*(Enter name of biosolids case study above)*

| | |
|---|---|
| **Organisation Managing Case Study** | |
| **Key Contact Details** | |
| **Name** | George Fietje |
| **Position** | General Manager |
| **Email** | gfietje@livingearth.co.nz |
| **Phone** | 09 574 3607 |
| **Location of case study** | |
| **Biosolids Produced at** *(Location, suburb/region/ nearest town, State)* | Wellington |
| **Biosolids Used at** *(Location, suburb/region/ nearest town, State)* | Wellington region |

## *Technical Aspects*

| | |
|---|---|
| **Year Case Study Operation Commenced** | |
| **Ultimate Use of Biosolids** | Biosolids compost applied to urban and rural markets *(eg land application, incineration, landfill capping etc)* |
| **How were the biosolids managed before this?** | Disposed of to sea. |
| **Quantities of biosolids produced** | |
| **Dry Solids (t/yr)** | 4250dtpy biosolids + 5000dtpy (approx) bulking agent |
| **Moisture Content of Final Product (%ds)** | 55% d.s |

**Quality and Classification** *(using State Biosolids Guidelines Definitions)*

| Parameter | Quality | Classification |
|---|---|---|
| **Heavy Metals** | | |
| **Zinc** | **Limit = 575ppm** | **Urban and Rural** |
| **Copper** | **Limit = 270ppm** | |
| **Cadmium** | **Limit = 3ppm** | |
| **Other/s?** | **Pb = 200, Ni = 60, Hg = 2, Cr = 400** | |
| | | |
| **Microbial** | | |
| **Salmonella** | **Refer attached** | |
| **Faecal Coliform** | **Refer attached** | |
| **Other/s** | | |
| **Organic contam.** | **Refer attached** | |
| | | |

**Restrictions on Use Due to Quality**

1. Compost must comply with contaminant limits before can be distributed. Users

apply compost in accordance with recommended application rates

2.
3.
4.

## Treatment Summary

| | |
|---|---|
| **Stabilisation** | |
| **Dewatering** | Yes – prior to composting |
| **Further Processing** | Composting |
| **Cartage** | Product sold in bulk and bags |
| **Spreading or Application** | For rural market = fertiliser spreader, Urban market = by hand |

## Costs and income from biosolids management

| Components | Supplier/Processor | | End User |
|---|---|---|---|
| | Cost (A$/dt) | Income (A$/dt) | Cost (A$/dt) |
| **Processing** | | | |
| **Storage** | | | |
| **Cartage** | | | |
| **Spreading** | | | |
| **Biosolids** | | | |
| **Total** | | | |

| | |
|---|---|
| **Comments** | Living Earth has a contract with the Wellington City Council to operate the plant and distribute product. LEL is payed a lump sum to operate the plant and receives income from product sales |

*Note all Supplier/Processor components could be a cost or income. eg biosolids managed through land filled could be a cost, but biosolids applied to land might provide income to the supply and be a cost to the end user. If*

## Environmental Management Requirements

| | |
|---|---|
| **Environment Improvement Plan (EIP)** | LEL operates the plant in accordance with a Quality Manual certified to ISO9002 and resource consent conditions. |
| **Monitoring** | Refer attached Resource consent |
| **Reporting** | Refer attached Resource consent |

## Key Technical Learnings from Production and Use of Biosolids

1. Production of a quality compost is dependent upon good process control including and adequate volume of bulking agent.
2. Marketing of product is the challenging end of the business. This requires creating a demand for the product through performance, price and a strong brand that is trusted by consumers.
3.
4.
5.
6.
7.
8.

## *Community Engagement*

### Key Community Perception Issues

| Issue | How Addressed |
|---|---|
| **Appearance of Biosolids** | Compost – high consumer acceptance |
| **Odours** | Compost = earthy odour |
| **Fear of Contamination** | Low contaminant limits, meets the approval of regulators (Ministry of Heath, Environment, Agriculture) and use of Brand. A trusted Brand is important to reflect product values and safety. |
| **Not in my Back Yard (NIMBY) Syndrome** | N/A |
| **Other** | |
| **Other** | |
| **Other** | |

### Stakeholders and Engagement Methodology

| Stakeholder *(Individual or group)* | Engagement Methodology | Outcome |
|---|---|---|
| **Federal** | | |
| | | |
| | | |
| **State** | | |
| | | |
| | | |
| **Regional** | Resource consent process | Successful |
| | | |
| | | |
| **Local** | Resource consent process, marketing | Successful |
| | | |
| | | |

### Costs for Community Engagement

| | |
|---|---|
| **Period of Engagement** | **12months** |
| **Costs for Community Engagement (A$)** *(Over the period above)* | **Estimated at $75k prior to Resource consent granted** |

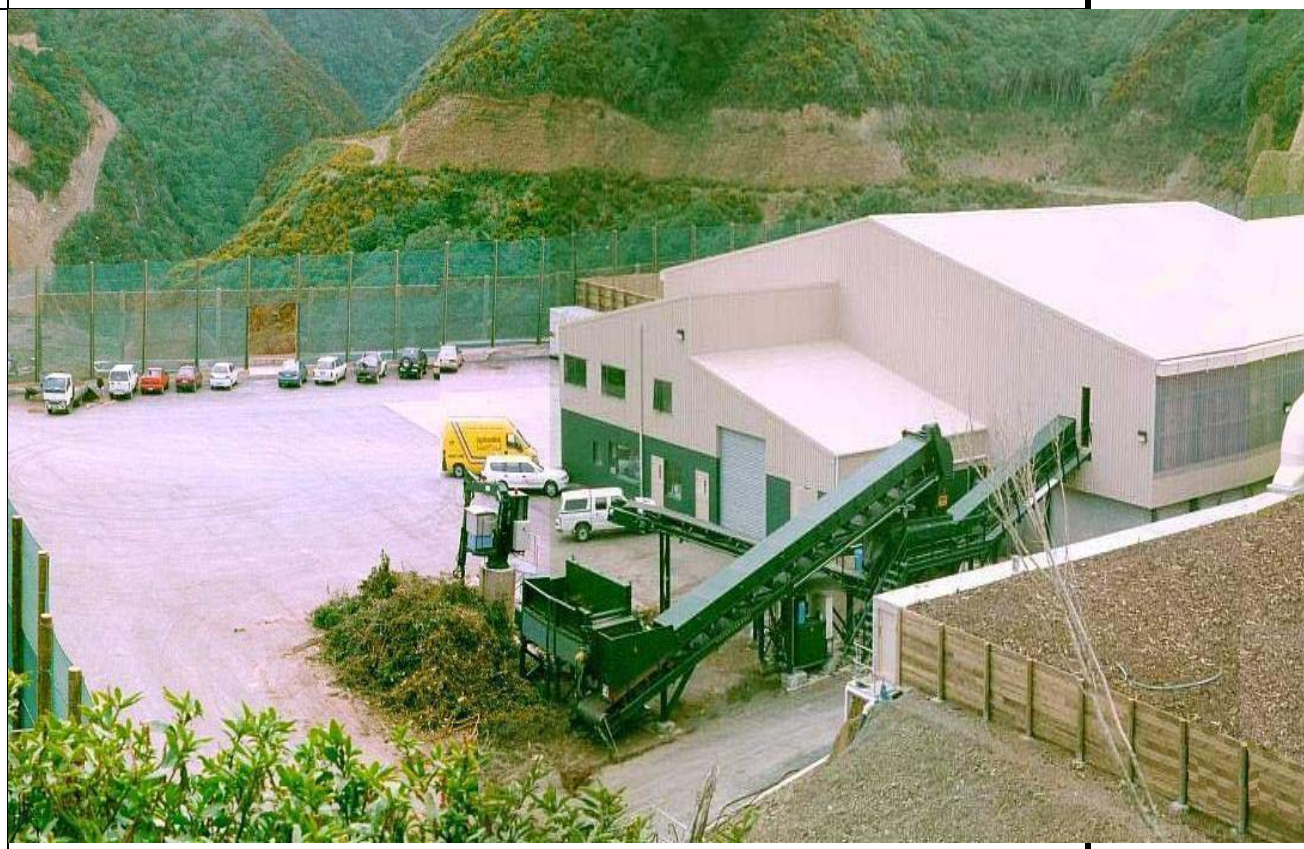
### Key Learnings from Community Engagement

1. Involve the community, Provide all the information but put this in context. For example most materials applied to soil contain heavy metals. The issue is therefore not the presence of heavy metals but the concentration.
2. Seeing is believing – growth trials on product performance speaks volumes
3.

4.
5.

| ***Testimonials of Biosolids Users*** | |
|---|---|
| **Name** | |
| **Why Used** | |
| **Testimonial** | |
| **Name** | |
| **Why Used** | |
| **Testimonial** | |
| **Name** | |
| **Why Used** | |
| **Testimonial** | |

***Photos***

| No. | Photo Description |
|---|---|
| **1** | |
| **2** |  |

| | |
|---|---|
| **3** |  |
| **4** |   |

| | |
|---|---|
| **5** |  |
| **6** |  |

*Note: Please provide several photos of the case study. These could include the treatment process to the beneficial uses. Number photographs and insert a description for each in the matching numbers below. Digital photos are preferred using the highest quality or resolution possible*

| ***Approval to use case study on ABP website*** | |
|---|---|
| **WWTP Authority**<br>I, the undersigned, approve the use the biosolids management system operated by _____ *(insert company name)* to be used as part of a case study for the Australasian Biosolids Partnership Website (www.biosolids.com.au). I also acknowledge that I have the authority in the company inserted above to make such an approval. | |
| Print name: | |
| Signature: | |
| Date: _____/_____/2006 | |
| Phone: | Email |
| **User Authority**<br>I, the undersigned, approve the use of my experience with biosolids to be used as a case study for the Australasian Biosolids Partnership Website (www.biosolids.com.au). | |
| Print name: George Fietje | |
| Signature: | |
| Date: _9____/_May____/2006 | |
| Phone: 064 9 574 3607 | Email: gfietje@livingearth.co.nz |