GEOCYCLE SHREDDER & SUPERBLENDER WASTE COMMISSIONING

Commissioning of the full Shredder/Superblender system with a variety of wastes was completed on the 26/03/09. Further test running on different wastes and packaging types will continue through to around the end of April to gain experience in optimum operation and fine tuning of the system. With commissioning on wastes, some key technical risks have been removed, with key observations as follows:

- The skip lift, nitrogen air-lock chamber and shredder system all operate as designed. Wastes fed by forklift at ground level are elevated, shredded to 400 mm in size and injected into the Superblender. A problem has been experienced with some drums hanging-up on a lip in the air-lock chamber. A software modification has been made to reduce this, and a number of simple mechanical modification options are available to resolve this problem.
- The superblender and metal extraction/washing circuit works as designed. The superblender tends to round the edges of the shredded metal, reducing their size. This part of the process design is unique, so demonstrating that it works well is a significant achievement, and eliminates the greatest technical risk associated with the project. Metal washed just with water was clean enough for recycling, and the option exists to use heat, a detergent or caustic if required.
- The nitrogen inerting system, which blankets the shredder, superblender, metal wash tank and accumulation tank to protect against fire/explosion risk works well. Some fine-tuning of this system will be carried out to minimise nitrogen consumption.
- The fuel pump-out system, which utilises a large Discflo pump not previously used at Dandenong, work well. It will enable a very quick turn-around between batches. Initial testing suggests that a 50 m^3 batch will be transferred to the front tank farm in about 30 minutes (compared to 3-4 hours for Wilden diaphragm pumps).
- The capacity of the system has not yet been confirmed, but all indications are that it will achieve the design capacity of 6 tonnes per hour. Further testing through April is expected to confirm this.

I would like to congratulate the project team on this milestone, which positions Geocycle to deliver on the substantial increase in budgeted volume. Thanks especially to Frank, Michel and the Maintenance Team who stepped up to the challenge of a project, which is much larger and more complex than any prior Geocycle projects.

Photos of wastes processed are attached, including:

- 200 litre drums of sludge residue from the dry cleaning industry
- 20 kg paper bags of pesticides
- Smaller drums of solid poppy seed residue from pharmaceutical manufacture
- Bulk diatomaceous earth oily filter cake from Alcoa aluminium

Loading of Drycleaner Sludge into Skip Lift

Starting Skip Lift to Auger Shredder

Skip Lift Hoisting Dry Cleaner Sludge to Shredder

Shredded Metal on Spray Rinse & Dewatering Vibrating Screen

Shredded Drum Metal from Process

20 kg Bags of Pesticide Waste in Skip Lift

Skip Lift Hoisting Bags to Shredder

Bags Dropped into Nitrogen Purged Air-Lock Chamber (top gate still open)

Solid Poppy Seed Residue in Small Drums

Skip Lift Tipping into Airlock Chamber

Drums Dropped in Airlock Chamber

1.2 m3 Bulk Waste Mini-skip with Alcoa Filter Cake Waste

Filter Cake Tipping into Airlock Chamber

Tipping Complete & Airlock Top Door Closing

SHREDDER TOWER CONNECTED TO SUPERBLENDER