(Enter name of biosolids case study above)

Organisation Managing Case Study	Christchurch City Council
Key Contact Details	
Name	Mike Bourke
Position	Ops and Mtnce Manager
Email	mike.bourke@ccc.govt.nz
Phone	64-3-9418364
Location of case study	
Biosolids Produced at *(Location, suburb/region/ nearest town, State)*	Christchurch Wastewater Treatment Plant
Biosolids Used at *(Location, suburb/region/ nearest town, State)*	Christchurch – Burwood landfill for rehabilitation Has been used for forest application

Technical Aspects	
Year Case Study Operation Commenced	**Aug 2000 for forest application – applied intermittently over two years**
Ultimate Use of Biosolids	Now only landfill rehabilitation as forests sold for dairy farm land
How were the biosolids managed before this?	**Prior to 1997 all applied as a liquid slurry to sandy soils of local Council farmland**
Quantities of biosolids produced	
Dry Solids (t/yr)	6,000
Moisture Content of Final Product (%ds)	20%

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

Parameter	Quality	Classification
Heavy Metals – meets Class Bb – NZ Guidelines		
Zinc	**1360 mg/kg dry weight (medians)**	
Copper	**352**	
Cadmium	**4.35**	
Other/s?		
Hg	**1.8**	
Cr	**1100**	
Ni	**49**	
Pb	**91**	
As	**7**	
Microbial – class B		

Other/s

Restrictions on Use Due to Quality

1. Public exclusion 6 months on forest land
2. Public excluded from landfill
3.
4.

Treatment Summary

Stabilisation	**Anaerobic digestion**
Dewatering	**Belt press**
Further Processing	*Nil*
Cartage	*Up to 50 km*
Spreading or Application	*Application trailer in forest see attached*

Costs and income from biosolids management

Components	Supplier/Processor		End User
	Cost (A$/dt)	Income (A$/dt)	Cost (A$/dt)
Processing	$NZ150 /dry tonne		
Storage	nil		
Cartage	$NZ200/dry tonne		
Spreading			
Biosolids			
Total	$NZ350/dt		

Comments	*Costs are for dewatering, cartage, and mixing and application at landfill, or application in forests*

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)	*Land application and discharge consent required, requires hearing and management plan*
Monitoring	*Biosolids – monthly, ground water annually, surface water annually soils annually*
Reporting	*Annual reporting*

Key Technical Learnings from Production and Use of Biosolids

1. Changing dry solids content with change in treatment processes
2.
3.
4.
5.
6.
7.
8.

Community Engagement

Key Community Perception Issues

Issue	How Addressed
Appearance of Biosolids	Black, damp soil like
Odours	*Some*
Fear of Contamination	*Concern of contamination of groundwater – all drinking water supplies come from ground water- pathogens and nitrates are main concerns* *Fear of wind blown pathogens - contaminants*
Not in my Back Yard (NIMBY) Syndrome	*When you can satisfy the above concerns, NIMBY is raised, then BANANA (build absolutely nothing anywhere near anyone), and then BO – bugger off!*
Other	Neighbours off-side with forest owners because of biosolids application
Other	
Other	

Stakeholders and Engagement Methodology

Stakeholder *(Individual or group)*	Engagement Methodology	Outcome
Federal		
State		
Regional	Consent application and hearing	
Local	Consent appl'n and hearing	
	Many meetings with forest neighbours	

Costs for Community Engagement

Period of Engagement	
Costs for Community Engagement (A$) *(Over the period above)*	**Not recorded**

Key Learnings from Community Engagement

1. Demonstration projects worthwhile
2. Need local 'champions" – science not always trusted
3. Scientific studies need to precede full scale applications
4.

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 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 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:	
Signature:	
Date: _____/_____/2006	
Phone:	Email:

Probably not worthy of a case study as no longer applying to forest land. Rehabilitation of Burwood landfill will continue for up to the next 2 years and then other options will need to have been developed if we wish to avoid landfilling at new Kate valley landfill. Options being worked on at present – consultation during 2005 gave a clear direction to try and use biosolids for energy generation as a first option with land application as a long second option.