Compliance Monitoring Report

Consent Holder	Ravensdown Fertiliser Co-operative Limited	**Consent No**	DP050561Ab
Client Address	Private Bag 6012 Hawke's Bay Mail Centre NAPIER 4142	**Site Address**	808 Waitangi Road, Awatoto
		Phone	(06) 834 1769
Contact Name	Helen Hurring	**Mobile**	021 900 457
Job Code	456007	**Consent Type**	Discharge Permit

Activity Description:

To discharge contaminants into the air from the operation of the company's fertiliser manufacturing plant at Awatoto, including the following processes:
The manufacture of sulphuric acid,
The manufacture of superphosphate fertiliser,
The storage, blending and dispatch of bulk and bagged fertilisers and sulphuric acid,
The receipt and storage (inside and outside) of raw materials and imported fertiliser,
General site operations

17-Jan-17	Monitoring Report Sent	**Officer**	Barbara McKenzie
25-Sep-17	Monitoring Inspection	**Officer**	Andrew Gass
07-Oct-17	Incident Inspection	**Officer**	Mike Alebardi
29-Mar-18	Monitoring Inspection	**Officer**	Andrew Gass
30-May-18	Incident Inspection	**Officer**	Ian Lilburn

2017-2018 Statement of Compliance and Overall Grades:

Grade Date	**21-Jun-18**
Environmental Grade	**Significant Non Compliance**
Technical Grade	**Significant Non Compliance**

Overall Comments:

Condition 5, 15 and 24 are significantly non-compliant.
Dangerous gases went beyond the boundary due to a sulphur fire and led to property evacuation. SO2 emission exceedances have occurred. SO2 emissions limits must be adhered to. Non-compliance with consent conditions may lead to Council taking enforcement action.

The non-compliance relates to Conditions 3, 5, 35, 37, 38, 43, 46, 47, 49, 51 & 58:
- Dust emissions from the site must be controlled.
- The Bradley mills discharge exceeded 1 kg/hr.
- Den stack pH concentrations dropped below 2.7.
- The water deluge system for the den mixer is not automated.
- An audit of sampling and surveys was not completed in 2016.
- The continuous in-stack SO3/H2SO4 monitoring system review report was not received (due September 2017).
- NOx health and safety concerns prevented acid plant stack testing during May 2018.
- Modifications are required to the test methods described in Conditions 49 & 51.
- Reasons for PM10 exceedances have not been provided in monthly reports.

Please provide the following information by 31 July 2018:
- Fuel analysis results for the last six months.
- Confirmation of the auxiliary boiler stack height.
- If the in-house laboratory is independently accredited.
- How the discharge rate obtained in accordance with Condition 47 is used with the continuous record obtained in accordance with Condition 45 (Condition 48).

- If ambient fluoride continues to be measured in accordance with AS3580.13.2 - 1991 by 31 July 2018.

The following is required by 31 August 2018:
- The Condition 46 report is required.
- Acid plant stack testing is required to be reinstated as per Condition 47.
- Bradley mill test method modifications (Condition 51).

Condition 64 requires trend identification from monitoring data in the annual report. While graphs are provided, trends should be identified, their potential causes, and if any action should be taken in response to the trends.

Previous Statement of Compliance and Overall Grades:

Grade Date	10-Oct-16
Environmental Grade	Non Compliance
Technical Grade	Non Compliance

Overall Comments:

This report applies to the period 1 April 2015 to 30 June 2016.

The non-compliance relates to conditions 6, 8, 24, 37, 49, 53 & 59.
Sulphur was stored outside for two days (between 1/7/15 - 3/7/15) as the infeed was repaired during a sulphur shipment arrival. The sulphur was moved inside as soon as this was fixed. Dust generation risk from this pile was very low.

A leaking duct caused a number of exceedances of the ambient SO2 350 µg/m³ ten-minute average limit. The acid plant was taken down three days after notification of the leak.

There has been one minor exceedance of the pH 2.7 standard. On 19/11/15 the Side 2 den stack had a pH of 2.68.

There was a period of three weeks in August 2015 where no stack tests took place due to safety concerns with the sampling platform. Sampling is now carried out at the lower platform, as agreed by Council.

As per Condition 43 & 44, please provide the audit results carried out by the independent suitably qualified person.

Refer to back page for grading information

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
1.	Technical	All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
	Compliance	10-Oct-16 Works and structures have been maintained. The upper sampling platform on the manufacture stacks is unsafe. However, the lower platform is suitable for sampling from, as agreed by Council.
	Compliance	21-Jun-18 **Works and structures are maintained. During every shut-down period upgrades to plant are made.** **It is noted there has been a spill of Fluorosilicic Acid in May 2018 due to a burst pipe. This condition will be reassessed upon receipt of the final report for the acid discharge on 30/5/18.**
2.	Technical	The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	10-Oct-16 Compliance based on as-built plans, producer statement and visual observations on site.
	Compliance	21-Jun-18 **Operations have been in accordance with this condition, as confirmed by visual observations on site.**
3.	Environmental	There shall be no discharge of particulate matter (including dust) that causes an offensive or objectionable effect beyond the boundary of the site. Compliance with Conditions 6 to 13 does not automatically result in compliance with this condition.
	Compliance	06-Oct-16 No dust complaints from this site have been received during the monitoring period.
	Non Compliance	19-Jun-18 **No dust complaints have been received during the reporting period.** **It is noted a number of PM10 exceedances (NES Air Quality) have been reported by the consent holder during the monitoring period. While the source has not been directly confirmed, due to proximity to the sea and gravel processing site, the consent holder is reminded that they must ensure any dust emissions from their site are controlled.** **Three exceedances of the NES Air Quality have occurred at the HBRC operated monitoring site for PM10 in 2018. An exceedance on 22 February coincided with an intake of a shipment of Reactive Phosphate Rock. This likely contributed to the exceedance recorded. Analysis of the sample showed 23 % biological, 23% mineral, 19% gypsum, 15% lime, 8% Epsom salt, and 8% metal oxide.**
4.	Environmental	There shall be no discharge of odour that causes an offensive or objectionable effect beyond the boundary of the site.
	Compliance	06-Oct-16 No odour complaints from this site have been received during the monitoring period.
	Compliance	18-Jun-18 **There have been three odour complaints during the reporting period. None of these have been confirmed as offensive or objectionable.**
5.	Environmental	Notwithstanding any other condition of this consent, there shall be no noxious or dangerous levels of gases, airborne liquid or other airborne contaminants beyond the legal boundary of the site, that are likely to cause adverse effects on human health, ecosystems or property. [Note: for the purpose of this condition the term 'property' shall mean 'land and all assets on it'].
	Compliance	10-Oct-16 Council is not aware of any noxious or dangerous levels of gases beyond the property boundary during the monitoring period.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Significant Non Compliance	18-Jun-18 **One event has occurred during the monitoring period where a fire in the sulphur store triggered a large scale response involving fire, police, DHB and HBRC.**
6.	Environmental	All bulk raw materials stored on site shall be kept in enclosed buildings, with the exception of phosphate rock which must otherwise be securely contained to minimise particulate being discharged into air.
	Non Compliance	10-Oct-16 Sulphur has been stored outside for two days (between 1/7/15 - 3/7/15) as the infeed was repaired during a sulphur shipment arrival. The sulphur was moved inside as soon as this was fixed. No other outside storage has taken place during the monitoring period.
	Compliance	18-Jun-18 **Bulk raw materials have been stored in enclosed buildings during the monitoring period.**
7.	Environmental	The consent holder shall use its best endeavours to avoid outside storage of phosphate rock. Any outside storage shall be undertaken in accordance with the Investigation and Management Plan, as required by Condition 67 of this consent. Outside storage, excluding the management of spills, shall only be undertaken in the area to the south of the Acid Plant.
	Compliance	10-Oct-16 No outside storage of phosphate rock has occurred during the monitoring period.
	Compliance	18-Jun-18 **Phosphate rock has not been stored outside during the monitoring period.**
8.	Technical	At least 10 working days prior to the use of outside product storage the Consent Holder shall notify the Council that product shipments will be arriving which cannot be stored inside. Notification shall include the following: a. A summary of why alternative covered storage is not possible; and b. The product type to be stored outside; and c. The likely volume of product to be stored outside; and d. The estimated date of arrival and the time it will take to place product at the outside location; and e. Estimated duration that the product will be stored outside.
	Non Compliance	10-Oct-16 Sulphur has been stored outside for two days (between 1/7/15 - 3/7/15) as the infeed was repaired during a sulphur shipment arrival. The sulphur was moved inside as soon as this was fixed. Notification was provided to Council when this problem occurred, why Sulphur had to be outside, mitigation in place for potential dust and timeframes for fixing the infeed. No other outside storage has taken place over the monitoring period.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	18-Jun-18 **Phosphate rock has not been stored outside during the monitoring period.**
9.	Environmental	No outside unloading, pile forming or loading shall occur when average hourly wind speed exceeds 5 metres per second (m/s). The wind speed shall be determined by an onsite meteorological station in accordance with Condition 42 of this consent.
	Compliance	10-Oct-16 No outside storage of phosphate rock has taken place during the monitoring period. Sulphur has been stored outside for two days (between 1/7/15 - 3/7/15) as the infeed was repaired during a sulphur shipment arrival. Conditions at the time did not cause any dust issues.
	Compliance	18-Jun-18 **Unloading takes place in a designated covered area.** **There has been no outside storage of product during the monitoring period.**
10.	Environmental	The consent holder shall carry out the suppression of dust with use of water through various methods that include, but are not limited to, spraying with water cart or sprinkler system to minimise the discharge of all visible dust beyond the site boundary, particularly during the loading, transfer and stockpiling of product. The control of dust discharges from stockpile areas shall include night-time and weekend hours.
	Compliance	06-Oct-16 There has been no outside storage of phosphate rock during the monitoring period. Some sulphur has been stored outside due to a problem with the infeed during a shipment arrival. This was stored in a sheltered location and moved inside as soon as the infeed was repaired. No dust issues were identified and no complaints received. The roadways are swept at least monthly and more frequently if required, to minimise dust build-up.
	Compliance	18-Jun-18 **Dust suppression is used when required. This includes sweeping roadways at least monthly and more frequently if required.** **There have been several instances of high PM10 readings during the reporting period. While not confirmed as originating from the consent holders site, they are reminded dust emissions must be controlled.**
11.	Environmental	Notwithstanding Condition 10 the consent holder shall establish and maintain an automated dust suppression sprinkler system that covers all outside storage piles, except for the working face while being worked, which will activate and remain operational for the duration of outside product pile storage, including unloading and loading. The sprinkler system shall have a capacity in terms of volume and layout that will ensure adequate dampening down of the stockpile in all possible wind conditions.
	Compliance	06-Oct-16 No outside storage of phosphate rock has taken place during the monitoring period. There were no dust issues with the sulphur pile between 1/7/15 - 3/7/15.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Not applicable	18-Jun-18 **There has been no outside product storage during the monitoring period.**
12.	Environmental	The consent holder shall ensure regular sweeping of yard and road areas using mechanical cleaning to minimise dust emissions.
	Compliance	06-Oct-16 Regular sweeping of yard and road areas takes place. A sweeper comes through monthly and dust suppression is used when required. Dust levels are routinely monitored for PM10 and depositions.
	Compliance	18-Jun-18 **The roadways are swept at least monthly and more frequently if required, to minimise dust build-up.**
13.	Technical	The consent holder shall ensure that the product storage pile does not exceed 4 metres in height.
	Compliance	22-Jul-15 The sulphur pile did not exceed 4m in height.
	Compliance	18-Jun-18 **The product storage pile was confirmed by the consent holder to not have exceeded 4 m in height.**
14.	Environmental	Except for discharges from the auxiliary boiler, furnace stack, economiser stacks and other minor vents, all discharges from the acid plant shall be via an emission stack with a height no less than 55 metres above ground level.
	Compliance	06-Oct-16 All discharges, except those listed, are from the stack as described in this condition.
	Compliance	18-Jun-18 **Discharges from the acid plant have been via an emission stack no less than 55 m above ground level.**
15.	Environmental	The emission rate of Sulphur Dioxide (SO2) measured by continuous monitoring in the acid plant stack shall not exceed 1.5 kilograms (kg) per minute (two minute average) and 60 kg/hour (one-hour average) at any time.
	Compliance	22-Jul-15 The start up carried out 20/7/15 had a maximum peak of 57.9 kg/hr. There have been no exceedances of the SO2 limits during the monitoring period.

Significant Non Compliance 18-Jun-18

There have been no exceedances of the SO2 emission rates in 2018.

On 11 April 2017 a momentary spike above 1.5 kg/minute (approximately 1.7 kg/minute) occurred after the acid plant was turned off to install a new sulphur gun. As the plant was blown through the spike occurred.

Following an earthquake on 14 November 2016, a number of re-starts were attempted from 6pm but abandoned by 10pm. Several small spikes of approximately 1.6 kg/minute over this period.

Data provided shows an exceedance of the 60 kg/hr limit for a period of 1 hour 47 minutes, over three peaks on 4 October 2016. this was during a warm start following a power failure that afternoon. The exceedance was attributed to molten sulphur accumulated at the furnace face being removed by purging the plant. The accumulated sulphur continued to burn. As the sulphur feed had been stopped to the furnace, the interlock was ineffective. Following this, a new restart protocol was implemented to prevent a reoccurrence.

The action plan as at 23 December 2016 was to:
- Use the new start-up protocol (successfully used during 21 November 2016).
- Replacement of the furnace in 2017.
- The method used for cleaning coils be discontinued.

On 15 September 2016, during an acid plant cold start, SO2 exceeded 60kg/hr for approximately 1 hour 18 minutes. This was attributed to sulphur and air flows being misbalanced and the furnace temperature rising too quickly. The initial high SO2 concentration appears to have overwhelmed the plants capacity. A communication issue with the SO2 analyser has been identified which has meant SO2 emissions were miscalculated and the plant interlock effectively defeated. The analyser was then reconnected to the network.

---

16. Environmental

Notwithstanding Condition 15, the combined discharge rate of SO2, Sulphur Trioxide (SO3) and Sulphuric Acid (H2SO4) from the sulphuric acid production process shall not exceed 60 kg/hr, expressed as SO2.

Compliance 10-Oct-16

The combined discharge rate as described in this condition has not been exceeded during the monitoring period.

Compliance 20-Jun-18

Monthly and annual report data provided shows the combined discharge rate of SO2 (as described in this condition) has been less than 60 kg/hr over the course of the monitoring period.

---

17. Environmental

An Acid Plant cold start up sulphur ignition shall not occur:

a. between the hours of 1:00 am and 10:00 am on clear still mornings when the wind speed is less than 2 m/s and there is no cloud; and

b. when the wind direction is between 030 and 155 degrees (onshore winds).

Note: For the purposes of this consent, an acid plant cold start refers to starting the acid plant from cold, this occurs following a complete shutdown when the acid plant is starting from ambient temperatures and diesel is used

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		to pre-heat the plant. An acid plant warm start refers to starting the acid plant when the plant is already warm, this occurs following a short plant stop, usually less than 8 hours, when the temperature in the acid plant has been maintained above a critical limit.
	Compliance	10-Oct-16 During the acid plant cold start on 20/7/15, sulphur ignition occurred at 13:45 with wind in a northerly direction.
	Compliance	19-Jun-18 **An acid plant cold start has not occurred during the times and conditions specified in this Condition. Reports have been provided after each cold start.**
18.	Environmental	Subject to condition 21, the combined discharge rate of SO3 and H2SO4 (expressed as SO3) from the sulphuric acid production process shall not exceed: a. 2 kg/hr as a 1-hour average at any time; b. 0.5 kg/hr for at least 50% of fixed 1-hour averages in any 3 month period.
	Compliance	10-Oct-16 Monthly and annual report data shows the limits listed in this condition have not been exceeded.
	Compliance	20-Jun-18 **Subject to Condition 21, monthly and annual report data show the combined discharge rate of SO3 has been less than 0.2 kg/hr over the course of the reporting period.**
19.	Environmental	The existing final acid plant absorbing tower shall be replaced with a new tower containing a high efficiency distribution system, high efficiency packing and high efficiency mist eliminators that reduces the acidity of emissions from the acid plant to ensure compliance with the conditions of this consent at all times. The new tower shall be installed and commissioned by 30th October 2012. A suitably qualified independent person approved by Council shall certify in writing that the new absorbing tower, as installed and operated, is capable of meeting the conditions of this consent. This certification shall be provided to the Council by 30th November 2012.
	Not applicable	06-Oct-16 This condition is historical.
	Compliance	19-Jun-18 **Historic condition.**
20.	Environmental	The discharge from the acid plant stack shall be clear at all times, except that a visible white plume may occur within four hours of igniting sulphur in the case of a cold start up and within one hour in the case of a warm start up.
	Compliance	10-Oct-16 No complaints relating to this site have been received by Council. The Council Officer has not observed a visible plume from the acid plant stack during the monitoring period.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	19-Jun-18 **No visible plumes have been observed from the acid plant stack during the reporting period.** **No complaints relating to the acid plant stack have been received during the reporting period.**
21.	Environmental	The discharge from the acid plant may contain up to 150 milligrams per cubic metre (mg/m3) at NTP SO3 / H2SO4 expressed as SO3 for not more than 4 hours after igniting sulphur in the case of a cold start and not more than 1 hour in the case of a warm start up. This shall be measured in accordance with USEPA method 8 or another method as approved by Council.
	Compliance	22-Jul-15 Results from USEPA method 8 analyses during the cold start on 20/7/15 varied from 0.015 to 0.047 mg/m³ SO3. No other cold starts have occurred during the monitoring period.
	Compliance	21-Jun-18 **Acid plant start-up reports received show the discharge of SO3 has been less than the specified limit during cold starts (see also Condition 18 comments).** **The independent audit of this method, completed by Industrial Compliance Solutions Ltd, notes that improvements have been made to make this isokinetic. However, several improvements are still to be made to the sampling train to make the process more efficient.**
22.	Environmental	The discharge from the acid plant shall not occur during wind directions between 030 and 155 (onshore winds) between the months of September to May inclusive, when either of the following meteorological conditions occur a. The relative humidity measured on-site at 10 metres above ground level is 92% or greater, wind speed at 10 metres above ground level is 3 m/s or less and it is not raining; or b. The relative humidity measured on-site at 10 metres above ground level is 95% or greater, wind speed at 10 metres above ground is greater than 3 m/s and it is not raining. Acid plant discharge shall cease within 30 minutes of the above meteorological conditions being detected and shall not recommence until these conditions have not occurred for a period of at least 30 minutes. Plant operators shall be alerted when the measured relative humidity at 10 metres above ground during onshore winds (030-155 degrees) exceeds 90%, and careful observation of meteorological conditions and the visible plume discharge shall occur during such conditions. A record shall be kept of the dates, time periods and meteorological conditions when the acid plant operation ceases according to this condition. This record shall be provided to the Council on request and otherwise annually.
	Compliance	10-Oct-16 Weather conditions are recorded at the weather station and monitored in the acid plant den. Should the conditions arise that trigger this condition, an alarm sounds in the acid plant den, warning operators to cease the discharge. No stops have been reported during the monitoring period.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	19-Jun-18 **The computer system provides the operators a warning if the weather conditions as described occur. Notes are included in the monthly reports of any times the acid plant ceases operation due to weather conditions.**
23.	Environmental	A system shall be installed that automatically shuts off the sulphur feed to the burner so that the discharge to air rate of SO2, SO3 and H2SO4 from the sulphuric acid production process does not exceed Conditions 15 and 16.
	Compliance	10-Oct-16 An automatic shut-off valve is maintained.
	Compliance	19-Jun-18 **A system is in place to shut of the sulphur feed, to stay in accordance with Conditions 15 & 16.**
24.	Technical	a. The consent holder shall install and operate at least two ambient SO2 monitors around the acid plant in order to detect fugitive SO2 emissions. The monitoring sites shall be located at or about the southern boundary of the “Winstones” site, as described in Condition 57, and at or about the engineering store compound, to the western side of the acid plant. The concentration of SO2 in ambient air shall be monitored continuously (at least every minute) by UV fluorescence analysis or an alternative method agreed to in writing by the Council; and b. In the event that ambient concentrations of SO2 measured at either the monitoring sites described by Condition 24(a) or the monitoring site described by Condition 57 exceed 350 µg/m3 as a 10-minute average, immediate action shall be taken to ensure that measured SO2 concentrations are reduced to less than 350 µg/m3 as a 10 minute average. A record shall be kept of all occurrences when measured SO2 concentrations exceed this limit and the corrective action taken. This record shall be provided to the Council on request and otherwise annually.
	Non Compliance	10-Oct-16 Two ambient SO2 monitors are maintained and results reported to Council as required. There were 55 exceedances of the 350 µg/m³ limit (10 minute average) between the two sites over a three-day period due to a leaking duct. A maximum of 2119 µg/m³ was reached on 24/11/15. The plant was taken down to repair the duct. The non-compliance relates to the action not being immediately taken to reduce SO2 concentrations to below 350 µg/m³ as a ten minute average.

	Significant Non Compliance	19-Jun-18 **Two ambient SO2 monitors are operated on behalf of the consent holder by Water Care Laboratories.** **On 11 April 2018, 42 10 minute SO2 exceedances occurred during the heating up phase of the acid plant during a cold start. A difference between the ambient monitor and operators screen led to the exceedances. After a number of checks were made the plant was switched off to prevent any further exceedances.** **During March 2018, two 10 minute exceedances of the 350 µg/m³ limit due to a fire at the sulphur melter between 18:20 and 18:40.** **During acid plant start-up on 15 September 2016, SO2 concentrations exceeded the 10-minute average of 350 µg/m³ on 19 occasions. These have been attributed to being emitted from a temporary stack used during reheating the furnace from cold. SO2 was from remaining sulphur in the furnace.**
25.	Environmental	Discharge from the Auxiliary Boiler shall be via an emission stack of 15.8 metres above ground level.
	Compliance	10-Oct-16 The auxiliary boiler stack has not changed since the previous monitoring period.
	Compliance	19-Jun-18 **HBRC is not aware of any changes to the auxiliary boiler stack.** **Please confirm by 31 July 2018 if the auxiliary boiler stack height remains at 15.8 m.**
26.	Environmental	The diesel oil burning rate in the auxiliary boiler shall not exceed 580 litres per hour.
	Compliance	06-Oct-16 Diesel burning rate is a maximum of 430L/h as per manufacturer's specifications.
	Compliance	19-Jun-18 **The diesel oil burning rate has not changed. This has been previously confirmed as a maximum of 430 l/h, as per the manufacturers specifications.**
27.	Environmental	The auxiliary boiler and the pre-heater shall only burn diesel oil having a maximum sulphur content of 0.005% by weight. Documents showing fuel analysis shall be provided to the Council on request.
	Compliance	06-Oct-16 This is a NZ standard. Documents are provided with diesel deliveries.
	Compliance	19-Jun-18 **This is an industry standard. Please provide fuel analysis results for the last six months by 31 July 2018.**
28.	Environmental	The opacity of emissions from the auxiliary boiler and pre-heater stacks shall not be darker than Ringelmann Shade 1 as determined in accordance with the New Zealand Standard 5201:1973, except for a period not exceeding 2 minutes in each hour of operation.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	22-Jul-15 Observations on 13/7/15 by Ravensdown laboratory staff of the Auxiliary boiler found emission opacity to be no greater than Ringelmann Shade 0.
	Compliance	19-Jun-18 **The consent holders laboratory staff have completed Ringelmann tests at the time of each cold start. At no time has the emission opacity been darker than Ringelmann Shade 1.**
29.	Environmental	The concentration of hydrogen sulphide (H2S) shall be measured in accordance with Condition 50 and shall not exceed 7 µg/m3 (with a 1 hour averaging time) in the ambient air at or beyond the boundary of the premises as a result of emissions from the consent holder's property.
	Unable to be assessed	10-Oct-16 Council undertook the monitoring between 20/4/16 and 27/4/16. While there were several high H2S readings well in excess of the limit, the wind direction was from the general direction of the neighbouring site. Placement of the H2S trailer will be re-assessed for the next round of monitoring due to potential wind disruption by surrounding structures.
	Compliance	19-Jun-18 **During the monitoring period, H2S testing has been completed by HBRC between 30 November - 9 December 2016.** **H2S concentrations did not exceed 7 µg/m³ during the sampling periods.**
30.	Environmental	Discharges from each den scrubber shall be via stacks with a height of no less than 38 metres above ground level.
	Compliance	06-Oct-16 The den scrubber stacks have not changed since the previous monitoring period.
	Compliance	19-Jun-18 **No changes have been made to the den scrubber stacks during the monitoring period.**
31.	Environmental	Discharges from the hygiene scrubber shall be via a stack with a height of no less than 36 metres above ground level.
	Compliance	06-Oct-16 The hygiene scrubber stack has not changed since the previous monitoring period.
	Compliance	19-Jun-18 **No alterations have been made to the hygiene scrubber stack during the monitoring period.**
32.	Environmental	All emissions from the superphosphate manufacturing process shall be discharged through either the den stacks or the hygiene stack. Within 12 months of the commencement of this consent a report shall be provided by an independent suitably qualified person (approved by the Council) that certifies that all necessary remedial work to the ventilation and extraction system has been undertaken such that fugitive contaminant emissions from the manufacturing plant building have been eliminated as far as practicably possible. This ventilation and extraction system shall be maintained and operated at all times during the manufacturing of superphosphate.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	06-Oct-16 All emissions from the superphosphate manufacturing process are discharged through the den or hygiene stacks.
	Compliance	19-Jun-18 **Emissions from the superphosphate manufacturing process are discharged through the den or hygiene stacks.**
33.	Environmental	The 7-day average concentration of fluoride measured at the RFC SW monitoring site (location as detailed in Condition 54), shall not exceed 1.7 µg/m3.
	Compliance	10-Oct-16 There have been no exceedances of the 1.7 µg/m³ fluoride limit at the 'back paddock' site during the monitoring period.
	Compliance	20-Jun-18 **During the monitoring period, the 7-day average concentration of fluoride measured at the 'Back Paddock' site (RFC SW) reached a maximum of 0.43 µg/m³.**
34.	Environmental	The 7-day average concentration of fluoride measured at the RFC NW monitoring site (location as detailed in Condition 54), shall not exceed 5.5 µg/m3.
	Compliance	10-Oct-16 There have been no exceedances of the 5.5 µg/m³ fluoride limit at the 'front paddock' site during the monitoring period.
	Compliance	20-Jun-18 **During the monitoring period, the 7-day average concentration of fluoride measured at the 'Front Paddock' site (RFC NW) reached a maximum of 4.57 µg/m³.**
35.	Environmental	The rate of particulate matter discharged from any Bradley mill shall not exceed 1 kg/hr per mill, and 2 kg/hr in total when two or more mills are in operation.
	Compliance	10-Oct-16 The rate of particulate matter discharged from the Bradley mills has been well below the prescribed limits.
	Non Compliance	19-Jun-18 **The rate of particulate matter discharged from any Bradley mill reached a maximum of 1.026 kg/hr in March 2016 and November 2017. A combined rate of 1.46 kg/hr was reached in November 2017 when two mills were tested.** **Reasons for the November 2017 exceedance were attributed to bag filters requiring replacement. Bags were replaced expeditiously and the preventative maintenance task updated to increase the bag change frequency to reduce the chance of bags bursting.**
36.	Environmental	The sum of the fluoride compounds discharged from the den stacks and the hygiene stack measured in the samples taken in accordance with Condition 49 expressed as fluoride on a one hour average basis, shall not exceed: a. a maximum discharge rate of 1.5 kg/hr; and

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		b. 1 kg/hr in more than 50% of samples taken in any 12-month period
	Compliance	10-Oct-16 The sum of fluoride compounds discharged (one hour average) during the monitoring period reached a maximum of 0.702 kg/hr in November 2015.
	Compliance	20-Jun-18 **The sum of fluoride compounds measured during the monitoring period, in accordance with Condition 49, has reached a maximum of 0.537 kg/hr.**
37.	Environmental	A treatment system that reduces the acidity of emissions from the manufacturing plant shall be installed such that after 3 months from the commencement of this consent the pH of the condensate from the den and hygiene stacks shall be no lower than 2.7. The method by which the condensate is to measured shall be approved in writing by the Council.
	Non Compliance	10-Oct-16 A system is in place. There has been one minor exceedance of the pH 2.7 standard. On 19/11/15 the Side 2 den stack had a pH of 2.68.
	Non Compliance	19-Jun-18 **A treatment system to reduce emission acidity is in place.** **However, in March 2017, pH from the den stacks (Side 2) was lower than 2.7 (2.6) in two of the six tests that month. No further pH exceedances have occurred since March 2017.**
38.	Environmental	An automated water deluge system for the manufacturing den mixer shall be installed and maintained such that contaminant discharges are prevented in the event of failure of the mixing process.
	Compliance	10-Oct-16 A water deluge system is in place. One tonne of water is available to be dropped into the mixer to free up the mixing process should it get stuck.
	Non Compliance	19-Jun-18 **A water deluge system is in place. A 1000 L tank is in place to dump water in the event of failure of the mixing process, such as in a power cut.** **This was confirmed to be manually activated by opening a valve at the time of the last inspection. The non-compliance relates to the requirement for automation.**
39.	Environmental	Until such time as the pH of the discharge from the manufacturing plant is consistently above 2.7, as required by Condition 37,when the wind speed at the site is no more than 3 m/s and the wind direction is between 030-155 degrees (i.e. on-shore) the manufacture of fertiliser shall only occur when either: a. the temperature at the site is less than 22 C; and b. the manufacturing stack plume is “OK” as indicated in the chart attached as Appendix “A”. OR c. the temperature at the site is 22 C or more; and

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		d. it is daylight; and e. the relative humidity at the site is less than 70%; and f. there is no fog; and g. the manufacturing stack plume is 'OK' as indicated in the chart attached as Appendix "A". The time and duration of manufacturing plant stoppages due to meteorological conditions shall be recorded. These records shall be provided to the Council on request.
	Compliance	10-Oct-16 A system is in place to control the pH of the discharge. When this is not in use, an automatic shutdown system will take effect if the relevant conditions arise for a period greater than 10 minutes.
	Compliance	19-Jun-18 **A system is in place to control the pH of the discharge.** **Should the dosing system not be in use, then the computer system is programmed to shutdown the process if the listed weather conditions occur for a period of greater than 10 minutes.**
40.	Environmental	The concentration of fluoride in ambient air measured in accordance with Condition 54 shall not exceed 0.8 µg/m3 (7 day average) at areas used for horticultural production (including Brookfields Orchard and Plumpton Park (locations as detailed in Condition 54)).
	Compliance	10-Oct-16 Fluoride in ambient air has not exceeded 0.1 µg/m³ (7 day average) at the sites located in horticultural production areas during the monitoring period.
	Compliance	19-Jun-18 **Fluoride concentrations measured in ambient air at Brookfield's Orchard and Plumpton Park have not exceeded 0.1 µg/m³ during the monitoring period.**
41.	Environmental	The evaporative cooling towers shall be regularly dosed with micro-biocides to maintain the concentration of the micro-biocide in the cooling water at the level recommended by the supplier that prevents the establishment of Legionella bacteria. Records shall be kept to demonstrate compliance with this condition and shall be provided to the Council on request.
	Compliance	06-Oct-16 The evaporative cooling towers are regularly dosed with micro-biocides. Microbial test results are provided in the monthly reports.
	Compliance	20-Jun-18 **The evaporative cooling towers are regularly dosed with micro-biocides to maintain concentrations in the cooling water to prevent Legionella establishment. Test results of Legionella and Heterotrophic Plate Counts are provided in the monthly reports.**
42.	Technical	The consent holder shall operate a meteorological data collection station in a location that reasonably represents meteorological conditions on the site. The station shall continuously record, wind speed, wind direction, temperature and relative humidity, and display them in real time in the manufacturing control room and the acid plant control room. The site location and the resolution, accuracy and averaging time of monitoring

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		equipment shall be agreed in writing by the Council. All processed data shall be archived and made available to the Council on request.
	Compliance	06-Oct-16 A meteorological data collection station is maintained and records the required information.
	Compliance	19-Jun-18 **The consent holder operates a meteorological data collection station as required. Wind speed, direction, temperature and relative humidity are recorded and displayed in both the manufacture and acid plant control rooms.**
43.	Technical	All sampling and surveys shall be carried out by an independent suitably qualified person, or by the consent holder or its representative where the Council has agreed to this in writing. Where the consent holder or its representative carries out testing or monitoring, an independent suitably qualified person shall audit the monitoring and testing methodology at least once per year, unless otherwise agreed in writing by the Council, and shall provide a written report describing the extent of compliance with the required protocol. A copy of this report shall be provided to the Council.
	Compliance	10-Oct-16 Sampling and surveys are completed by appropriate providers. EAM NZ carries out stack testing and the lab staff undertake acid plant and ambient fluoride testing. The site maintains ISO accreditation. Please provide the audit results carried out by the independent suitably qualified person.
	Non Compliance	20-Jun-18 **Sampling and surveys are completed by both consultants and the consent holders laboratory staff. An audit of the air quality test methods was completed by Industrial Compliance Solutions Ltd in March 2017. Previously, K2 Environmental Solutions Ltd had completed audits in November 2014 and September 2015.** **The non-compliance relates to an audit not being completed in 2016.**
44.	Technical	All analyses in accordance with conditions on the consent shall be carried out by an independently accredited laboratory to ISO/IEC Guide 25, or to the satisfaction of the Council.
	Compliance	10-Oct-16 ARL is accredited for the analyses they carry out. Council is satisfied with the analyses the site laboratory carries out. Please provide a copy of the latest audit results of the testing processes and procedures.
	Unable to be assessed	20-Jun-18 **Some analyses are undertaken by the in-house laboratory onsite. These have been audited by an external consultancy - Industrial Compliance Solutions Ltd. The site is now no longer ISO accredited. Please confirm if the in-house laboratory is independently accredited by 31 July 2018.**
45.	Technical	The consent holder shall continuously (i.e. at intervals not exceeding 1 minute) measure the rate of SO2 discharge in the emissions from the acid plant stack. The method of measurement shall be in accordance with ISO7935:1992 (E) (Stationary source emissions – Determination of the mass concentration of sulphur dioxide – performance characteristics of automated measuring methods) or an alternative method, approved in writing by the

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		Council. Testing results shall be reported as a mass emission rate in units of kg/hr as both 1-minute and 1-hour averages.
	Compliance	10-Oct-16 SO2 is measured continuously and recorded at 1 minute intervals. The SO2 analyser is an approved method for the measurement of ambient SO2 in accordance with US statutes and is industry standard.
	Compliance	20-Jun-18 **The consent holder continuously measures the rate of SO2 discharge in the acid plant stack emissions. Test results are reported in the monthly reports as a mass emission rate in kg/hr as both 1 minute and 1 hour moving averages.** **The SO2 analyser is an approved method for the measurement of ambient SO2 in accordance with US Statutes and is an industry standard.**
46.	Technical	All options for a continuous in-stack SO3/H2SO4 monitoring system shall be reviewed and analysed every 18 months by a suitably qualified independent person. The independent reviewer shall prepare a written report detailing the viability and estimated cost of all monitoring options internationally available. This information shall be provided to the Council no later than one month after the time of review. a. From 1st November 2012 continuous opacity measurements shall be undertaken in the acid plant stack at all times to provide an indication of acid mist emissions for operational purposes. Records of these measurements shall be kept and made available to Council on request.
	Compliance	06-Oct-16 A report was received on 29/2/16, prepared by Opus Consultants. At this point in time, it has been determined that continuous monitoring is not required. However, if problems continue on a reasonably regular (annual) basis, then further consideration of this type of monitoring would help in those situations and for systems control in general.
	Non Compliance	20-Jun-18 **A report was completed in January 2016 by Opus Consultants Ltd and provided to HBRC in February 2016. The next report was due by September 2017. This has not yet been received. Please provide this report by 31 August 2018.**
47.	Technical	The consent holder shall measure the rate of discharge of the SO2, SO3 and H2SO4 in the emissions from the acid plant stack, at least twice per week. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.
	Compliance	10-Oct-16 The rate of discharge of SO2, SO3, and H2SO4 is measured twice per week in accordance with the listed method.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Non Compliance	20-Jun-18
		The consent holder has been measuring the rate of discharge of the listed sulphur species in the emissions from the acid plant stack twice per week. **During May 2018 stack testing has been unable to be completed. This has been attributed to health and safety concerns due to the presence of NOx being detected. The inability to accurately record NOx is due to cross sensitivity of the gas detectors with SO2. The consent holder is working to find a solution to enable stack testing to recommence. The acid plant has been shutdown at the end of May 2018.** **The independent audit of this method notes that improvements have been made to make this isokinetic. However, several improvements are still to be made to the sampling train to make the process more efficient.** **Stack testing is required to be reinstated, as per this Condition, by 31 August 2018, and prior to the next acid plant cold start.**
48.	Technical	The discharge rate of the total sulphur compounds obtained in accordance with Condition 47 shall be used in conjunction with the continuous record of sulphur dioxide obtained in accordance with Condition 45 to determine a continuous record of the rate of sulphur compounds discharged, expressed as SO2.
	Compliance	10-Oct-16
		A continuous record of the rate of sulphur compounds discharged, expressed as SO2, is maintained. Both methods described by this condition are compared and monitored.
	Unable to be assessed	20-Jun-18
		Please confirm how the discharge rate obtained in accordance with Condition 47 is used with the continuous record obtained in accordance with Condition 45. This is required by 31 July 2018.
49.	Technical	The consent holder shall measure the discharge rate of fluoride in the emissions from each of the den stacks and the hygiene stack, at least twice per week using wet chemistry methods. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. The method of measurements shall be in accordance with USEPA Method 13B ("Total fluoride specific ion electrode") or an alternative method approved, in writing, by the Council.
	Non Compliance	10-Oct-16
		The discharge rate of fluoride in the emissions from the den and hygiene stacks is measured in accordance with this condition. There was a period of three weeks in August 2015 where no stack tests took place due to safety concerns with the sampling platform. Sampling is now carried out at the lower platform, as agreed by Council.
	Non Compliance	20-Jun-18
		The discharge rate of fluoride in the den and hygiene stacks is measured twice per week unless weather conditions prevent sampling from taking place. **The test method audit, completed by Industrial Compliance Solutions Ltd notes modifications to testing equipment and procedures is required.**

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
50.	Technical	Concentrations of hydrogen sulphide in ambient air shall be monitored in accordance with the method of measurement (AS 3580.8.1 1990). The methods for sampling and analysis shall be automatic intermittent sampling - gas chromotographic method, or an alternate method approved in writing by the Council. The monitoring shall be carried out for a period of at least seven complete days at least twice per year. The location of the monitoring shall be agreed upon with the Council at the time of installation of the monitoring equipment. Results shall be reported as 1-hour averages.
	Compliance	10-Oct-16 Council undertakes the monitoring. H2S monitoring was completed between 20/4/16 - 27/4/16.
	Compliance	19-Jun-18 **Council has undertaken ambient H2S monitoring in 2015 and 2016. The monitoring instrument has been unavailable for the 2017 - 2018 period to date. Should this situation continue, the consent holder will need to commission H2S monitoring to meet this condition.**
51.	Technical	The rate of particulate matter discharged from each mill shall be measured at least once every 3 months. The method of sampling and analysis shall comply with USEPA Method 5 or Method 17, ISO 9096:2003 or ASTM D3685-98, or a similar iso-kinetic method to the satisfaction of the Council. The testing time for each sample shall be 2-hours continuous, and at least three samples shall be collected. Results shall be adjusted to 0 C, 101.3 kilopascals, on a dry gas basis, and as a mass emission from each stack expressed as kg/hr.
	Compliance	10-Oct-16 The rate of particulate matter has been recorded at the required frequencies in accordance with the listed method.
	Non Compliance	20-Jun-18 **The rate of particulate matter discharged from each mill has been measured once every three months, when the plant has been operational.** **The audit completed by Industrial Compliance Solutions Ltd identifies improvements required. Presently the testing is completed using an in-house method, based on the Fertiliser Manufacturers' Research Association (now the Fertiliser Association) Effluent Sampling and Analysis Method 3.1.** **Modifications to testing equipment and procedures are required to comply with the methods described in this condition. These should be completed by the time of the next mill testing.**
52.	Technical	Pressure and particulate in the baghouses serving the Bradley mills shall be continuously monitored and recorded to detect broken bags in the Bradley mills. A central alarm system shall be operated to warn the plant operator of a bag breakage or any change in pressure that may indicate a broken filter bag. The bag filters serving the Bradley mills shall also be manually inspected on a regular basis and shall be replaced where the inspection reveals excessive wear. Records shall be kept of bag filter pressure, Bradley mill shutdowns, manual inspections and filter bag replacements. These records shall be provided to the Council on request.
	Compliance	10-Oct-16 Sensors on the mills are integrated into the computer system. An alarm sounds if any issues occur and prevents the plant from starting.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		Baghouses are inspected daily and maintenance is recorded.
	Compliance	20-Jun-18 **Pressure and particulate in the baghouses are monitored and recorded. A preventative maintenance regime has been implemented to reduce the chances of broken bags.**
53.	Technical	The pH of the condensate from the den scrubbers and the hygiene scrubber stacks shall be measured at least twice each week. The method by which the condensate is to be measured shall be approved in writing by the Council.
	Non Compliance	10-Oct-16 pH of the condensate from den and hygiene scrubbers is measured as required. There was a period of three weeks in August 2015 where no stack tests took place due to safety concerns with the sampling platform. Sampling is now carried out at the lower platform, as agreed by Council.
	Compliance	20-Jun-18 **pH of condensate from the den scrubber and hygiene scrubber stacks are measured twice per week, unless weather conditions prevent testing.**
54.	Technical	The consent holder shall continuously measure ambient fluoride, in accordance with the monitoring plan required by Condition 68 and based on 7-day filter exposures and results reported as average concentration (µg/m3) over that 7-day sample period. Measurements shall be taken at no less than five sites, within 4 kilometres (km) of the plant, including those listed in Table 1 below; Table 1: Ambient fluoride monitoring sample sites – see table in consent document The location of the sites may be modified with the written approval of the Council. [Note: Approval from property owners/occupiers for the placement and operation of monitors is required.]
	Compliance	10-Oct-16 Ambient fluoride is measured continuously in accordance with the monitoring plan.
	Compliance	19-Jun-18 **Ambient fluoride has been measured at five sites during the monitoring period and results reported to HBRC monthly.**
55.	Technical	Ambient fluoride measurement undertaken in accordance with Condition 54 shall occur at a height of 2.4 metres above ground level with no obstruction above 2 metres high in the direction of the RFC plant for 50 metres, unless otherwise approved in writing by the Council.
	Compliance	10-Oct-16 Ambient fluoride is measured in accordance with this condition.
	Compliance	19-Jun-18 **Ambient fluoride has been measured in accordance with this condition. The inlet height has been confirmed at 3.0 m.**
56.	Technical	The consent holder shall ensure ambient fluoride measurement is

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		undertaken in accordance with AS3580.13.2 – 1991 (“Method 13.2: Determination of fluorides – Gaseous and acid soluble particulate fluorides – Manual, double filter paper sampling”) or an alternative method approved, in writing, by the Council.
	Compliance	10-Oct-16 Ambient fluoride is measured in accordance with the listed standard.
	Compliance	19-Jun-18 **It has been previously confirmed ambient fluoride is measured in accordance with AS3580.13.2 - 1991. Please confirm if ambient fluoride continues to be measured in accordance with this condition by 31 July 2018.**
57.	Technical	Concentrations of SO2 in ambient air shall be monitored continuously according to the method of measurement AS3580.4.1 – 1990 (“Method 4.1: Determination of sulphur dioxide – direct reading instrumental method”), or an alternative method agreed to in writing by the Council. The monitoring shall begin within 3 months of commencement of this consent. The monitoring site shall be located at or about the southern boundary of the “Winstones” site, to the southeast of the den stacks, and in an area agreed to in writing by the Council prior to establishment. Results shall be provided as 1-hour and 24-hour averages. Any exceedance of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES) for SO2 shall be reported as soon as it is known.
	Compliance	10-Oct-16 Watercare services carries out this monitoring and results are reported monthly.
	Compliance	19-Jun-18 **SO2 concentrations in ambient air are measured by Water Care Laboratories on behalf of the consent holder at two sites, in accordance with this Condition. Results are reported in monthly reports.**
58.	Technical	Concentrations of PM10 in ambient air shall be monitored continuously according to a method of measurement that complies with the monitoring requirements in the NES, or an alternative method agreed to in writing by the Council. The monitoring shall begin within 3 months of commencement of this consent. The monitoring site shall be located at or about the southern boundary of the “Winstones” site, to the southeast of the den stacks, and shall be agreed in writing by the Council prior to establishment. Results shall be provided as a 24-hour average. Any exceedance of the NES for PM10 shall be reported as soon as it is known.
	Compliance	10-Oct-16 Watercare services carries out this monitoring and results are reported monthly.

	Non Compliance	19-Jun-18
		PM10 concentrations are measured and recorded by Water Care Laboratories on behalf of the consent holder. Two sites are monitored, in accordance with this Condition. Results are reported to HBRC in monthly reports. **Reasoning for PM10 exceedances have not been provided to date. These are required, as per this Condition.** **Please also provide notification of any PM10 exceedance as soon as it is known.**
59.	Technical	Continuous monitoring of total suspended particulate matter shall be undertaken at two locations at all times that bulk material is stored outside. The monitoring sites shall be at the eastern boundary at a location most affected by bulk material dust discharges and at a reference location at the northern end of the site. The monitoring shall have an averaging period of 24-hours or less and the method of monitoring shall be approved in writing by the Council. Monitoring results shall be provided to the Council within two months of the cessation of bulk material storage and otherwise at least annually.
	Non Compliance	06-Oct-16
		Sulphur has been stored outside for two days (between 1/7/15 - 3/7/15) as the infeed was repaired during a sulphur shipment arrival. This was stored in a sheltered location and the risk of discharge to air, minimal. The sulphur was moved inside as soon as the infeed was repaired. Continuous monitoring was not undertaken due to the short period of time outside storage took place and the low risk of any dust producing potential.
	Not applicable	19-Jun-18
		Total suspended particulate matter monitoring has not been undertaken as no outside storage has occurred during the monitoring period.
60.	Technical	Every 24 months, from the commencement of this consent, the consent holder shall review the available methodology for measuring acid deposition at no less than two sites in horticultural areas within 4 km of the plant and this information shall be provided to the Council. Any new methodologies will be reviewed against the current vegetation monitoring programme, as per Condition 66. The deposition monitoring protocol shall be determined in conjunction with and agreed to in writing by the Council prior to the commencement of monitoring.
	Compliance	06-Oct-16
		A report completed by Plant & Food Research Ltd was received on 29/2/16. The conclusions in this report were considered fair and monitoring of pH at source is still the most practicable option at this point in time.
	Compliance	20-Jun-18
		The consent holder provided two reports on 21 May 2018, completed by Plant & Food Research. **One was a review of methods for acid deposition in orchards. The other was a review of the need for monitoring acid deposition in orchards.** **The method review report provided a review of available technologies and any developments since the previous report was completed in 2016.**

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
61.	Technical	The consent holder shall undertake a survey every two years of the effects of fluoride etching on all properties (where the owner accepts the offer of a survey) within 1 km of the site using the methodology outlined in the BRANZ report DCZ059 (25 June 2004). Any windows found to be affected to 'pen test level 3' or where Light Gloss Units (LGU) are equal or less than 115 as described in BRANZ report DCZ059, shall be replaced by the consent holder if the property owner wishes the glass to be replaced.
	Compliance	06-Oct-16 Opus Consultants Ltd undertake the glass survey. No property owners within the 1 km radius of Ravensdown accepted the offer of a survey. Letters were sent on 9 November 2015 and responses required by 23 November 2015. As such, a survey was not completed on this occasion.
	Compliance	20-Jun-18 **A survey has been completed by Opus in December 2017. Only one household requested the survey offer and has requested glass replacement.** **Issues have been encountered sourcing appropriate glass, as the household wishes to have double glazing. The consent holder is working through this with their consultant.**
62.	Technical	The consent holder shall advise the Council at least 24 hours in advance of a planned warm or cold start up of the acid plant. The Council shall be advised of the time when sulphur will be ignited and the person in charge of the procedure.
	Compliance	22-Jul-15 Council was advised of the planned cold start on 20/7/15.
	Compliance	19-Jun-18 **HBRC as been provided sufficient prior warning to planned cold starts of the acid plant.**
63.	Technical	At monthly intervals the consent holder shall provide the Council with copies of all information (including test results, reports and records) required to be collected in accordance with the conditions of this consent during the previous month, unless the condition specifically allows the information to be provided at a different interval. This information shall be provided in a report format, and shall comment on site performance and compliance with consent conditions.
	Compliance	06-Oct-16 Monthly reports have been provided to Council as required.
	Compliance	19-Jun-18 **The consent holder provides monthly reports as required and documents all monitoring information from the previous month.**
64.	Technical	The consent holder shall produce a report every year (the 'annual report') that presents and summarises all information on the monitoring required by this consent. The report shall include, but not necessarily be limited to: a. quantification of and assessment of the impact of discharges of dust, PM10, SO2, fluoride and acidic compounds; and b. the fluoride and foliar monitoring report; and c. the impact of odour and H2S discharges from the site; and

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		d. a description of any potential and actual effects that have been identified; and e. identification of trends of monitoring information; and f. a summary of system modifications; and g. recommendations for system improvements; and h. the monthly fluoride content of phosphate rock blends. The annual report shall be prepared for the period beginning July and ending June of the following year and provided to the Council before 31 October each year.
	Compliance	06-Oct-16 Annual reports have been provided as required. The 2015 report was received 29/9/15. The 2016 report was received 7/9/16.
	Compliance	19-Jun-18 **Annual report have been provided each year.** **The 2016 report was received 7 September 2016.** **The 2017 report was received 1 November 2017. Notification was received on 26 October that some information had not been received from a lab that required inclusion. This was provided 3 November 2017.** **In each report was a summary of the various discharge monitoring results, a summary of any system modifications, and recommendations for improvements - as per a) - h) of this Condition.** **Graphs of monitoring data are provided showing any trends. It is noted no comments accompany these graphs identifying associated trends. The consent holder should be looking at these and identifying what may be causing any trends and if any action should be taken in response to these. It is Council's expectation these will be included in the 2018 annual report.**
65.	Technical	The consent holder shall maintain a log of all complaints received directly from the public. The log shall include; a. the date, time, and nature of the complaint; and b. the telephone number, and address of the complainant (as provided); and c. weather information (including an estimate of wind speed and direction); and d. details of key operating parameters at the time of the complaint; and e. the remedial action taken, as appropriate, to prevent further incidents. Complaints shall be reported to the Council within 12 hours of receipt and the log of complaints shall be made available to the Council on request.
	Compliance	06-Oct-16 No complaints for this site have been received during the monitoring period.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	19-Jun-18 **The consent holder has a register they can record any complaints and is aware of the requirements listed in this Condition.**
66.	Technical	The consent holder shall undertake a vegetation monitoring programme that has been approved by the Council in accordance with Condition 68 of this consent. The programme shall provide for the following matters: a. A visual assessment of vegetation; and b. A determination of foliar fluoride concentrations; and c. The timing of the vegetation monitoring programme (which shall occur during the months of September to May inclusive for the duration of the consent, unless otherwise agreed in writing by the Council); and d. The monitoring methodology which shall be agreed in writing by the Council; and e. The location of any monitoring, including but not limited to the following sites (Table 2): Table 2: Fluoride monitoring sample sites – see table in consent document. Provided that the location of the monitoring sites may be modified as appropriate with the written agreement of the Council. f. The requirement for the initial crop assessment to be completed within 12 months of the commencement of this consent; and g. The requirement for the consent holder to provide a report to the Council upon the completion of the first two years of vegetation monitoring, to determine whether the monitoring programme may be amended or modified as necessary; Provided that any amendments to the monitoring programme shall only occur with the written agreement of the Council.
	Compliance	10-Oct-16 The 2014-2015 fluoride monitoring report was received 26/6/15. The 2015-2016 report was received 17/6/16. The programme was undertaken in accordance with this condition in both instances.
	Compliance	20-Jun-18 **A vegetation monitoring programme has been completed during the monitoring period.** **Vegetation has been assessed annually by Plant & Food Research. A report was received 7 July 2017. This included all the required information listed in this Condition.**
67.	Technical	The consent holder shall prepare and submit to the Council for approval within two months of the date of commencement of this consent, a Management Plan that details how all discharges to air from the site and their effects shall be measured, assessed and managed. The Management Plan shall be complied with at all times during the exercise of this consent, and shall include but not be limited to the management of the following matters: a. Dust including particulate; and

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
		b. Outside phosphate rock storage; and c. Sulphur dioxide; and d. Acidic discharges; and e. Fluoride; and f. Odour. The Management Plan shall specify all actions necessary to ensure ongoing compliance with all conditions of this consent. The consent holder shall update the Management Plan at least once every two years, and otherwise where necessary, with the written agreement of the Council.
	Compliance	06-Oct-16 An updated management plan was received on 14/1/15.
	Compliance	21-Jun-18 **A Management Plan was submitted. Updates have been provided to Council at two yearly frequencies. The matters described in a.) to f.) are all included in the Plan.**
68.	Technical	The consent holder shall prepare and submit to the Council for approval within two months of the date of commencement of this consent, a Monitoring Plan that monitors the impact of discharges to air from the site. The Monitoring Plan must be complied with at all times during the exercise of this permit, and shall include but not be limited to the following monitoring matters: a. Manufacturing stack monitoring requirements; and b. Acid plan stack monitoring requirements; and c. Dust monitoring requirements; and d. Ambient SO2, particulate matter and H2S monitoring; and e. Off site ambient fluoride monitoring requirements; and f. Off site crop fluoride monitoring requirements; and g. Sampling methods; and h. Analytical methods; and i. Reporting requirements; and j. Sampling locations; and k. Sampling frequencies; and l. Auditing and peer review. The consent holder shall update the Monitoring Plan at least once every two years, and otherwise where necessary, with the written agreement of the Council.
	Compliance	06-Oct-16 An updated monitoring plan was received on 14/1/15.

Condition No.	Type of Condition	Consent Condition and Compliance Assessment
	Compliance	21-Jun-18 **A Monitoring Plan was has been provided at two yearly intervals. An updated plan was received 8 February 2017 covering the matters described in a.) to l.) of this Condition.**

Grading Information

Each consent condition has been classified as either a Environmental or Technical condition.

Environmental conditions:

Environmental conditions set standards/performance limits for a resource consent, or, mitigates an environmental impact of exercising a resource consent.

Examples of environmental conditions are:
- Installation of up-gradient cut-off drains/ placement of disposal fields
- volume limits of discharges
- water take rates and maximum volumes
- discharge or receiving water contaminant limits

Technical conditions:

Technical conditions sets out technical requirements that allows a consent holder to demonstrate or measure that they meet the Environmental performance required by a resource consent, or help specify the activity authorised.

Examples of technical conditions are:
- sampling effluent/ recording discharge volumes / collating submitting data
- providing of reports/ plans/ designs specifications
- notifications, accreditation, authorities submissions for approval by ER Manager
- installation and maintenance of a water meter

You need to comply with all conditions regardless of whether it's a Environmental or Technical condition.