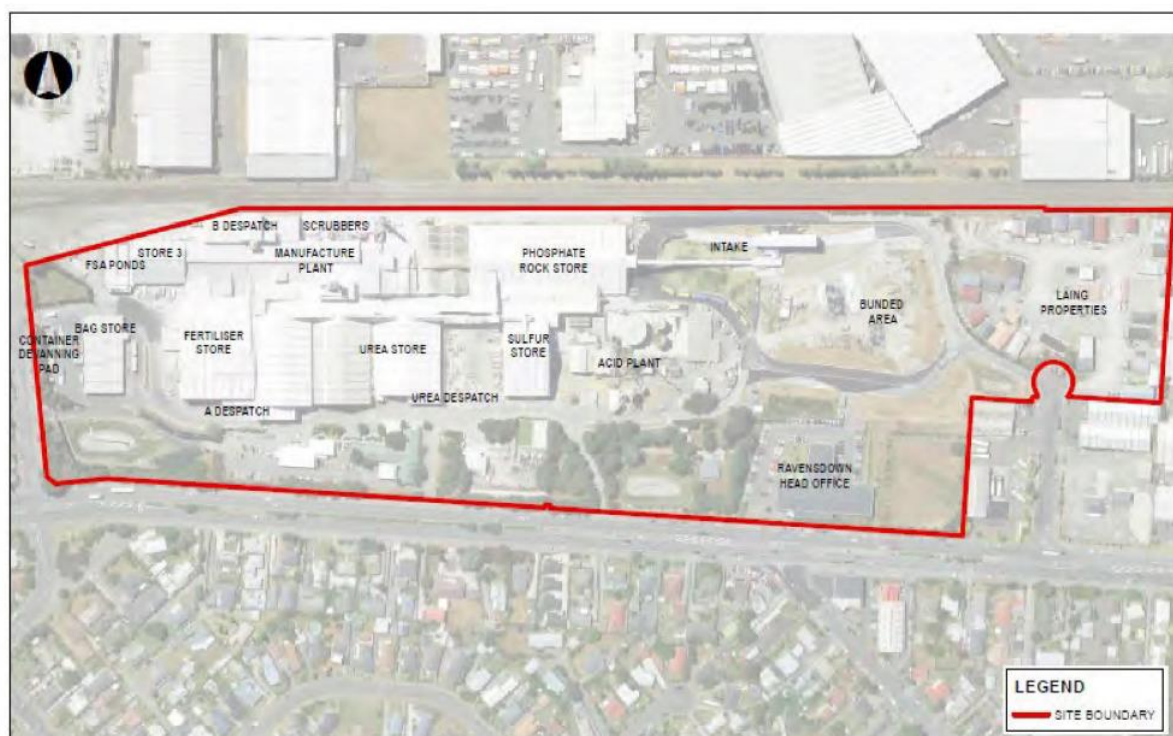
- 13 Ravensdown took over ownership and operation of the site, from Kempthorne Prosser, in 1977. In 1978, the new company began trading as 'Ravensdown Fertiliser Co-operative', which is now known as Ravensdown Limited.
- 14 The Christchurch Works (shown in Figure 2 below) remains located at 312 Main South Road, Hornby, where it was originally established. The site now also accommodates Ravensdown's corporate head office immediately southeast of the manufacturing site at 292 Main South Road. The total site occupies approximately 14 hectares and is appropriately zoned 'Industrial Heavy' under the Christchurch District Plan.

Figure 2 – Recent Imagery showing the Christchurch Works Site



- 15 The main activities undertaken at Christchurch Works are the production of sulphuric acid and superphosphate fertiliser, the intake, storage and despatch of fertiliser products, and the maintenance and administration functions supporting this. Annually, the site currently manufactures between 110,000 and 160,000 tonnes of superphosphate, and despatches between 250,000 to 310,000 tonnes of bulk products.
- 16 The process of materials moving to and around the works site (as per the layout in Figure 3 below) includes:
- (a) Raw materials for the production of sulphuric acid and superphosphate, as well as 'finished' fertilisers, are brought onto site to the intake system. The intake feeds products via conveyor into the storage buildings.
  - (b) The acid plant makes sulphuric acid for use in the superphosphate manufacturing process.
  - (c) Finished products are then bulk despatched via the three enclosed despatch plants or despatched in bulk bags from the bag store.

Figure 3 – Christchurch Works Site Layout



- 17 The Christchurch Works Site employs forty-seven people with a further one hundred and sixteen people employed in the Head Office on the same site. Ravensdown also contracts a significant volume of maintenance project work to subcontractors across Canterbury. In addition to Ravensdown's sponsorship in the rural sector, Christchurch Works specifically contributes to the local Hornby and Christchurch community through initiatives such as books in schools, "lend a

hand" days where staff contribute to community initiatives, and by providing donations for local projects and groups.

- 18 Ravensdown's commitment to improving environmental performance and minimising discharges from the site is reflected by on-going improvements at Christchurch Works. Some of the recent projects have included; the construction of a new store and despatch area, covered lanes and sealed areas to improve weather tightness and tracking of product around the site, recladding of buildings to remove asbestos, installation of fast acting roller doors to manage dust, and an upgrade of the stormwater management system including the installation of three stormwater holding basins.
- 19 The acid and superphosphate manufacturing processes are subject to a range of controls to minimise the amount of contaminants that are emitted to air from the processes. While all practicable steps are taken to minimise emissions they cannot be entirely avoided. Most of the discharges to air from the Christchurch Works come from the acid plant and manufacturing plant stacks. There are other sources of airborne contaminants from the Works such as wind blown dust from road and roof surfaces, these are minor in comparison to the stack discharges. All discharges to air from the Christchurch Works are authorised by resource consent and I discuss the stack discharges in more detail later in my evidence.

### **Residential Development around the Christchurch Works**

- 20 Over time, infill residential development to the south and southwest of Christchurch Works has occurred without regard to the need to maintain an appropriate physical separation between heavy industrial and residential areas. This separation is vital to protect the health and amenity of residents, and also to protect the ability of heavy industry to operate efficiently.
- 21 Ravensdown, like many heavy manufacturing industries, emits to air from elevated stacks. The need for separation therefore applies both horizontally and vertically. As discussed in Ms Whyte's planning evidence, at present, the Christchurch Works does not have the same level of protection afforded to other heavy industrial sites around the city (i.e. in Woolston, Belfast and other parts of Hornby) that are buffered from residential zones by industrial general zones.
- 22 Ravensdown acknowledges that there are environmental controls that need to be met and the company is committed to compliance to protect the health and amenity of existing residents and to maintain a social license to operate in the community. The site however cannot be expected to maintain the same level of amenity that would apply to a residential zone where it does not adjoin an industrial heavy zone.
- 23 In particular, Ravensdown considers that enabling taller residential buildings close to the site, as is proposed under Plan Change 14, would not maintain an appropriate separation from the lawful air discharges authorised by CRC080001.

### **Air Discharge Permit (CRC080001)**

- 24 To obtain CRC080001, Ravensdown went through a rigorous process to ensure that air discharges were safe and would have limited effects on the surrounding environment, including nearby residential land use activity. The application was lodged with the Canterbury Regional Council (CRC) in September 2007, and following appeal to the Environment Court, the discharge permit was issued, subject to conditions, in February 2010 for a consent term of 20 years (Consent CRC080001 expires on 4 February 2030). CRC080001 was publicly notified, and notice of the application was also sent directly to 700 properties located within 500m of the Christchurch Works' site boundary.
- 25 This discharge permit recognises, through monitoring and survey conditions, that there is potential for minor effects to occur beyond the site boundaries including within the residential area to the south and southwest of Christchurch Works. The monitoring and survey requirements largely arise because of the dominant easterly and nor-easterly winds that disperse discharges.
- 26 The main discharges authorised by CRC080001 include:
- a. Sulphur dioxide and sulphur trioxide from the site's acid plant stack. The consent contains a number of conditions in relation to this component of the discharge, including a restriction on the amount that can be discharged. Monitoring carried out by Ravensdown, including at its off-site ambient monitoring location, confirms compliance with the relevant air quality standards.
  - b. Fluoride from the manufacturing plant stack and from fugitive emissions from the manufacturing and dispatch area. Fluoride can cause minor injury to sensitive plants and cloud glass. Ongoing survey work required by the conditions, has identified that off-site effects on plants and window glass continue to occur. In relation to the glass impacts, conditions attached to the consent require Ravensdown to replace windows (where light gloss units are 120 or below) at its expense (including of residential dwellings), which Ravensdown has done during the term of this consent.

### **Conclusion**

- 27 The Christchurch Works' has operated on this site for over 100 years. Over this time Ravensdown has demonstrated commitment to improving environmental performance with significant capital investment and operational changes on site.
- 28 The Christchurch Works' has a strong record of managing and complying with the air discharge, and other consents, in place on the site. Ravensdown has an open and trusted relationship with ECan, CCC and the local community.

29 It is important to Ravensdown that the Christchurch Works' site is treated consistently with other heavy industrial sites around the city. This is the basis for the proposed buffer zone outlined in our submission.