

3 December 2020

Ravensdown Limited
C/- Helen Hurring
Private Bag 6012
Napier 4142

Reference: **AUTH-115256-03**

Attention: Helen Hurring, helen.hurring@ravensdown.co.nz

Dear Helen,

COMPLIANCE MONITORING REPORT

Consent number:	AUTH-115256-03 (Please note this number replaces your historic number)
Historic number:	DP050561Ab
Consent Location:	DISCHARGE AIR 90 Waitangi Road, Awatoto, Napier
Consent 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

Hawke's Bay Regional Council has completed the Compliance Monitoring Report for above Resource Consent.

THIS REPORT APPLIES TO THE PERIOD: 01/07/2019 to 30/06/2020
YOUR CURRENT COMPLIANCE GRADE IS: Moderate Non-Compliance

THE FOLLOWING ACTION MUST BE TAKEN BY YOU:

Action:	Timeframe:
Condition 64, improvements to the annual compliance report are suggested including an assessment/demonstration of compliance against every condition. This is especially useful to confirm methodology where required.	03-12-2020 - 30-10-2021
Condition 52, install a system for continuously monitoring pressure/particulate matter within the baghouses as per this condition. The intention of the condition is to detect and mitigate discharges of particulate matter from a bag break, alternative systems that achieve this purpose may be considered.	03-12-2020 - 30-10-2021
Condition 29, investigate onsite sources of H2S and contribution to exceedances reported during the period. The investigation should include recommendations for mitigation of onsite sources.	03-12-2020 - 30-10-2021

Under Section 36 of the Resource Management Act 1991 you will be charged for the actual and reasonable costs involved in monitoring the resource consent. The account will be sent to you in due course.

Please contact me should you have any questions.

Yours sincerely

A handwritten signature in black ink, appearing to read 'J Blunden', with a long horizontal flourish extending to the right.

Jack Blunden
Team Leader Compliance – Urban & Industrial
Policy & Regulation Group

Phone 06 835 9200

Email: jack.blunden@hbc.govt.nz

HAWKES BAY REGIONAL COUNCIL: STATEMENT OF COMPLIANCE AND OVERALL GRADE

CONSENT HOLDER	Ravensdown Limited	CONSENT NUMBER	AUTH-115256-03
CLIENT ADDRESS	C/- Helen Hurring Private Bag 6012 Napier 4142	SITE ADDRESS	90 Waitangi Road, Awatoto, Napier,
JOB CODE	456007	CONSENT TYPE	Resource Consent
MONITORING INSPECTION DATE	9/08/2019		

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

OVERALL COMMENT

This compliance report covers the period 01/07/2019 to 30/06/2020.

A site visit was made on the 09/08/2019.

This report highlights some moderate and low risk non-compliance with the conditions of this consent as detailed below

- Condition 24 is graded moderate non-compliance for 15 exceedances of the 350ug/m3 SO2 limit during two separate sulphur fires inside the melter on the 04/10/2019 (between 17:10 and 18:10) and 18/10/2019 (between 03:00 and 12:50).
- Condition 29 is graded moderate non-compliance for 106 exceedances of the 7ug/m3 limit during the September 2019 and March 2020 monitoring rounds.
- Condition 34 is graded moderate non-compliance for a fluoride exceedance beyond the boundary of the site in January 2020.
- Condition 36 and 37 are graded moderate non-compliance for pH and fluoride exceedances during the August 2019 cold start up.
- Condition 52 is graded moderate non-compliance for the continuous pressure and particulate monitoring system not being installed. Council acknowledges that recent pressure monitoring tests have failed to find an adequate solution but more investigation into pressure or particulate monitoring is important to ensure that fugitive particulate emissions from the site are minimised.

The low risk non-compliance relates to:

- Condition 6 is graded low risk non-compliance for exceedances of fluoride and PM10 during unloading of phosphate rock.

Additionally, Conditions 8, 11, 13 and 59 are not applicable as no outdoor storage occurred. Condition 43 was not assessed as the report fell outside the current compliance period.

The non-compliances identified by this report relate predominantly to discrete one of events. Council has been notified immediately and appropriate remedial steps taken to mitigate any effects and prevent recurrence on every occasion.

Ongoing exceedances of H2S concentration limits is of particular concern. Council acknowledge that there may be contribution from offsite sources as demonstrated by the shutdown monitoring during the previous period, however the meteorological data collected during monitoring indicates activities on site may be largely responsible. Further investigation into onsite sources should be undertaken within the next compliance period. Council will be undertaking further investigation of other sources within the area which may help to identify sources.

Improvements to the annual compliance report are suggested including an assessment/demonstration of compliance against every condition. This is especially useful to confirm methodology where required.

Consent Conditions and Compliance Assessment

NO:	CONSENT CONDITION:	COMPLIANCE GRADE:	COMMENTS:
1.	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.	Full Compliance	All works and structures onsite appeared to be well maintained. During the 2019 shutdown period repairs were undertaken to extend the boiler stack to the required height, install an automatic deluge system in the manufacturing plant. The consent holder is in the process of consenting for a replacements scrubber stack to further improve emissions quality from the site. Alterations to the caustic dosing system as resulted in better efficiencies and reduced dosage requirements in the scrubber stacks.
2.	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.	Full Compliance	During the site visit all operations were seen to have been undertaken in general accordance with the conditions of this resource consent. Any major changes to processes have been done with prior approval of Council. Major change to the site discharge via the scrubber stacks is being completed through a resource consent variation process.
3.	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.	Full Compliance	There have been no complaints received regarding operations during this compliance period. There have not been any confirmed discharges of particulate matter from the site during the compliance period. The consent holders monitoring has recorded exceedances of the 50ug/m ³ 24 hour average at the archimedes monitoring site during plant shutdown which suggests offsite influences.
4.	There shall be no discharge of odour that causes an offensive or objectionable effect beyond the boundary of the site.	Full Compliance	There have been no complaints regarding odour during the period.
5.	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'].	Full Compliance	During the period there has been no discharge noxious or dangerous levels of gases, airborne liquid or other airborne contaminants beyond the legal boundary of the site. The consent holders monitoring has indicated that particulate matter with elevated fluoride has been discharge offsite and elevated PM10 and H2S have been detected. The consents holder is investigating alternate monitoring locations for H2S and PM10 to better monitor gaseous discharges from the site.
6.	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.	Low Risk Non-Compliance	All bulk raw materials are stored indoors, there has been no outdoor storage of phosphate rock during the period. The low risk non-compliance relates to the PM10 and Fluoride exceedances recorded at the monitoring stations

			during unloading of phosphate rock on one occasion in February 2020.
7.	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.	Full Compliance	During the compliance period there has not been any outdoor storage of phosphate rock.
8.	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.	Not Applicable	During the compliance period there has not been any outdoor storage of phosphate rock. The consent holder requested if outdoor storage of phosphate rock would be permitted during the period but managed to find alternative covered storage at other facilities.
9.	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.	Full Compliance	Unloading takes place within a covered unloading area. During the compliance period there has not been any outdoor storage of phosphate rock.
10.	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.	Full Compliance	Dust suppression on site is used when necessary and regular sweeping of the yard is undertaken as needed to reduce dust emissions. At the time of the site visit, the yard area was well maintained and little dust was evident. During the compliance period there have been several exceedances in PM10, additional dust suppression should be employed during loading/unloading and during periods of high wind in order to reduce potential dust emissions from site. Fewer exceedances than the previous period have been reported, this is likely due to the Winstones monitoring site being under repair for a significant proportion of the year.
11.	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.	Not Applicable	During the compliance period there has not been any outdoor storage of phosphate rock requiring a sprinkler system.
12.	The consent holder shall ensure regular sweeping of yard and road areas using mechanical cleaning to minimise dust emissions.	Full Compliance	Weekly sweeping of the site is undertaken and additionally when required to minimise dust build up. The consent holder contract a roadsweeper to undertake mechanical sweeping of the yard areas.

13.	The consent holder shall ensure that the product storage pile does not exceed 4 metres in height.	Not Applicable	During the compliance period there has not been any outdoor storage of phosphate rock.
14.	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.	Full Compliance	Discharges from the acid plant are via an emission stack no less than 55m above ground level as required by this condition.
15.	The emission rate of Sulphur Dioxide (SO ₂) 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.	Full Compliance	The emission rate of sulphur from the acid plant stack is continuously measured and has not exceeded the 1.5kg/min or the 60kg/hour limit for the compliance period.
16.	Notwithstanding Condition 15, the combined discharge rate of SO ₂ , Sulphur Trioxide (SO ₃) and Sulphuric Acid (H ₂ SO ₄) from the sulphuric acid production process shall not exceed 60 kg/hr, expressed as SO ₂ .	Full Compliance	Monthly data, and data submitted with the annual report demonstrate that the combined discharge rate for SO ₂ , SO ₃ and H ₂ SO ₄ has been less than 60kg/hour during the compliance period. The maximum reported average hourly discharge rate was 18.74kg/hr during peak production in February 2020, well within the maximum allowable 60kg/hr.
17.	<p>An Acid Plant cold start up sulphur ignition shall not occur:</p> <p>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</p> <p>b. when the wind direction is between 030 and 155 degrees (onshore winds).</p> <p>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 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.</p>	Full Compliance	<p>During the period the consent holder had an additional shutdown and start up compared to 1 start up in the previous period. Acid plant cold start ups occurred on the 8th August 2019 and 16th January 2020.</p> <p>For the first start up, preheating of the plant began on the 6th of August 2019. The plant went to Sulphur at 19:00pm on the 8th August 2019. A gas leak was discovered soon after and the process shutdown immediately. It was then restarted at 8pm. SO₂ peaked at 55kg/hr and was shutdown again. A third restart at 21:00pm peaked at 42kg/hr SO₂ discharge. As measured by USEPA method 8 as per the consent conditions. The wind during these start ups was between 271 and 340 degrees</p> <p>The second acid plant start up occurred on Thursday the 16th of January 2020 following a shutdown since 13/12/2019. The pre heating began on Monday the 13th January 2020 and the acid plant start up occurred at 2:55pm on Thursday the 16th January. All weather conditions for this start up were met. Wind direction was between 71-95 degrees.</p>
18.	<p>Subject to condition 21, the combined discharge rate of SO₃ and H₂SO₄ (expressed as SO₃) from the sulphuric acid production process shall not exceed:</p> <p>a. 2 kg/hr as a 1-hour average at any time</p> <p>b. 0.5 kg/hr for at least 50% of fixed 1-hour averages in any 3 month period.</p>	Full Compliance	<p>During the compliance period, continuous measurement of combined SO₃ and H₂SO₄ emissions from the acid plant has not exceeded the 1 hour average or the 3 month average.</p> <p>The maximum recorded three month average discharge rate was 0.07kg/hr, well within the consented limits. No 1 hour average discharge rates exceeded 0.09kg/hr.</p>

19.	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	This condition is historical.
20.	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.	Full Compliance	<p>Council has not received any complaints regarding vapor emissions from the activities of this consent. A method for monitoring opacity is currently in place and further developments are planned to increase its usefulness.</p> <p>No visible plume was observed during the August 2019 or January 2020 cold start ups.</p>
21.	The discharge from the acid plant may contain up to 150 milligrams per cubic metre (mg/m ³) at NTP SO ₃ / H ₂ SO ₄ expressed as SO ₃ 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.	Full Compliance	<p>Acid plant cold starts in August 2019 and January 2020, and regular operation of the acid plant show SO₃/H₂SO₄ concentrations well within the consented limits for the compliance period.</p> <p>During the August 2019 start up the SO₃ concentrations peaked at 63.15mg/m³. the following day the test was repeated and showed 3.61mg/m³ SO₃ concentration.</p> <p>During the January 2020 start up the SO₃ concentrations peaked at 3.34mg/m³ were within the required limits.</p>
22.	<p>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</p> <p>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</p> <p>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.</p> <p>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.</p>	Full Compliance	<p>Meteorological conditions are constantly monitored by operators and automatically alarm when the wind and humidity conditions described occur. Records of meteorological conditions and time periods for shutdown are recorded and submitted to Council with the monthly data report. A full record was supplied with the annual report in October.</p>
23.	A system shall be installed that automatically shuts off the sulphur feed to the burner so that the discharge to air rate of SO ₂ ,	Full Compliance	A system is in place to automatically shutdown the sulphur feed if discharge

	SO3 and H2SO4 from the sulphuric acid production process does not exceed Conditions 15 and 16.		limits are neared to ensure compliance. This is especially important during cold starts which are closely monitored and reported on. There have been no exceedances during the compliance period.
24.	<p>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</p> <p>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.</p>	Moderate Non-Compliance	<p>Two ambient SO2 monitors are operated on behalf of the consent holder by Water Care Laboratories at the Archimedes and Winstones monitoring sites. In September 2019, the Winstones monitoring site was vandalised and the power supply stolen. The consent holder advised Council and undertook steps to reinstate the monitoring site. The access to the land was restricted by the landowner and as a result the monitoring site was not able to be reinstated until August 2020. There is currently a generator operating at the monitoring site until a permanent solution can be achieved.</p> <p>An additional monitoring site is located within the engineering yard (archimedes) and has been continuously recording during the compliance period.</p> <p>During the monitoring period there were 15 exceedances of the 350ug/m3 10 minute average limit. These were from two separate sulphur fires inside the melter on the 04/10/2019 (between 17:10 and 18:10) and 18/10/2019 (between 03:00 and 12:50). The fires were caused by a wrongly positioned valve that after cleaning caused fires to break out within the melter. The exceedances were reported and investigated as soon as possible following the events and an incident report submitted to Council. SO2 concentrations peaked at 880.9ug/m3 (10-minute average) during the first fire and 1517.3ug/m3 during the second.</p> <p>A review of the melter and sulphur handling facilities is being undertaken.</p>
25.	Discharge from the Auxiliary Boiler shall be via an emission stack of 15.8 metres above ground level.	Full Compliance	Works were undertaken during the 2018-19 period to increase the stack height to the required 15.8m. As built plans and a producer statement have been received confirming the height and no further changes have been made during the 2019-20 period.
26.	The diesel oil burning rate in the auxiliary boiler shall not exceed 580 litres per hour.	Full Compliance	The diesel fired burner is only capable of combusting a maximum of 430l/hour as stated in the manufacturers specifications.
27.	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.	Full Compliance	Full analysis for the period was provided with the annual report submitted in accordance with condition 64. The fuel analysis was undertaken by the supplier and Refining NZ and is only supplied if

			sulphur content is less than 0.00001%. Analysis results demonstrate compliance with this limit and the consented limit of 0.005%.
28.	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.	Full Compliance	The consent holders laboratory staff have completed Ringelmann tests at the time of each cold start. Reports supplied indicate that the opacity of the discharge was not darker than Ringelmann Shade 1 during the August 2019 and January 2020 cold start events.
29.	The concentration of hydrogen sulphide (H ₂ S) shall be measured in accordance with Condition 50 and shall not exceed 7 µg/m ³ (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.	Moderate Non-Compliance	<p>H₂S monitoring was undertaken in September 2019 and March 2020 by Watercare in accordance with condition 50.</p> <p>During September 2019 there were 43 exceedances of the 7µg/m³ limit. Exceedances were recorded up to 65µg/m³. During March 2020 there were 61 exceedances of the 7µg/m³ limit, with a maximum of 24µg/m³.</p> <p>These occurred mostly under two meteorological conditions, N-NNW and S-SSE prevailing winds. Which is indicative of sources from the acid plant and manufacture plant respectively. It is possible that exceedance are being contributed to by offsite sources nearby. The consent holder should undertake further investigation to confirm offsite influences to ambient concentrations. Council will be undertaking H₂S monitoring of the site in addition to this condition in the next compliance period.</p>
30.	Discharges from each den scrubber shall be via stacks with a height of no less than 38 metres above ground level.	Full Compliance	No changes have been made to the scrubber stack during the compliance period. The stack is of the required height. The consent holder has applied for a change of conditions to replace the scrubber stack. this will be assessed should a new consent be granted.
31.	Discharges from the hygiene scrubber shall be via a stack with a height of no less than 36 metres above ground level.	Full Compliance	No changes have been made to the hygiene stack during the compliance period. The stack is of the required height.
32.	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.	Full Compliance	All emissions from the manufacturing process are discharged through the den or hygiene stacks as per this condition. There have been no complaints or reports of fugitive emissions from the manufacturing process during the period.
33.	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/m ³ .	Full Compliance	During the compliance period, the ambient fluoride measured at the RFC SW site has been below the 1.7µg/m ³ limit.

34.	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/m ³ .	Moderate Non-Compliance	During the compliance monitoring period there has been 1 exceedance of the maximum fluoride limit in January 2020. The exceedance was investigated, and the cause was identified as increased particulate discharge from the site during unloading of phosphate rock. The consent holder has changed processes for unloading and there have been no further instances of non-compliance.
35.	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.	Full Compliance	The rate of particulate matter discharged from any single mill reached a maximum of 0.395kg/hr during the compliance period. The average combined discharge from all four operational mills was 0.369kg/hr and a maximum combined discharge of 0.446kg/hr.
36.	<p>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:</p> <p>a. a maximum discharge rate of 1.5 kg/hr and</p> <p>b. 1 kg/hr in more than 50% of samples taken in any 12-month period</p>	Moderate Non-Compliance	During the period there have been two exceedances of the fluoride limits for the den and hygiene stack discharges. Samples were collected twice weekly in accordance with condition 49. The exceedances occurred on the 28/08/2019 and 30/08/2019 (repeat sample) as part of the August 2019 cold start up.
37.	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 be measured shall be approved in writing by the Council.	Moderate Non-Compliance	<p>Emission tests undertaken on 28/08/2019 on the hygiene stack returned a pH reading of 2.36, below the 2.7 pH limit. The consent holder has undertaken work to modify the caustic dosing system in the stack and has had no further non-compliance for the period. The exceedance was reported immediately and the plant shutdown until an investigation and remedial work could be undertaken. Repeat sampling showed compliance with the pH limit.</p> <p>All emission tests from the den and the hygiene stacks were within the required limits.</p>
38.	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.	Full Compliance	<p>An automated water deluge system is installed at the den mixer as required. Photos of the automated system have been provided.</p> <p>The valve is programmed to trigger when the opacity meter is greater than 80% for more than 5 seconds or if the temperature difference between the hood and the room is greater than 10% for more than 3 seconds.</p> <p>If these conditions are exceeded then this will trigger a major alarm, initiate a powder flush of the mixer and trigger the automated valve to open for 40 seconds.</p>
39.	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	Full Compliance	The pH of the manufacturing plant is managed effectively through an automated dosing system. The consent

	<p>direction is between 030-155 degrees (i.e. on-shore) the manufacture of fertiliser shall only occur when either:</p> <p>a. the temperature at the site is less than 22 C and</p> <p>b. the manufacturing stack plume is "OK" as indicated in the chart attached as Appendix "A".</p> <p>OR</p> <p>c. the temperature at the site is 22 C or more and</p> <p>d. it is daylight and</p> <p>e. the relative humidity at the site is less than 70% and</p> <p>f. there is no fog and</p> <p>g. the manufacturing stack plume is 'OK' as indicated in the chart attached as Appendix "A".</p> <p>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.</p>		<p>holder has a program to manage the process should the listed conditions occur while the dosing system is offline. The dosing system was upgraded during the period which has resulted in less volume of caustic required for dosing and better control of pH, there has not been any exceedance since this upgrade was completed.</p>
40.	<p>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)).</p>	Full Compliance	<p>The fluoride levels in ambient air are measured in accordance with condition 54 at Brookfields Orchard and Plumpton Park. The reported samples have not exceeded 0.07ug/m3 during the compliance period.</p>
41.	<p>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.</p>	Full Compliance	<p>The evaporative cooling towers are regularly dosed with micro-biocides to prevent Legionella establishment. Records of Legionella and heterotrophic plate counts are provided in the monthly reports.</p> <p>The samples do not indicate any Legionella presence during the compliance period.</p>
42.	<p>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 equipment shall be agreed in writing by the Council. All processed data shall be archived and made available to the Council on request.</p>	Full Compliance	<p>The consent holder operates a meteorological data collection station at the Winstones monitoring site as well as at the acid control tower. Wind speed, direction, temperature and relative humidity are recorded and displayed in both the manufacture and acid plant control rooms. This information is reported monthly to Council and summarised in the annual report.</p> <p>During the period September 2019- August 2020 the Winstones site was out of commission after vandalism. The acid plant weather station provided sufficient data with respect to this condition.</p>
43.	<p>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</p>	Not Assessed	<p>The consent holder is required to undertake an audit at least once per year. The previous audit was undertaken in May 2019 and the most recent audit was completed in October 2020 and submitted to Council in November 2020. This has not yet been</p>

	the required protocol. A copy of this report shall be provided to the Council.		<p>assessed and will be reported on in the 2020-21 annual compliance report.</p> <p>The audit completed in May 2019 identified several significant and moderate issues which have since been rectified by the consent holder to the satisfaction of Council.</p>
44.	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.	Full Compliance	<p>Most analyses associated with the consent are undertaken by independent and ISO accredited contractors. All other analyses undertaken by the consent holder are subject to external review by an ISO accredited auditor. In May 2019, K2 Environmental undertook an audit of these processes which identified several areas for improvement. The audit report and the plan to address the shortcomings was provided to Council and the consent holder has completed the major improvements needed for the period.</p> <p>The annual audit was undertaken after this compliance reporting period and will be discussed in the 2020-21 report.</p>
45.	The consent holder shall continuously (i.e. at intervals not exceeding 1 minute) measure the rate of SO ₂ 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 Council. Testing results shall be reported as a mass emission rate in units of kg/hr as both 1-minute and 1-hour averages.	Full Compliance	<p>The consent holder contracts measurement and analysis of SO₂ discharges as per this condition to Watercare Laboratory who hold IANZ accreditation for the test and analyses. In July 2020 Council approved the monitoring to be undertaken in accordance with ISO10396:2007.</p> <p>Reporting of concentrations are as per this condition.</p>
46.	<p>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.</p> <p>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.</p>	Full Compliance	<p>A report was prepared by WSP, who are considered suitably qualified and independent, to undertake this review in March 2020 and reported to Council the same month. The review had the same conclusions as the 2018 report in that only one monitoring system (Pentol) was available to Ravensdown for the purposes of this consent. The review concluded that the Pentol system could not meet the required level of detection for the concentrations emitted by the consent holders operations. The Pentol system provides accurate results for concentrations between 1-200ppm, for the period since the last assessment in 2018, Ravensdown emissions have been below this level approximately 47% of the time.</p> <p>a) continuous opacity measurements have been recorded twice weekly for the period and supplied to Council with the monthly reports.</p>

47.	The consent holder shall measure the rate of discharge of the SO ₂ , SO ₃ and H ₂ SO ₄ 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.	Full Compliance	During the compliance period the consent holder undertook twice weekly emissions testing of the acid plant stack. The monitoring was undertaken by an independent contractor in accordance with the USEPA Method 8 ("Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources").
48.	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 SO ₂ .	Full Compliance	The total discharge rate of sulphur compounds is continuously measured in accordance with condition 47 and condition 45. The rate of emissions for total sulphur compounds is recorded continuously and reported in the monthly data submissions expressed as SO ₂ .
49.	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.	Full Compliance	Twice weekly fluoride measurements are taken from the den and hygiene stacks during superphosphate production using appropriate methods. Issues raised in the 2019 audit concerning the methodology used have been addressed for the 2019-20 period.
50.	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 chromatographic 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.	Full Compliance	Concentrations of H ₂ S is measured by Watercare Services Ltd using appropriate methods on behalf of the consent holder. Testing was undertaken continuously during September 2019 and March 2020. The location of the monitoring sites has may be moved by the consent holder to better characterise onsite and offsite sources. Proposed locations must be approved by Council as per this condition prior to alteration. The results have been provided following each sampling event and reported as 1 hour averages.
51.	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.	Full Compliance	Rate of particulate emissions from the mills is measured quarterly when the plant is operating. The testing is undertaken using appropriate methods and the adjusted results are reported to council in the monthly data submission
52.	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.	Moderate Non-Compliance	In the previous compliance report the consent holder was requested to install the required monitoring system specified in this condition. In April 2020 the consent holder completed a trial of a continuous pressure monitoring system for the baghouses and provided the report to Council. The investigation found that the pressure difference caused by a broken bag was too small to be detected by a differential pressure monitor within

			<p>the baghouse. The variation of general operating pressure was greater than that created by a tear.</p> <p>The consent holder should continue to investigate options for monitoring for bag breakage. This condition will be graded non-compliant until a continuous monitoring system is installed. The continuous monitoring of mill baghouse pressure and particulate matter concentrations is an important method for detecting fugitive particulate emissions from the site. The Awatoto airshed continues to exceed the relevant guidelines and is a source of focus and concern for Council.</p> <p>Please provide frequency and records of manual inspections and any further work undertaken as a result.</p>
53.	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.	Full Compliance	Twice weekly pH measurements of the den and hygiene scrubbers have been taken during the period using appropriate methods approved by council.
54.	<p>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 ($\mu\text{g}/\text{m}^3$) 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</p> <p>Table 1: Ambient fluoride monitoring sample sites – see table in consent document</p> <p>The location of the sites may be modified with the written approval of the Council.</p> <p>[Note: Approval from property owners/occupiers for the placement and operation of monitors is required.]</p>	Full Compliance	Ambient fluoride has been measured during the 2019-20 compliance period at the five offsite locations specified by condition 68 and table 1 below. Results are reported to council as average 7 day concentrations in $\mu\text{g}/\text{m}^3$.
55.	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.	Full Compliance	Ambient fluoride has been measured in accordance with this condition. The inlet height for the monitoring station has been confirmed at 3.0 m. No obstructions were observed at the time of the site visit.
56.	The consent holder shall ensure ambient fluoride measurement is 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.	Full Compliance	<p>It has been confirmed that ambient fluoride measurements are undertaken in accordance with AS3580.13.2 - 1991.</p> <p>Issues identified with the methodology for ambient fluoride monitoring in the 2019 audit have been addressed by the consent holder as per the submitted action plan. There have not been any changes to the sampling or analysis methodology during the period.</p>
57.	Concentrations of SO ₂ 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	Full Compliance	The consent holder has a monitoring station at the Winstones site as described in this condition. The station monitors ambient SO ₂ concentrations using a suitable methodology. Any

	<p>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.</p>		<p>exceedances of the NES limit are reported as soon as they are known. This occurred on two occasions in October 2019 and causes were investigated and remedial action undertaken to the satisfaction of Council to prevent a recurrence.</p> <p>For the period September 2019 to August 2020 the site was inactive following vandalism of the power supply. The site is currently powered by a generator. As a result there is no continuous ambient SO2 monitoring data for this period. No SO2 exceedances were recorded for the July-September period.</p> <p>This condition has been graded compliant as the damage to the monitoring station was beyond the control of the consent holder. Council was kept up to date with repair progress and it was confirmed that this would not affect compliance grading. The consent holder was unable to re-establish power to the site due to legal issues with the landowner. The temporary solution (generator) in place should have been installed as soon as possible after the event when it became clear that the repair process would take some time.</p>
<p>58.</p>	<p>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.</p>	<p>Full Compliance</p>	<p>Due to damage to the Winstones site, the consent holder has been unable to record or measure PM10 at this location. PM10 data is collected at the archimedes site only. There were exceedances of 59, 66, 51 and 73 on the 19/08, 20/08, 21/08, 23/08. No other exceedances have been reported for the period.</p> <p>PM10 exceedances are reported to Council with the monthly reports by agreement. Any PM10 exceedances recorded at the Council monitoring station are forwarded to the consent holder for comparison with onsite data.</p> <p>This condition has been graded compliant as the damage to the monitoring station was beyond the control of the consent holder. Council was kept up to date with repair progress and it was confirmed that this would not affect compliance grading. The consent holder was unable to re-establish power to the site due to legal issues with the landowner. The temporary solution (generator) in place should have been installed as soon as possible after the event when it became clear that the repair process would take some time.</p>

59.	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.	Not Applicable	During the compliance period there has been no outside storage of bulk material. The consent holder is aware of the requirements of this condition.
60.	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.	Full Compliance	<p>A review of methods for monitoring acidity in adjacent landuse (predominantly orchard) was completed in February 2020 by Plant and Food Research (Trolove and Searle, 2020).</p> <p>The report compared the methodology of the current vegetation monitoring program and compared this to newly available commercial methods. The methodology was confirmed by Council prior to commencement. The review concluded that there was no system that met all of the requirements for acidity monitoring in orchards as specified by this consent. Point monitoring options are available but commercially available systems have a limit of detection of 2.6 pH units, so events when pH is lower (and leaf damage likely to occur) could be detected but not to what extent). It would be possible to develop a point source system with a lower limit of detection and establish an array of these to monitor acidic discharges from the sites. However, this system is not commercially available and would need to be developed by the consent holder which is outside of the scope of this condition.</p> <p>The next review is due to be completed in February 2022. It is highly recommended that the consent holder investigates development or availability of a suitable system for the consent renewal in 2022.</p>
61.	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.	Full Compliance	<p>The consent holder contacted local property owners within 1km of the site on the 26/11/2019 inviting them to participate in the study. responses were only received from one site, which was a commercial building. The survey of this building was completed by WSP following the specified method. Only 1 of 8 windows was able to be assessed (due to pane finish) and was found to be in good condition with no evidence of etching.</p> <p>The next report is not due until the 2022-23 period.</p>
62.	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	Full Compliance	Start up notifications (at least 24 hours prior) have been received from the

	Council shall be advised of the time when sulphur will be ignited and the person in charge of the procedure.		consent holder for the start ups in August 2019 and January 2020. Sulphur ignition times have been advised and confirmed in the start up report where a site visit was not made.
63.	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.	Full Compliance	<p>The consent holder provides a monthly data submission to Council in a report with associated raw data. Comments on compliance with consent conditions is included where appropriate.</p> <p>Council would like to request that raw data in spreadsheet format is submitted with the monthly written report to support data and conclusions and make assessment more efficient. The format of raw data will be decided on by mutual agreement between Council and the consent holder.</p>
64.	<p>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:</p> <ul style="list-style-type: none"> 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 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. <p>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.</p>	Full Compliance	<p>The annual report was submitted on the 31/10/2020 within the specified timeframe. The report provides a summary for the discharge to water and air consents, of all monitoring undertaken during the period and a summary of compliance with the conditions of this consent.</p> <p>The acid plant and manufacture were shutdown for three periods from the 4/5/19-8/8/19, 13/12/19-16/1/20 and 4/6/20-20/8/20 as part of planned shutdowns.</p> <p>A) An assessment of the impact of the dust, PM10, SO2, Fluoride and acid discharges are included. see report for full details</p> <p>B) Fluoride and foliar monitoring report was provided prior to the report being submitted and was summarized, max concentrations found were 30mg/kg, fruit tree and vine fluoride concentrations were below 20mg/kg for the period.</p> <p>C) There were no odour complaints during the period relating to the discharge to air. H2S was monitored in September 2019 and March 2020. there were 43 exceedances of the 7ug/m3 guideline value in September and 61 in March. Exceedances occurred with dominant NNW, N and NE and with dominant SE-SSE wind directions. H2S is measured at the archimedes site which is NW of the sulphur plant and SW of the manufacture stack. The consent holder has not identified any cause of the exceedances onsite.</p> <p>D) Potential/actual effects are discussed in the report alongside trends and data collected.</p>

			<p>E) Trends in data have been identified as follows:</p> <p>Fluoride - The production cease in December 2019 resulted in decreased fluoride leaf concentrations not normally seen as shutdown is in winter (no leaves). Lower than average annual fluoride discharge this period and leaf concentrations were higher within 2km compared to sites further out. There was one exceedance of the ambient fluoride concentrations at the front paddock site in February 2020. This was as a result of intake of rock during a windy day. HBRC monitoring station also detected the exceedance.</p> <p>PM10 - considerable offsite influence as seen during annual shut down periods. All exceedances during the period occurred during shutdown times.</p> <p>SO2 - no exceedances of the NES ambient limits during the period July-September 2019. The monitoring station at Winstones was not operating between September 2019 and August 2020 due to vandalism. There were 15 exceedances of the consented limit (10 minute average) at the archimedes site for two sulphur fires on the 4/10 and 18/10 2019. investigations and remedial work was undertaken at the time and no further exceedances occurred.</p> <p>H2S - exceedances of the guideline value predominantly during N-NE and S-SE wind directions</p> <p>F) Summary of modifications is provided and includes, changes to caustic dosing system for stacks, improvements to the mowers and a change in acid plant shut down that reduces fugitive SO2 emissions.</p> <p>G) Recommendations for improvement to systems onsite includes installation of a new scrubber system, this is being progressed as a change of conditions.</p> <p>H) Monthly fluoride content of the phosphate rock used is provided averaging 3-4% for the period.</p>
65.	<p>The consent holder shall maintain a log of all complaints received directly from the public. The log shall include</p> <p>a. the date, time, and nature of the complaint and</p> <p>b. the telephone number, and address of the complainant (as provided) and</p> <p>c. weather information (including an estimate of wind speed and direction) and</p>	Full Compliance	<p>The consent holder maintains a complaints log for all complaints that are directly reported to them or via Council where they are notified. The complaint log contains all of the required information. This was viewed during the compliance visit and no complaints have been received by the consent holder or Council during the 2019-20 period. The consent holder is aware of the requirements of this</p>

	<p>d. details of key operating parameters at the time of the complaint and</p> <p>e. the remedial action taken, as appropriate, to prevent further incidents.</p> <p>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.</p>		<p>condition should a complaint be received.</p>
66.	<p>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:</p> <p>a. A visual assessment of vegetation and</p> <p>b. A determination of foliar fluoride concentrations and</p> <p>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</p> <p>d. The monitoring methodology which shall be agreed in writing by the Council and</p> <p>e. The location of any monitoring, including but not limited to the following sites (Table 2):</p> <p>Table 2: Fluoride monitoring sample sites – see table in consent document.</p> <p>Provided that the location of the monitoring sites may be modified as appropriate with the written agreement of the Council.</p> <p>f. The requirement for the initial crop assessment to be completed within 12 months of the commencement of this consent and</p> <p>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</p> <p>Provided that any amendments to the monitoring programme shall only occur with the written agreement of the Council.</p>	<p>Full Compliance</p>	<p>The consent holder engaged Plant and Food Research to undertake the fluoride leaf monitoring study during the 2019-20 growing season. The report was submitted to Council on the 08/07/2020.</p> <p>The study was undertaken in accordance with the approved methodology across 9 orchards in the vicinity of the site. The leaf concentration at which damage can be expected is 20mg/kg, all samples collected during the season were below this threshold with the exception of boundary trees at one orchard location where the average concentration was 25mg/kg and maximum of 30mg/kg. No damage was observed as a result of these higher concentrations and they were not production trees.</p> <p>No monitoring was able to be undertaken during April 2020 as a result of Covid-19 restrictions. This was communicated at the time and does not affect the compliance grading.</p>
67.	<p>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:</p> <p>a. Dust including particulate and</p> <p>b. Outside phosphate rock storage and</p> <p>c. Sulphur dioxide and</p> <p>d. Acidic discharges and</p> <p>e. Fluoride and</p> <p>f. Odour.</p>	<p>Full Compliance</p>	<p>A management plan has been submitted reviewed and accepted by Council during the 2018/2019 period. The next review is due at the latest in the 2021/2022 period or following any significant changes.</p> <p>All activities onsite during the 2019-20 period have been in accordance with the approved management plan.</p>

	<p>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.</p>		
<p>68.</p>	<p>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:</p> <ul style="list-style-type: none"> 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. <p>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.</p>	<p>Full Compliance</p>	<p>A Monitoring Plan was received in March 2019 in accordance with this condition. The plan was review and accepted by Council. The next review is due at the latest in the 2021/2022 period or following any significant changes.</p> <p>All monitoring undertaken onsite during the 2019-20 period have been in accordance with the approved monitoring plan.</p>

To assist you with the interpretation of the report, the compliance grades are:

FULL COMPLIANCE
Your operation is fully compliant with all relevant consent conditions, plan rules, regulations, and national environmental standards.

LOW RISK NON-COMPLIANCE
Your operation is complaint with most of the relevant consent conditions, plan rules, regulations, and national environmental standards. Non-compliance carries a low risk of adverse environmental effects or is technical in nature [e.g. failure to submit a monitoring report].

MODERATE NON-COMPLIANCE
Your operation is non-complaint with some of the relevant consent conditions, plan rules, regulations, and national environmental standards where there are some environmental consequences and/or there is a moderate risk of adverse environmental effects.

SIGNIFICANT NON-COMPLIANCE
Your operation has non-compliance with many of the relevant consent conditions, plan rules, regulations, and national environmental standards where there significant environmental consequences and/or there is a high risk of adverse environmental effects.