PATTLE DELAMORE PARTNERS LTD

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Auckland Tauranga Hamilton Wellington
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07 March 2022

Christchurch City Council
 Te Hononga Civic Offices,
 53 Hereford Street,
 Christchurch 8013

NOTICE OF NON-COMPLIANCE 1 FEBUARY 2022

1.0 Background

Living Earth Limited (Living Earth) operates an organics processing plant and green waste composting facility located at 40 Metro Place, Bromley, Christchurch (the Site). Living Earth's air discharges are subject to the conditions contained in the Canterbury Regional Council (CRC) air discharge consent CRC080301.1 ("the consent") to discharge contaminants (odour and dust) to air.

Specifically, Condition 27 of the consent states that:

"The discharges of air shall not cause odour or dust which is offensive or objectionable beyond the boundary of the site on which this consent is exercised."

While Living Earth operates the composting facility, Christchurch City Council (CCC) holds the consent.

The issue of unidentified, offensive, chronic and acute odour in parts of Bromley has been a persistent and longstanding issue for the community.

On the 20th of January 2021, CCC was issued with an abatement notice dated 31 January 2022 in respect of the discharge of offensive or objectionable odour from the Site. Living Earth has since made a number of changes to its operation to reduce the potential for offensive or objectionable odours to occur.

On 1 February 2022, Living Earth was issued Notice of Non-Compliance (NONC) # 08328 by CRC for breaching Consent Condition 27.

CCC has advised CRC that it wishes to challenge the issuance of the NONC. CRC has responded asking:

"Are you able to advise what part of the assessment you considered to be fundamentally flawed?"

Pattle Delamore Partners Limited (PDP) has been engaged by CCC to review the odour assessment undertaken by CRC which led to the issuance of the NONC and provide an opinion on the robustness of the assessment which resulted in the NONC.

This letter provides a summary of PDP's review.



2.0 Information on which the review is based

The following information sources were used to inform this review:

- E-mail to Jaco Kleinhans of Living Earth accompanying NONC #08328 (Attachment A);
- : NONC #08328 (Attachment B);
- Discussions with CRC compliance staff during side-by-side proactive odour assessments;
- : Environment Canterbury Odour Assessment Initiative PE224118 (OAI) (Attachment C);
- Smelt-It Odour reports;
- Ministry for the Environment Good Practice Guide for Assessing and Managing Odour (MfE Odour GPG);
- : Canterbury Air Regional Plan (CARP); and
- Environment Canterbury document "Compliance Monitoring, Incident Response and Enforcement Guidelines".

Key information from these information sources is summarised below

2.1 Email to Jaco Kleinhans 3:19 PM on 1 February 2022

This e-mail informed Living Earth and CCC that a NONC had been issued for the Living Earth site. Information relevant to the odour assessment contained in the body of the e-mail but not on the NONC included:

- : The NONC was issued during a monitoring assessment of the Living Earth site;
- Offensive and objectionable odours were substantiated in two locations:
 - At 11:10am at Dyers Road; and
 - At 11.15am at EcoDrop Metro.
- : The odour intensity ranged from 0-2 and the hedonic tone was -1; and
- : A 10-minute assessment was also completed.

2.2 Discussions with ECan compliance staff

Following the issuing of NONC #082328, proactive side by side odour scouting and odour assessments were undertaken involving CRC compliance staff, Living Earth, CCC and PDP on 15 February and 18 February.

During discussions the following key points were noted:

- CRC will only issue a non-compliance notice if there is also a public complaint or Smelt-It complaint at around the same time i.e., someone needs to have been affected;
- The CRC compliance officer does not have a 'calibrated' nose for the purposes of assessing odour having been tested to, and meeting, the requirements of AS/NZS 4323.3:2001 Section 9.7.2;
- Both the CRC compliance officer and the PDP odour assessor assessed odours experienced adjacent to Dyers Road on 15 February 2022 as being intermittent with intensity of 1-2 indicating CRC and PDP are reasonably closely aligned as far as assessment of intensity is concerned; and,

When asked the difference between odours of intensity 0-2 experienced on 1 Feb (where the odour was offensive) and 15 February which was deemed not offensive, the ECan compliance officer said it was because the odour on 15 of February was intermittent whereas on 1 February it was continuous.

2.3 NONC #08328

The NONC contained the following relevant information:

- : Issued at 11.49 am on 1 February 2022;
- : Purpose of inspection was an odour assessment;
- The reason given was monitoring of Consent CRC080301.1 (as opposed to being due to a complaint);
- : The locations noted where offensive and objectionable odours had occurred beyond the property boundary were:
 - St Johns St;
 - Dyers Rd; and,
 - EcoDrop Metro.

2.4 OAI - PE224118

The OAI was received by Living Earth and CCC on 21 February 2022 after being requested by Living Earth and CCC. It is a report giving details on Pollution Event PE224118 and contained the following relevant information:

- : The location of the pollution event appears to be ~163 St John St;
- The reason for the investigation was proactive;
- : An odour assessment was undertaken at 10:40am;
- : General hedonic tones was -2;
- The assessment of the odour experienced was:

"I did detect odour and consider it would not be objectionable, UNLESS it became continuous.":

- A 360-degree assessment was undertaken in accordance with Appendix 3 of the MfE Odour GPG to confirm the suspected source of the odour. Six locations were assessed in the 360-degree assessment including two locations on Dyers Rd and one at the EcoDrop Metro itself;
- Odour character comments were made at sites 1-4 but not sites 5-6 which were upwind and adjacent to the Bromley oxidation ponds;
- The Living Earth site was visited, and the source of the odour was identified as coming from the composting tunnels:
 - 2 out of 5 sliding gates for the tunnels were open during the visit;
 - A digger was working under the green canopy;
 - It was noted a large area of windrows had been removed; and
 - The site manager was unsure of where the offensive odours could be coming from.

2.5 Smelt-It reports

The "Clean Air Dashboard – Odour Reports from Smelt-It" webpage recorded two odour reports on 1 February 2022, both in the residential area:

- 3:51 am which, based on the description, appeared to be caused by the WWTP; and

3.0 Discussion of assessment undertaken

The information contained in Section 2.0 is discussed below under relevant headings.

3.1 Reason for the assessment

It is clear from the email to Jaco Kleinhans, NONC and OAI that the assessment was undertaken during proactive odour monitoring of the Living Earth site and not as a result of a reactive response to a complaint.

The issuing of a NONC during proactive odour monitoring is contrary to the understanding gained from discussions with CRC staff that NONCs are only issued during an odour assessment in response to a complaint from a member of the public.

The requirement to have caused an "offensive or objectionable effect" is clearly stated in Schedule 2 of the CARP under the heading "Criteria for assessing offensive or objectionable odour":

"In the event that an assessment determines that a discharge has caused an "offensive or objectionable" effect beyond the property boundary, a copy of the written assessment containing that determination will be provided to the emitter if this would result in the discharge no longer being permitted by the Plan."

CRC's document "Compliance Monitoring, Incident Response and Enforcement Guidelines" (p15) when discussing NONCs, is also clear that an incident has have to have occurred for a NONC to be issued.

"Where an incident occurs, or is identified at a time when the incident site is unoccupied or unattended, a notice of non-compliance is issued ..."

In the absence of a complaint (effect), a compliance monitoring report issued to Living Earth would appear to have been the appropriate enforcement option, should one have been required.

3.2 Location of the assessment

The odour assessment was undertaken at ~163 St John St in the residential area adjacent to the Bromley industrial heavy and industrial general zones.

No odour assessments were carried out at on Dyers Rd or at EcoDrop Metro, only initial odour impressions as part of the 360-degree sweep to confirm the source of the odour.

3.3 Assessment methodology

The odour assessment at ~163 St John St, and subsequent 360-degree sweep, appear to have been undertaken in accordance with Appendix 3 of the MfE Odour GPG. The assessment period was 10 minutes in duration with observations taken every 10 seconds (60 in total).

The CRC compliance officer does not have a 'calibrated' nose for the purposes of assessing odour. However, side by side odour assessments with a PDP odour assessor who has a calibrated nose resulted in similar odour intensities being recorded suggesting non-calibration is unlikely to be an issue as far as assessment of intensity is concerned.

3.4 Assessment outome

Meteorological data from the Bromley Electronic Weather Station (EWS) located to the northeast of the oxidation ponds. Wind direction and speed between 10am and 12pm on 1 February was as follows:

10:00 am 71° 5.9 m/s
 11:00 am 75° 6 m/s
 12:00 pm 84° 6.3 m/s

This indicates quite a strong breeze blowing from between east northeast (ENE) and east (E). The direction is in approximately the right direction for odours from the Living Earth site to have reached the odour assessment location on St John St and at Site 2 on Dyers Rd.

Again, based on the wind direction, it is unlikely that odours from Living Earth site would have been able to be detected at Site 3 where compost odours were noted during the 360-degree sweep at 11:10 am.

Analysis of the 10-minute odour assessment intensity data from ~163 St John St gives the following statistics:

O, No odour
 1, Very weak (can't distinguish source)
 2, Weak (can only just distinguish character)
 8/60 or 13% of the time

In other words for 75% of the time there was no odour and only 13% of the time the character, or source of the odour, could just be detected.

There is a discrepancy in the reported hedonic tone of the odour observed. On the 1 February the NONC reported the hedonic tone as being -1 (mildly unpleasant) whereas in the OAI report generated on 15 February the hedonic tone is reported as -2 (moderately unpleasant). Given that the character of the odour could only be **just** determined 13% of the time, a hedonic tone of -1 (mildly unpleasant) as originally reported on the NONC is considered likely to be an accurate characterisation of the hedonic tone.

The CRC compliance officers' overall assessment of the odour experiences at ~163 St John St as:

"I did detect odour and consider it would not be objectionable, UNLESS it became continuous"

I agree with this assessment and consider that an intermittent weak intensity odour that has a mildly unpleasant character should not be characterised as offensive and objectionable.

There is no information provided to suggest that the odour was continuous either before or after the odour assessment had been undertaken.

3.5 NONC

The NONC requires that Living Earth "Cease discharge of offensive & objectionable odours beyond property boundary as per consent. St Johns St, Dyers Rd, & Ecodrop".

The e-mail accompanying the NONC also states that offensive and objectionable odours were substantiated at 11.10 am at Dyers Rd and 11.15am at EcoDrop Metro.

There has been no evidence or assessment provided, in the NONC itself or in the OAI, to support the allegation of offensive of objectionable odours, or that a complaint had been received indicating a potential incident or effect.



The only odour assessment completed was at ~163 St John St and, as described above in Section 3.4, and the odour was assessed by the CRC compliance officer as not being objectionable. There has also been no assessment provided to support the allegation that that odour experienced at Dyers Rd or EcoDrop Metro was offensive or objectionable. Any odour assessment undertaken at Dyers Rd or EcoDrop Metro would also have to take into account that they are location in a heavy industrial area which has reduced amenity expectations (as per the MfE Odour GPG) compared to the residential location where the odour assessment actually took place.

When asked during proactive side by side odour scouting and odour assessments, why odours of intensity 0-2 experienced on 1 February were deemed offensive and 15 February were deemed not offensive, the CRC compliance officer said it was because the odour on 15 of February was intermittent whereas on 1 February it was continuous.

There has been no information provided to suggest that continuous odours were experienced at any of the locations visited on 1 February.

4.0 Conclusion

Based on the information reviewed, and the discussion in Section 3.0, it is my opinion that the assessment by CRC that Living Earth had caused offensive or objectionable odours beyond its site boundary is fundamentally flawed for the following reasons:

- The odour assessment was undertaken during routine consent monitoring, i.e., no complaint had been received therefore no incident or effect had occurred;
- Only one odour assessment was undertaken on St Johns St, and this concluded that the odour "... would not be objectionable, UNLESS it became continuous";
- No evidence has been provided that that odour at the assessment location was continuous either before or after the odour assessment had been undertaken; and
- No information has been provided to substantiate the allegation that offensive or objectionable odours were detected at Dyers Rd or at EcoDrop Metro.

5.0 Limitations

This report has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Christchurch City Council and others (not directly contracted by PDP for the work), including ECan. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the report. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This report has been prepared by PDP on the specific instructions of Christchurch City Council for the limited purposes described in the report. PDP accepts no liability if the report is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.

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Yours Faithfully

PATTLE DELAMORE PARTNERS LIMITED

Prepared by Reviewed and approved by

Dr Steven Pearce Andrew Curtis

Technical Director - Environmental Management Technical Director - Air Quality

Steve Pearce

From: Jaco Kleinhans «JKleinhans@wastemanagement.co.nz»

Sent: Tuesday, 1 February 2022 3:27 pm

To: Steve Pearce

Subject: FW: [EXTERNAL EMAIL] Notice of Non-Compliance 1 February 2022

Attachments: Notice Of Non Compliance 01022022.jpg

Good afternoon Steve

Please see below and attached from ECAN – if you have a few minutes can we discuss?

There was less odour on site today compared to what we had the day you did your assessment, but I would like you get your expert input.

Regards



Jaco Kleinhans Branch Manager

Living Earth

42 Metro Place, Bromley, Christchurch 8062 PO Box 24 320, City East, Christchurch 8141 **T** +64 3 373 8370 **M** +64 21 385 876 **F** + 64 3 384 6310 **E** jkleinhans@wastemanagement.co.nz

www.livingearth.co.nz

Watch the new Living Earth videos here.



From: Carolina Winter

Sent: Tuesday, 1 February 2022 3:19 PM **To:** McArdle, David; Jaco Kleinhans

Subject: [EXTERNAL EMAIL] Notice of Non-Compliance 1 February 2022

STOP — THINK — ACT: This email originated from outside our organisation. If it looks suspicious, verify the sender's address and any link (by hovering over) before acting. If in doubt, please contact the sender via phone to confirm the validity, or forward this email to servicedesk@wastemanagement.co.nz

Good afternoon Jaco and David,

Today I undertook an odour monitoring assessment of the site.

During my monitoring, offensive and objectionable odours were substantiated beyond the property boundary from Living Earth on the 1/02 during the 360 assessments at 11:10am at Dyers Road, and

11.15am at Eco drop. The odour intensity ranged from 0-2 and assessment was also completed.	the hedonic tone was -1. A 10 min
Please see attached Notice of Non-Compliance.	
Kind Regards, Carolina	
Carolina Winter Resource Management Officer - Incident Response Environment Canterbury Christchurch Office	
Carolina.Winter@ecan.govt.nz	PO Box 345, Christchurch 8140 Customer Services: 0800 324 636 24 Hours: 0800 76 55 88 ecan.govt.nz
This electronic message together with any attachments is confidentia not copy, disclose or use the contents in any way; (ii) please let us kn	· · · · · · · · · · · · · · · · · · ·

permanently delete the message and destroy all printed copies. Waste Management NZ Ltd is not responsible for any changes made to this message and/or any attachments after sending by Waste Management.

08328

NOTICE OF NON-COMPLIANCE



1 02.27
DATE: 1 / DZ / Z
TIME: 11.49 ampor de tro place, Living Earth
LOCATION: 40 Metro Place, LIVING
LOCATION: Odour ASSESSITION:
PURPOSE OF INST LOTTE
Complaint Consent No: CRC680301.
Monitoring Occumination the
NON COMPLIANCE DETAILS: Oh Toch orable cours
OFFENSIVE GILL LOCAL CONNORM TO
Selond The Condition 27 15 of the Resource
Which may constitute an offence under Section
SURNAME: Klein han S D.O.B 11 7047 110
SURIVAILE
FIRST NAME/S: Jaco
Application or permitting a contravention
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Environment Canterbury is the promotional name of the Canterbury Regional Council

NOTE: SEE OVER FOR IMPORTANT INFORMATION

Customer copy page 1

Environment Canterbury - Odour Assessment Initiative - PE224118

Report Generated: 15/02/2022



Site Being Monitored: Living Earth

Assessor's Name: Carolina.Winter@ecan.govt.nz

Location of Assessment:

Date: 2022/02/01 PE Number: PE224118

Reason for Investigation: Proactive

INITIAL IMPRESSIONS

Time of Initial Impression: 10:40 Odour Intensity: 2 - Weak

Character: Compost

Remarks about 'other' odour (if any):

General Hedonic Tone: -2 Plume Width (if known):

Location Assessment A -

Odour samples every ten seconds. The time between the ten seconds is disregarded (interval method). Breathe normally rather than sniffing.

Start time: 10:40

Scale of Intensity (0 to 6): 2

Weather Data

Wind direction: NE Wind velocity: 23 Cloud cover: cloudy Temperature: 19

First Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0					
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c:	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Second Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0					
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c:	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi c (if any):					

Third Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0	Intensity: 0	Intensity: 0	Intensity: 2	Intensity: 0	Intensity: 0
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c: Compost	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Fourth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0	Intensity: 1	Intensity: 1	Intensity: 0	Intensity: 0	Intensity: 0
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c: Compost	c: Compost	c:	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Fifth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0	Intensity: 0	Intensity: 1	Intensity: 1	Intensity: 0	Intensity: 0
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c: Compost	c: Compost	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Sixth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0					
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c:	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Seventh Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 1	Intensity: 1	Intensity: 2	Intensity: 2	Intensity: 0	Intensity: 2
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c: Compost	c: Compost	c: Compost	c: Compost	c:	c: Compost
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Eighth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 2	Intensity: 2	Intensity: 2	Intensity: 2	Intensity: 0	Intensity:
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c: Compost	c: Compost	c: Compost	c: Compost	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Ninth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0	Intensity: 0	Intensity: 0	Intensity: 0	Intensity: 1	Intensity: 0
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c:	c: Compost	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Tenth Minute Odour Assessment

Initial	10 Seconds	20 Seconds	30 Seconds	40 Seconds	50 Seconds
Intensity: 0					
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c:	c:	c:	c:	c:	c:
Other	Other	Other	Other	Other	Other
Characteristi	Characteristi	Characteristi	Characteristi	Characteristi	Characteristi
c (if any):					

Based on your assessment on this occasion, which of the following applies:

I did detect odour and consider it would not be objectionable, UNLESS it became continuous

FINAL CHECKLIST

Upwind Assessment completed? Yes

Final Hedonic Tone: -2

Aerial photo showing location of assessment attached? Yes

Are there potential witness statements to obtain? No

REMARKS:

Odour Plume and 360 Degree Assessment

Assess the odour upwind of the suspected source and if possible, conduct a 360 degree sweep around the source, assessing the odour at different points.

Site 1 Assessment
Wind direction: NE
Wind strength: 24
Wind stability: Gusty
Odour intensity: 3

Odour character: Sulphur-smelling

Comments about Site 1: Low tide. Smell was a combination between sulfur and fishy

Site 2 Assessment
Wind direction: NE
Wind strength: 24
Wind stability: Gusty
Odour intensity: 2

Odour character: Compost Comments about Site 2:

Site 3 Assessment
Wind direction: NE
Wind strength: 24
Wind stability: Gusty
Odour intensity: 2

Odour character: Compost Comments about Site 3:

Site 4 Assessment
Wind direction: NE
Wind strength: 22
Wind stability: Light
Odour intensity: 3

Odour character: Compost

Comments about Site 4: Ecodrop. Mixture of smells between compost and rubbish. The

predominant one is compost. Pit is about 20% full. Several pictures taken.

Site 5 Assessment
Wind direction: NE
Wind strength: 22
Wind stability: Gusty
Odour intensity: 0
Odour character:

Comments about Site 5:

Site 6 Assessment
Wind direction: NE
Wind strength: 22
Wind stability: Light
Odour intensity: 0
Odour character:

Comments about Site 6: Data collected from the north east of the site by the car park.

Onsite Assessment

If source of odour identified, visit site, identify yourself and show warrant. Explain findings of your investigation to staff.

Source Identified: Tunnels Staff spoken to: Jaco Kleinhans

Position: Manager

Current site operations: Water cannons and sprinklers are in full operation. 2/5 sliding gates for the tunnels were fully open during my site visit. There is a digger working under the green canopy. A large area where the windrows used to have been emptied.

Reason/explanation given for odour: Jaco is unsure of where the smell may be coming from. Other comments: I asked Jaco (site mamager) if the concrete where there windrows used to be has been washed, but apparently it has not. They do keep it moist to prevent any dust from leaving the site.