Attachment D2

Facility Operation

(i) Process flow diagrams.
(ii) Unit Operations and Control Equipment.
(iii) Management and Maintenance plans.
(iv) Management of emissions.
(v) Laboratory facilities.
(vi) Site History.

Attachment D2

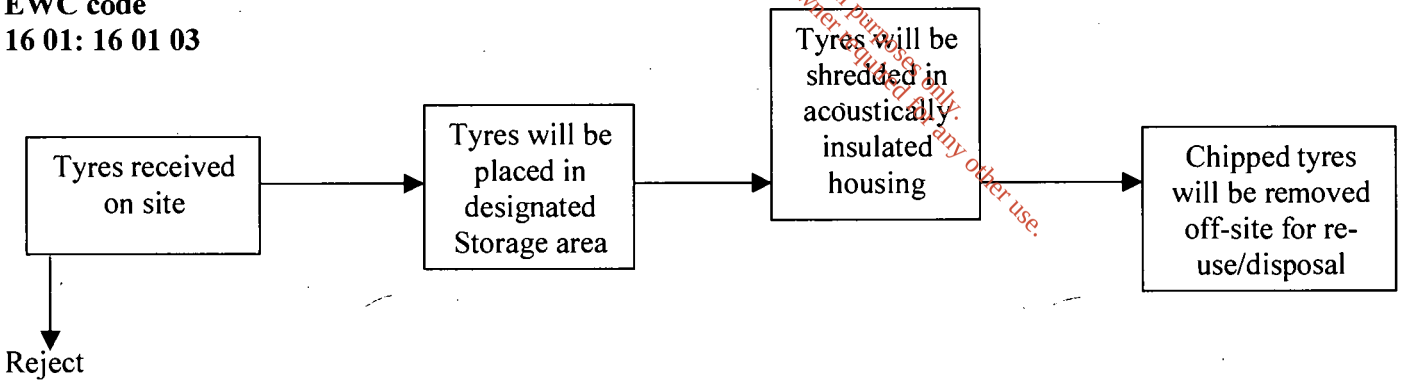
The following wastes will be accepted on site in accordance with approved waste acceptance procedures. All wastes may be subject to rejection if they do not comply with the specified waste acceptance criteria. Any new waste customers will be subject to a new customer acceptance form and waste will be only be accepted upon approval of the customer. Please see attached site **plan D1** for a lay out of designated areas for waste.

(i) Process Flow Diagrams

D.2. (A) Non – Hazardous waste streams

(1) Processing of tyres.

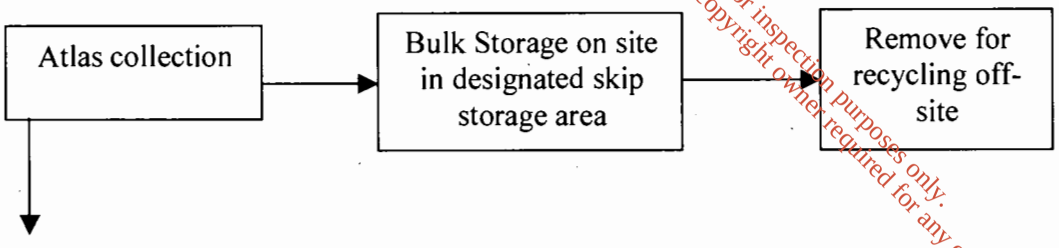
EWC code
16 01: 16 01 03



Tyres will be brought on site and bulk stored in a designated area. Tyres will be shredded and sent off site for re-use. There will be no significant emissions from this process. Any noise generated from the process will be reduced engineered out by acoustically insulating the building and putting in place any additional measures to reduce generation of noise from this activity. Processing will be carried out on a fully contained area.

(2) Processing of Glass.

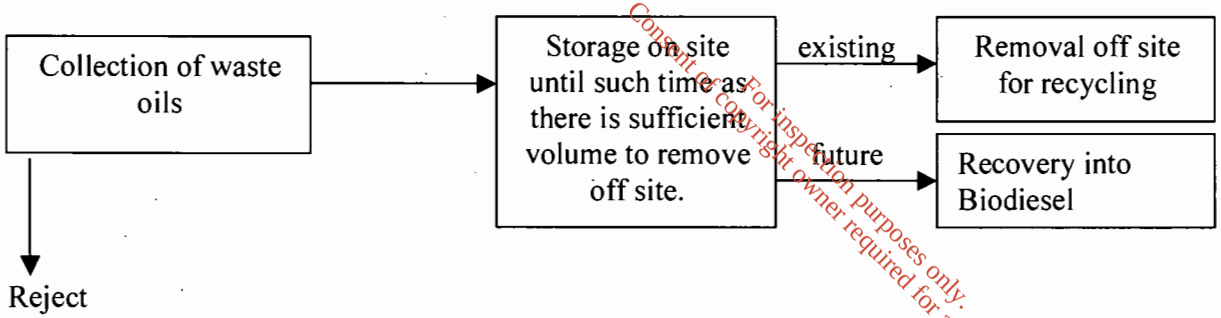
EWC Code
19 12: 19 12 05
16 01: 16 01 20
20 01: 20 01 02



A significant quantity of glass will collected as part of our existing collection systems. A significant quantity of glass accepted on site will be windscreen glass however will not be limited to this and it is hoped over time to accept other forms of waste glass on site. All glass will stored on site separately in designated skips and held on site until there is sufficient volume to remove off site for recovery/disposal.

(3) Processing of Cooking Oils

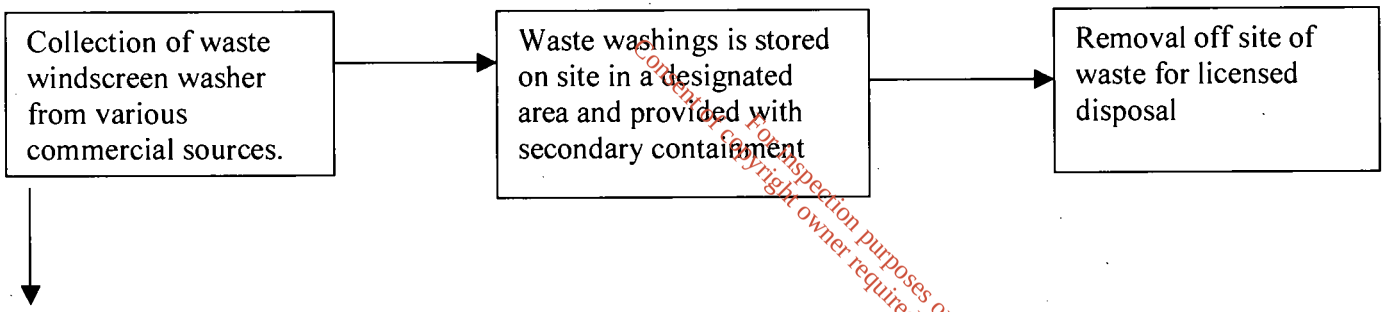
EWC Code
20 01: 20 01 25



Waste cooking oils will be collected by Atlas and returned and stored on site until there is a sufficient quantity to remove off site for recovery into biodiesel. Waste cooking oil will be stored and processed separate to other waste oils. Waste cooking oil will be subject to waste acceptance procedures prior to being accepted on site. The storage of waste cooking oil for onward treatment/recovery will be stored in the main oil tank farm. Currently waste cooking oils are dewatered and filtered prior to shipment off site. Water removed from the cooking oil is discharged to sewer under license. Oily solids removed from the cooking oil are drummed for disposal at a licensed facility. Where waste cooking oil is to be treated on site processing will be carried out with the same criteria as existing waste oil. Emissions from this process will be in accordance with criteria already specified.

(4) Windscreen washer

EWC Code
16 01: 16 01 99

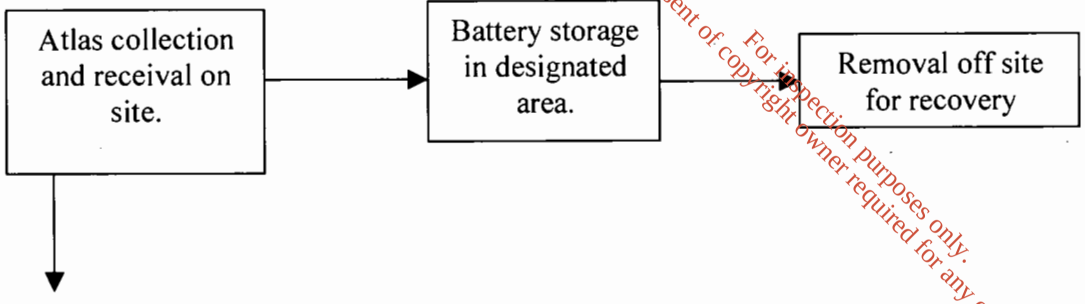


Waste windscreen washer will be collected as a part of our existing Industrial and Automotive collection system. Small volumes will be collected and returned to Atlas and bulk stored on a fully sealed area (using IBCs or bunded tanks) until such time as there is sufficient quantity to send off site for disposal. No processing of windscreen washer will occur on site.

D.2. (B) Hazardous waste streams

(1) Processing of Used batteries

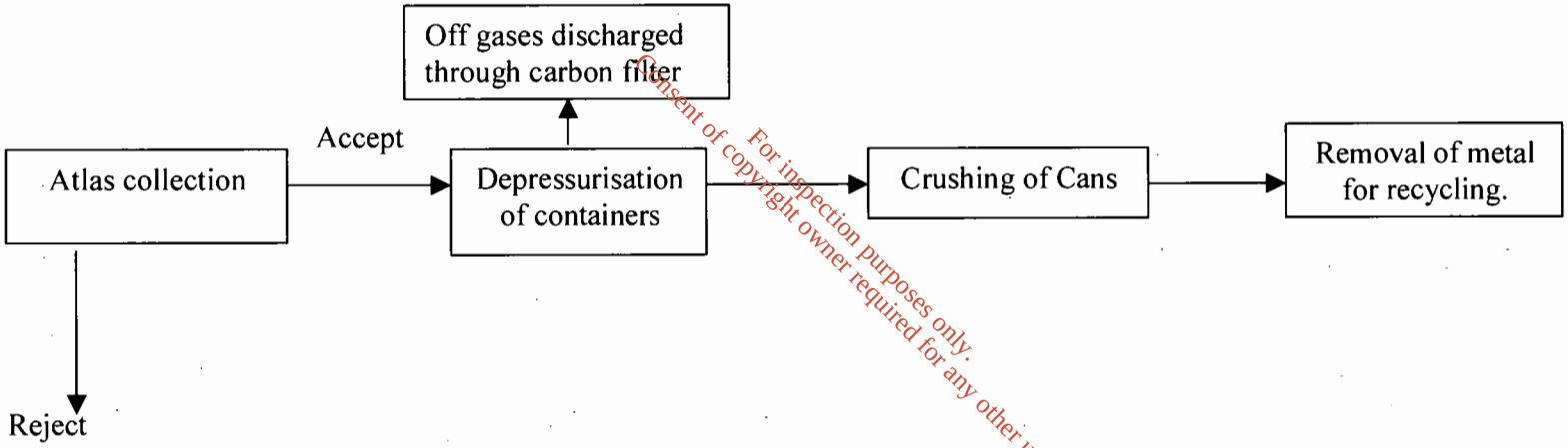
EWC Codes
16 06: 16 06 01 / 16 06 02 / 16 06 03 / 16 06 04 / 16 06 05 / 16 06 05 / 16 06 06



Spent batteries (wet cell and dry cell) will be collected as part of the existing collection system. Batteries will be collected in a specially contained battery boxes to prevent release of any acids. Batteries will be stored in Atlas until such time as there is sufficient quantity to remove off site for licensed disposal/recovery. Batteries will at all times be stored in a bunded area to contain any accidental releases of acids. Batteries will be accepted and handled in accordance with the relevant procedures. Wet cell batteries may be drained of acid prior to shipment off site.
Future processing of batteries may include draining the acid from the batteries and the removal off site for final disposal/recovery for both the acid and the battery.

(2) Processing of Aerosols

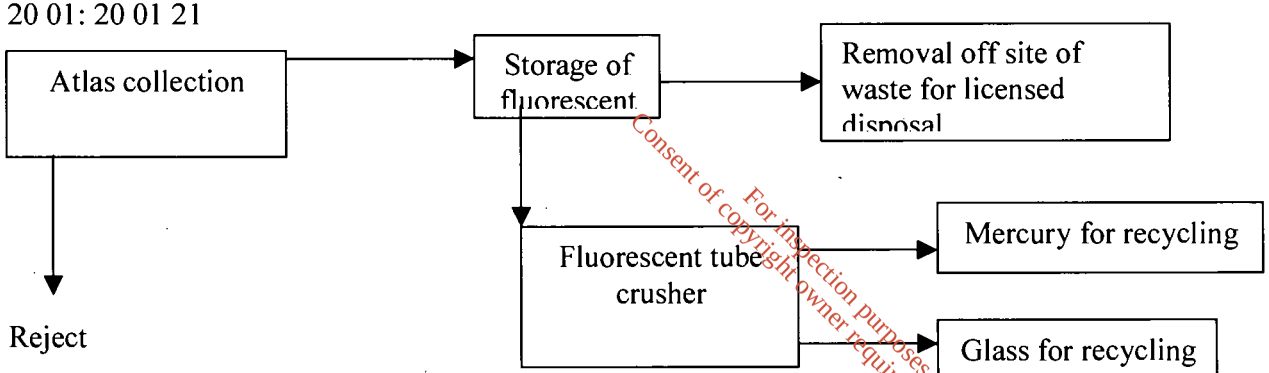
EWC Codes
16 05: 16 05 04 / 16 05 05



Aerosols will be collected as part of existing collections systems. Aerosols will be returned to Atlas where they will be depressurized. The remaining metal will be crushed down and sent off site for recovery. There will be no direct emissions from degassing of aerosols. All off gases will be vented through a carbon filter. Spent carbon filters will be sent off site for licensed disposal.

(3) Processing of Fluorescent tubes

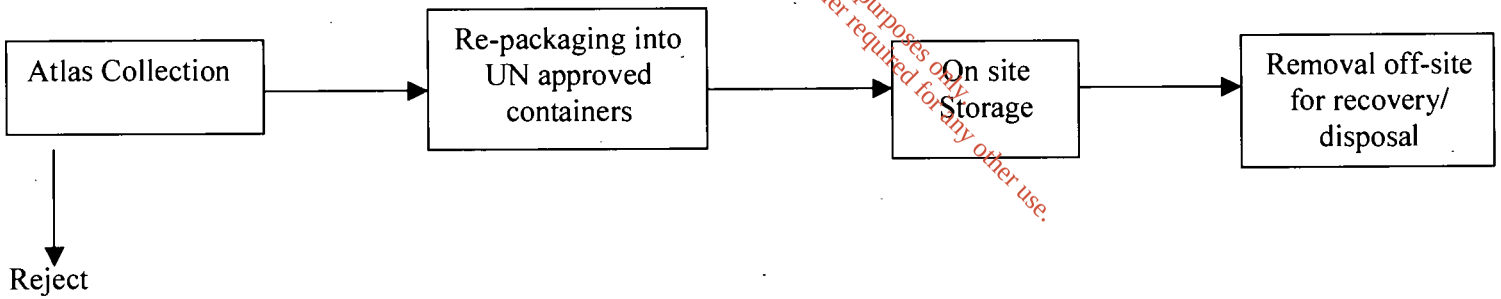
EWC Code
20 01: 20 01 21



Fluorescent tubes will be collected and stored on site until such time as there is sufficient quantity for removal off site to a disposal/recovery facility. The processing of fluorescent tubes may change on site where instead of onward shipment, the following activities will occur. The mercury will be extracted from the tubes in a fully contained unit and the glass will be crushed down. Both the mercury and the glass will be contained within the designated unit. Wastes will be stored in bunded area in appropriately sealed containers to avoid spillage and contact with personnel working in the area. Waste Mercury and glass will then be removed off site for recycling.

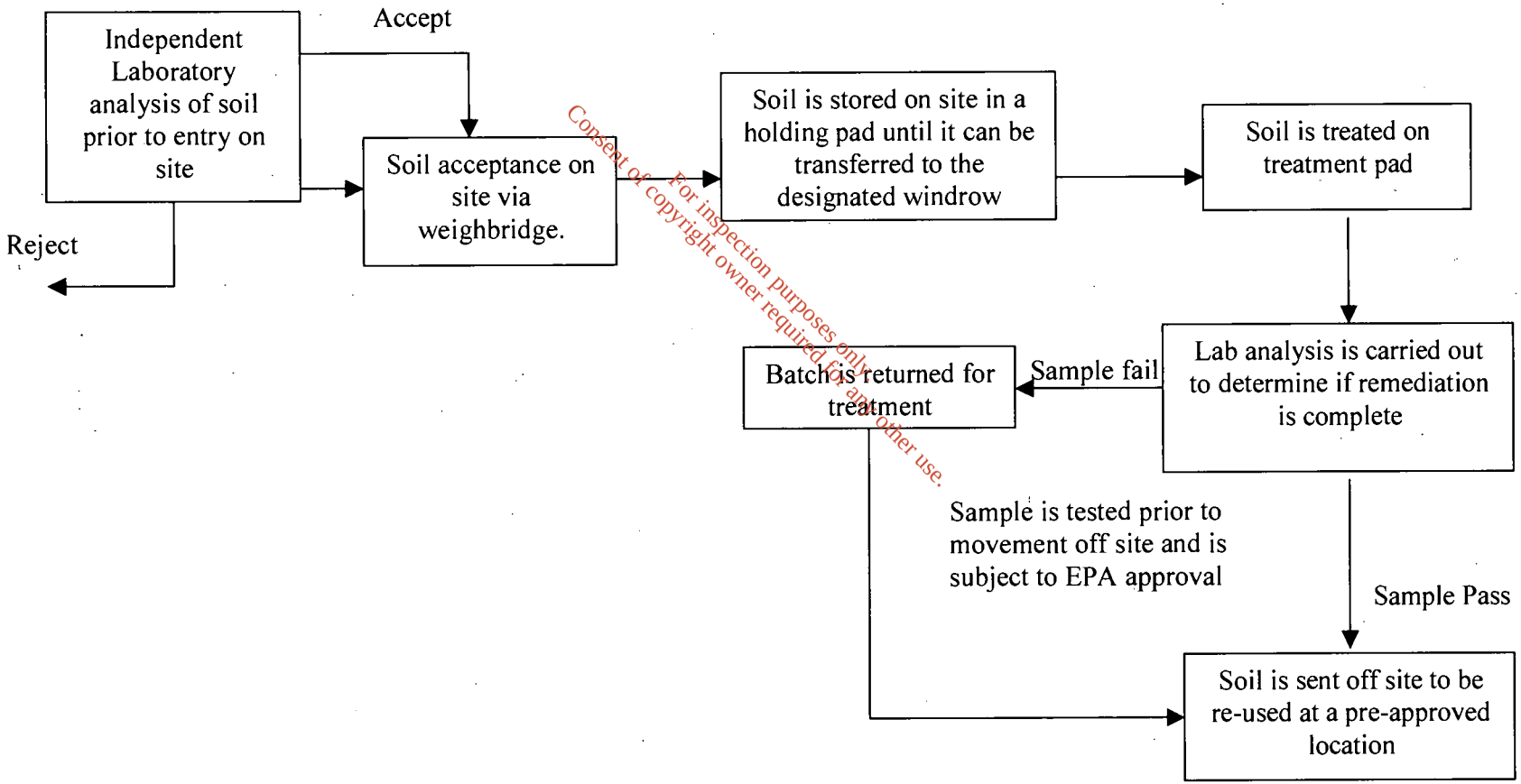
(4) Processing of Oily wastes/sludges/greases and non-chlorinated petroleum based waste.

EWC Code
05 01: 05 01 03 / 05 01 03 / 05 01 05/ 05 01 17
13 08: 13 08 99 / 13 08 01
15 02: 15 02 02
16 07: 16 07 08
19 08: 19 08 09
17 03: 17 03 01 / 17 03 02 / 17 03 03
17 05: 17 05 03 / 17 05 05 / 17 05 07
19 13: 19 13 01 / 19 13 03 /19 13 05 / 19 13 07



Oily wastes are sourced from various different activities within Atlas (some sourced internally and others from customers). There are no significant emissions from the collection, storage and removal off site of oily solid waste. All handling of the waste is on fully sealed surfaces. All oily wastes are repackaged into UN approved containers and stored on bunded areas until such time as they are removed off site for shipment to a licensed facility.

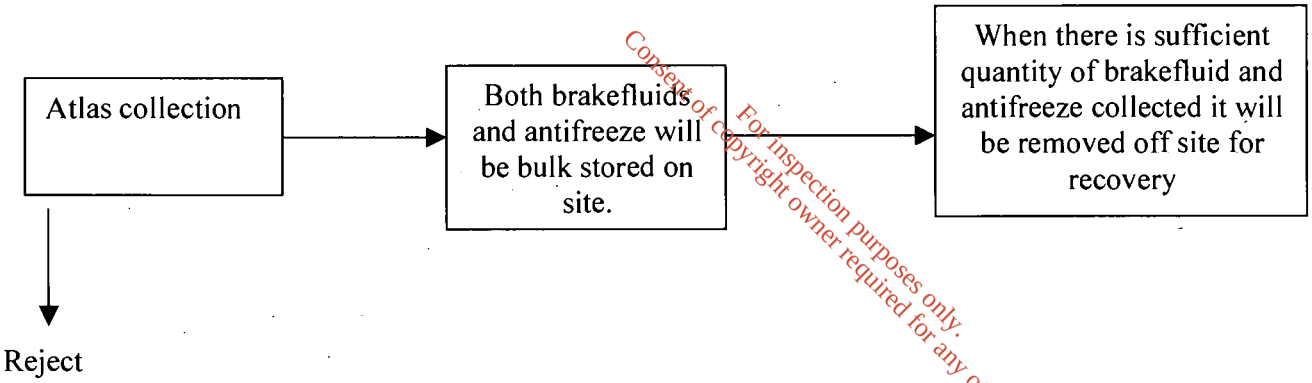
(5) Processing of soil.
EWC Code
17 05: 17 05 03 / 17 05 05 / 17 05 07
19 13: 19 13 01 / 19 13 03 /19 13 05 / 19 13 07



Acceptance of soil on site is subject to a waste acceptance procedure to establish contaminant levels in incoming soil. If soil is accepted it is brought on site and held in a holding area until treatment pads are available. Once soil is remediated it is removed off site to a pre-approved site for re-use. The holding and treatment areas are fully sealed and contained. Any runoff from the waste soil is collected by the under ground collection system and diverted to the underground interceptor on site prior to release to the sewer Contaminated soil is stored in a designated acceptance area prior to remediation, this soil cannot be mixed with treated soil. For a detailed description please see soil waste acceptance procedure Attachment D3.

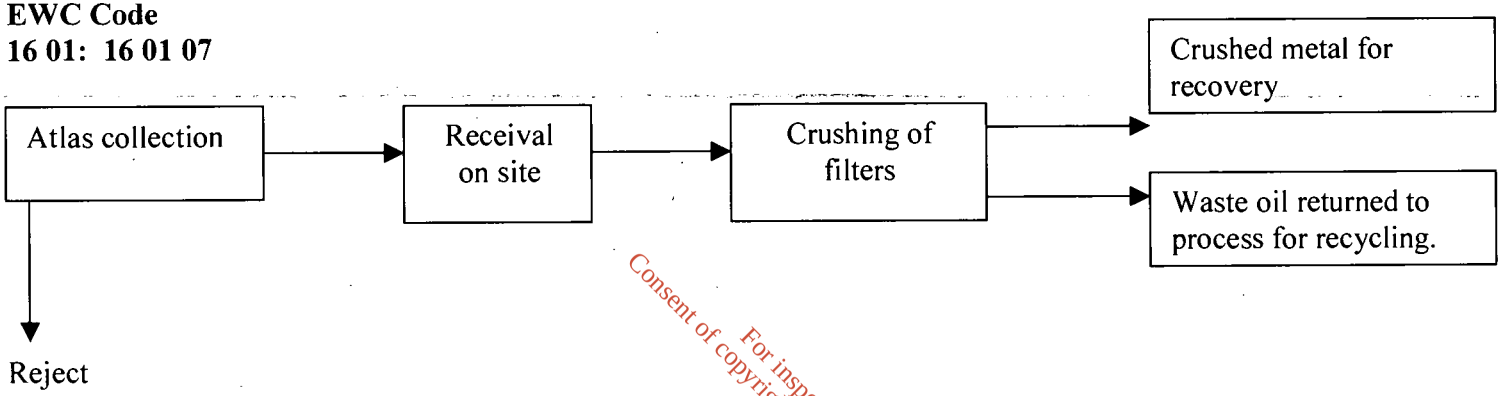
(6) Brake fluids/ Antifreeze

EWC Code
16 01: 16 01 13 / 16 01 14 / 16 01 15



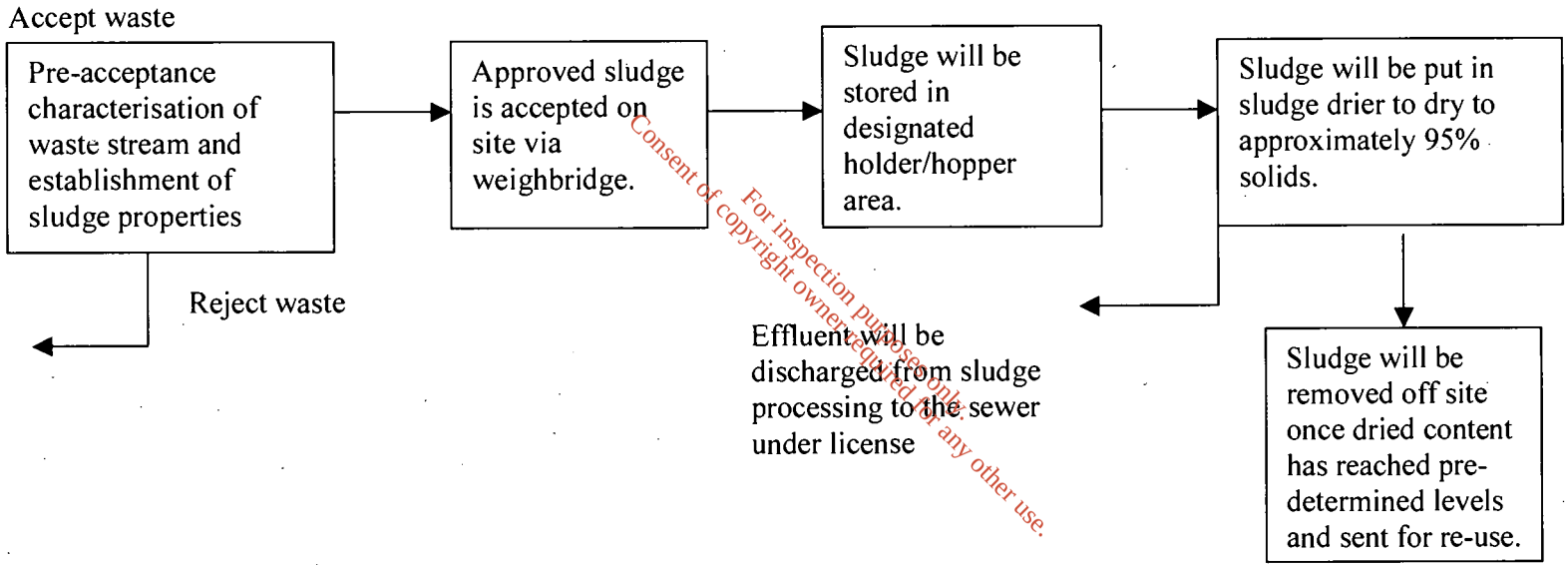
Brakefluids and Antifreeze will be collected as part of the existing Industrial and automotive supplies and services collection round in accordance with the relevant agreed waste acceptance procedure. No processing will occur on site for brakefluids or antifreeze. Both wastes will be returned to the Atlas site and stored in fully sealed containers in designated bunded areas until such time as there is sufficient quantity for removal off site for recovery/disposal. Appropriate storage and handling requirement will be adhered to as specified in the waste acceptance procedure.

(7) Filters
EWC Code
16 01: 16 01 07



Used filters are collected by Atlas as part of its existing collection system. Filters are collected in designated wheely bins and returned to Atlas where they are placed in a crusher, the metal is then crushed and baled. The remaining oil removed as a result of crushing is returned to process. Metal is then removed off site for recovery. There are no abatement measures required for the processing of used filters on site as there are no significant emissions from this process. All processing is carried out in a contained area and crushing of metal is limited to normal facility working hours to limit noise from the activity.

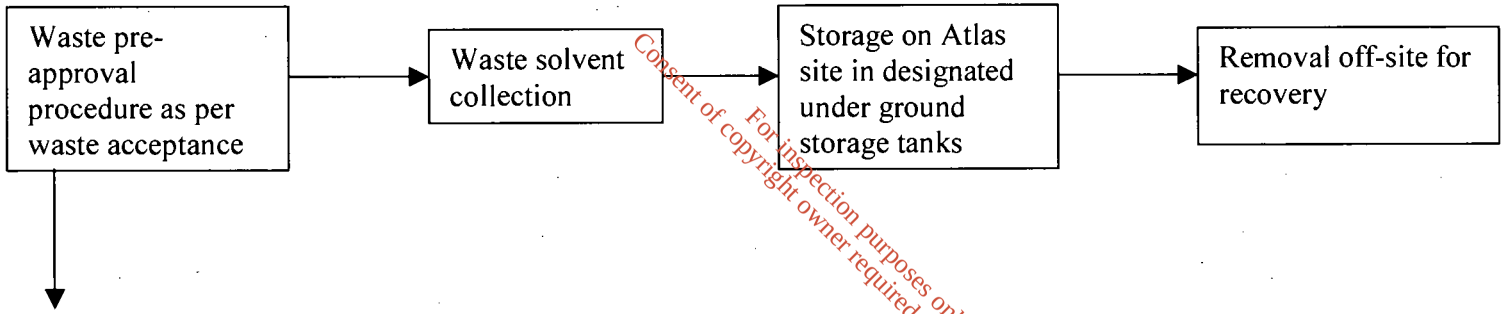
(8) Sludge
EWC Code
19 08: 19 08 05 / 19 08 12 / 19 02 06 / 19 08 14



Sludge will be accepted on site from pre-approved source as per the waste acceptance procedure. It will be stored in a fully contained storage area. The sludge will be placed in a hopper prior to being dried. Sludge will then be fed into the drier and dried to pre-specified dryness. Dried sludge will then be removed off site for re-use/disposal. There are no environmental emissions from this process as it is fully enclosed. Any odours from sludge reception will be treated by the abatement system filter as detailed in Section 8 of the EIA.

(9) Solvents

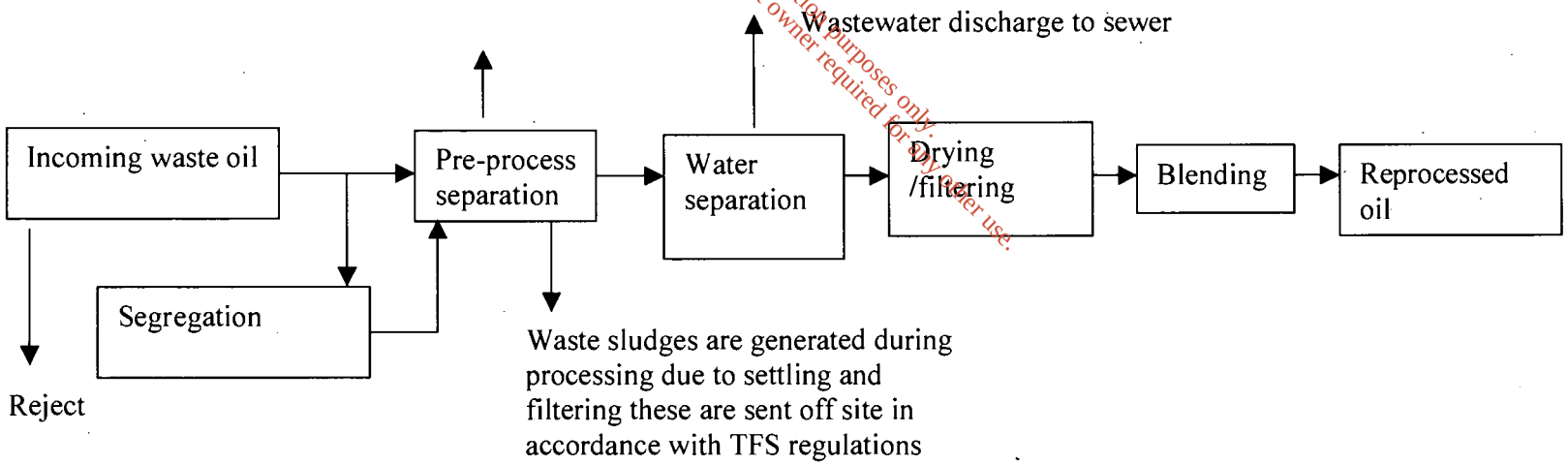
EWC Code
14 06: 14 06 02 / 14 06 03



Waste solvents will be accepted on site in accordance with approved waste acceptance criteria. Solvents will be stored in a designated segregated bunded area until removal off site for disposal/ recovery. Solvents to be bulked up will undergo compatibility testing as per the relevant procedure.

(10) Waste Oil/Oily liquids

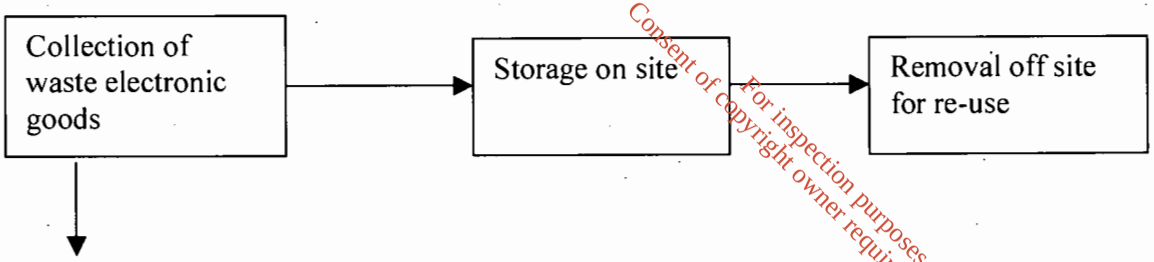
EWC Codes
12 01: 12 01 06 / 12 01 07 / 12 01 08 / 12 01 09 / 12 01 10
13 01: 13 01 01 / 13 01 04 / 13 01 05 / 13 01 09 / 13 01 10 / 13 01 12 / 13 01 13.
13 02: 13 02 04 / 13 02 05 / 13 02 06 / 13 02 07 / 13 02 08.
13 031: 13 03 01 / 13 03 06 / 13 03 07 / 13 03 08 / 13 03 09 / 13 03 10.
13 04: 13 04 01 / 13 04 02 / 13 04 03.
13 05: 13 05 01 / 13 05 02 /13 05 03 / 13 05 06/ 13 05 07/13 05 08
13 07: 13 07 01 / 13 07 03.
13 08: 13 08 01 / 13 08 02 / 13 08 99
16 07: 16 07 08
19 13: 19 13 07



Waste oil is accepted on site as per waste acceptance procedure. Waste oil is collected in the normal waste oil collection round, it is returned to Atlas and reprocessed to a fuel. Please refer to section D3 for a detailed process description of Waste processing
Waste oils containing PCBs cannot be accepted for processing unless they are under 10ppm.

(11) Waste Electronic goods

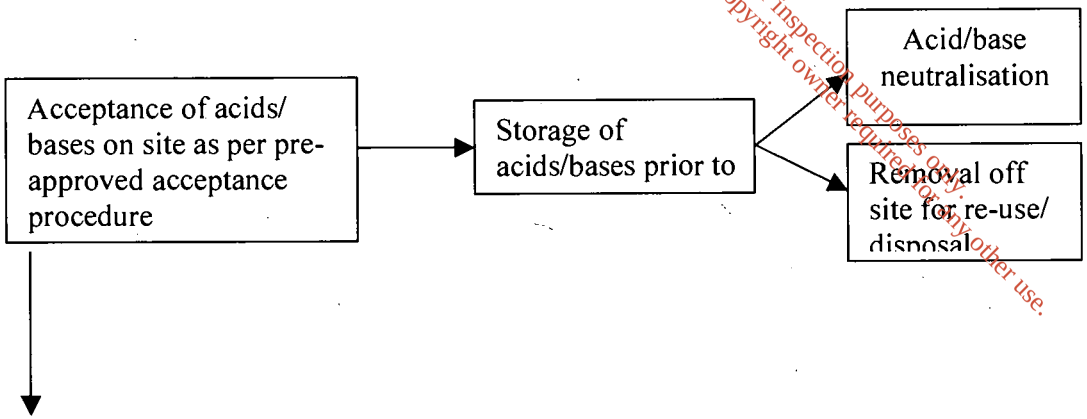
EWC Codes
16 02: 16 02 11 / 16 02 13 / 16 02 14 / 16 02 15 / 16 02 16
20 01: 20 01 23 / 20 01 35 / 20 01 36



Waste electronic goods will be accepted on site and stored in a designated dry sealed storage area until there is sufficient quantity to remove off site for recovery/disposal. Segregation of goods will be carried out accordingly.

(12) Re-conditioning of acids/ bases

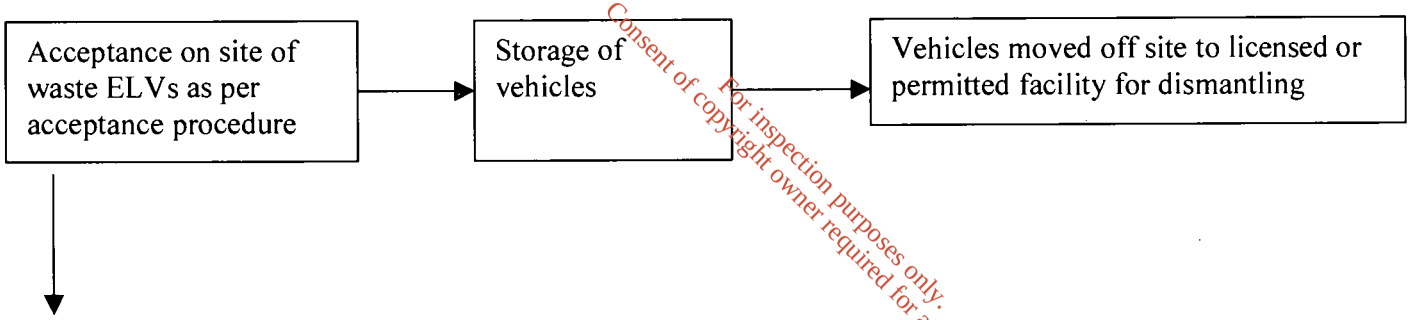
EWC Codes
06 01: 06 01 01 / 06 01 02 / 06 01 03 / 06 01 04 / 06 01 05 / 06 01 06 / 06 01 99
06 02: 06 02 01 / 06 02 03 / 06 02 04 / 06 02 05 / 06 02 99
16 06: 16 06 06



Acids/bases will be received on site to re-condition them for re-use. Acids/bases will only be accepted on site if they are pre-approved. Acids or bases will be treated to a pre-determined pH and will removed off site back to a customer for onward re-use or disposal.

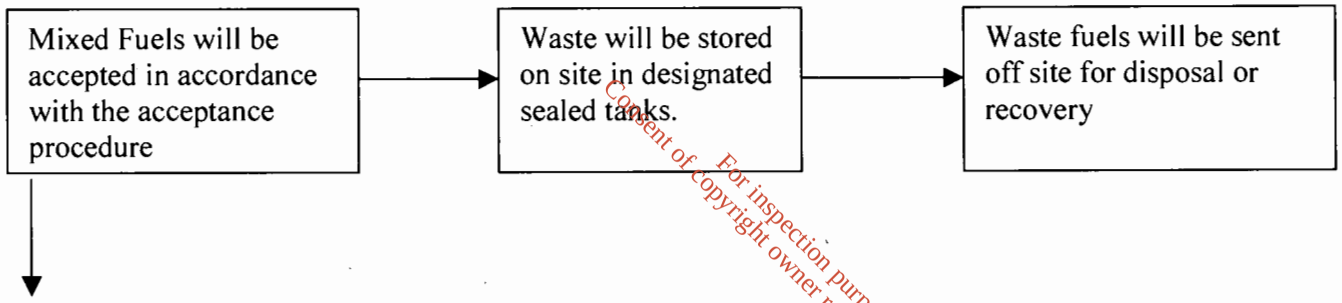
(15) **ELVs**

EWC Codes
16 01: 16 01 04 / 16 01 06

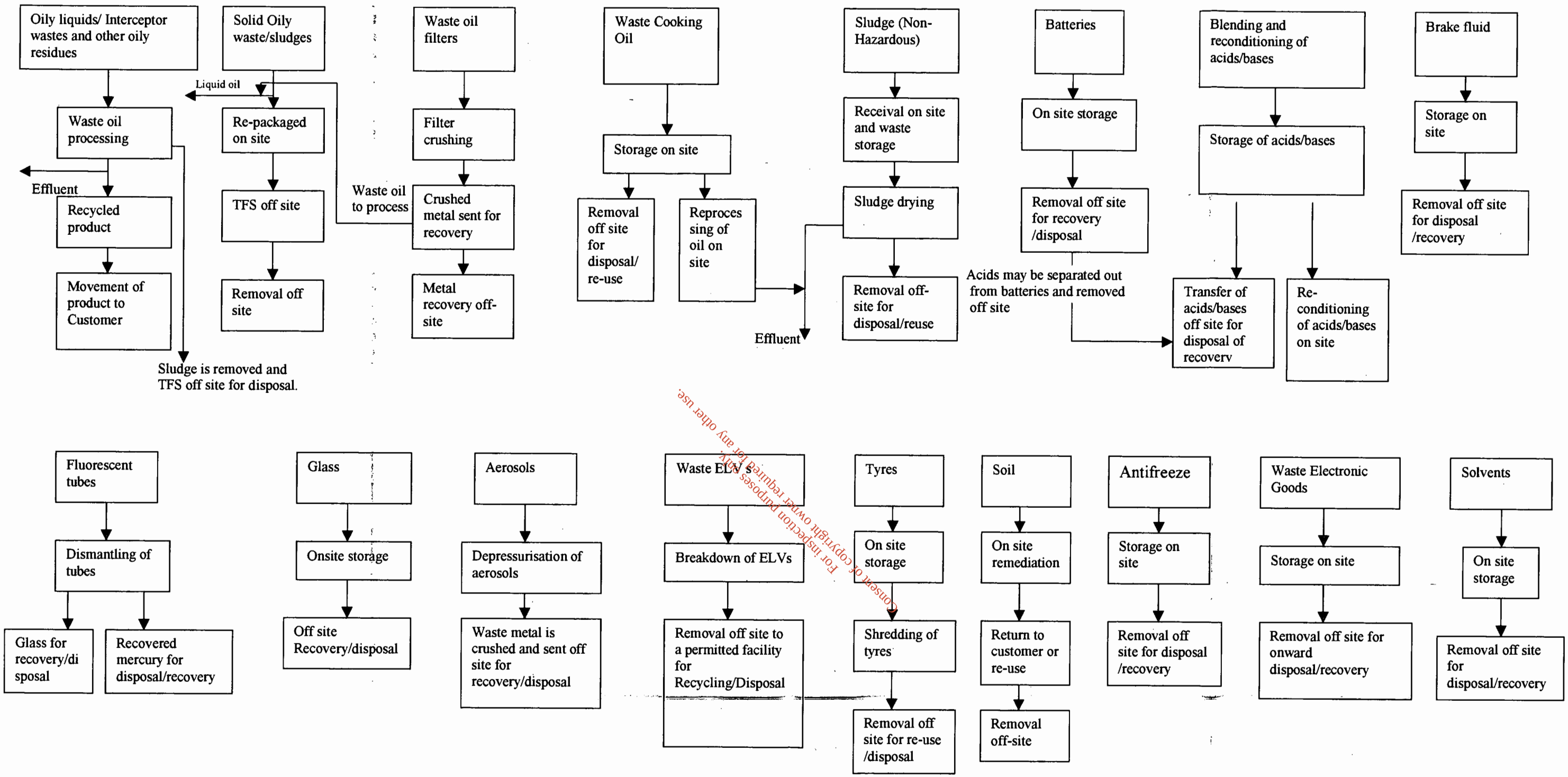


ELV units on site will be accepted, stored and sent off site for dismantling. ELV will at all times while held on site be stored in a sealed area designated for ELV storage.

(16) Mixed Fuels
EWC Code
13 07: 13 07 01 / 13 07 02 / 13 07 03



Mixed fuels will be accepted and stored as per agreed waste acceptance procedure Mixed fuels will be stored in accordance with site procedures and removed off site to an agreed disposal/recovery route.



(ii) Unit operations and Control equipment

The following are a list of unit operations, which are existing and proposed for Atlas Ireland. Of the proposed activities listed below only sludge processing, blending and reconditioning of acids/bases, processing of tyres and fluorescent tubes will be processed on site. The remaining wastes will be bulk stored and removed off site for disposal/ recovery/re-use.

Oily wastes which are currently processed under the IPC licence at the facility are exported under Transfrontier Shipment (TFS) documents to licenced facilities. Oily waste consists of greases, oily sludge's, solid, rags, booms and oil residues that may be utilized in the treatment facility. In addition to the existing wastes sent off site for recovery/disposal, other wastes (as listed below under proposed activities) will be transferred to licenced facilities within Europe for treatment/disposal. All wastes will be transferred under TFS regulations. The details on the facilities to be used and the methods for treatment/disposal will be furnished to the Agency when these waste streams become active.

As Shannon Environmental Services are now part of the DCC Environmental division it is envisaged that additional routes of disposal/treatment will be available. Further details of these activities will also be furnished to the Agency according as they develop.

Existing

Waste oil collection
Used filter collection
Soil remediation
Oily waste, greases and oily sludge collection.

Proposed Activities

Blending/reconditioning of Acids/ Bases
Waste electronic goods
Waste solvents
Waste Mixed fuels
Sludge
Spent brakefluid
Used antifreeze
Waste windscreen washer
Tyres
Fluorescent tubes
Aerosol cans
Glass
Batteries
Waste cooking oil
Waste ELVS

See attached site plan D1 for sites of proposed waste storage.

Atlas Ireland obtained ISO 14001 certification in June 2001. As part of this Environmental Management System there is an Emergency Response plan operational at the site, which provides for minimizing of the environmental impact of any emergency situation which could potentially occur on the Atlas site.

In addition to the environmental management system procedures, there are a number of controls in place on the site which ensure that the potential environmental impact of any emergency on the environment is minimised as follows;

- Back-up generator capable of powering the entire site (450 KVA) which automatically operates in the event of a power failure;
- Secondary Containment on all tanks containing materials other than fire water;
- Boiler temperature control, pressure relief valve and remote alarm system;
- Tank heater set point temperature controller with electronic (SCADA) back up;
- Electronic tank gauges with high level alarms and Hi-hi level overfill prevention systems (SCADA).
- The surface water discharge is alarmed for the presence of oil. The discharge will automatically be stopped once free phase oil is detected.
- Daily checks and routine maintenance carried out on equipment.
- The Fire Brigade have inspected the facility and provided with site plans detailing location of Fire hydrants, foam generating equipment etc.
- A Fire Water Retention study has been carried out and previously been agreed with the Agency under IPC licensing.

All activities are covered by these control measures plus additional control measures which specific to the individual processes and will be put in place as they develop.
The following table details the waste streams, the throughput of the wastes on site and the control measures for each process.

Table D2 (ii) 1 List of Control measures

Process	Throughput on site	Control measures
1.Waste oil	25,000 tonnes	1. Control of the system via the Scada system allows the monitoring of processing automatically. 2. All process tanks are within contained areas. 3. All waste oils accepted on site are subject to waste acceptance procedures. 4. Procedures for processing waste oil are documented under the environmental management system
2. Used filters	10 m^3 skips (2) of metal filters	1. Acceptance of used filters are subject to waste acceptance procedures and visual inspections by both the collection operatives and yard operatives to ensure there is no material in the waste which cannot be processed and which may be problematic to crushing etc. 2. Finished bales are left to drain on the conveyor to allow maximum drainage of oil.
3. Soil	18,000 tones	1. Waste soil for remediation will not be accepted on site unless it fits with the criteria already specified in the waste acceptance procedure. 2. Soil at all times is stored and processed on sealed areas. 3. All storage areas are drained and are diverted to the under ground interceptor on site. 4. Soil is not removed from the treatment pad until sample analysis meets approval of the Agency.
4. Oily wastes, greases and sludges	150 tonne	1. All sludges are stored in segregated sealed areas while on site. 2. All wastes are stored in UN approved containers until such time as they are ready for removal off site. 3. All wastes are subject waste acceptance procedures and visual inspections.
5. Blending/reconditioning of acids/bases	10 m^3 of acids 10 m^3 of bases	1. Acids/Bases will be stored on fully sealed bunded areas. 2. Acceptance of acid and base acceptance will be subject to site waste acceptance procedure. 3.All acids/bases will be stored in appropriate plastic containers
6. Batteries	10 large battery boxes (≈750 kg) ,10 small battery boxes. (≈ 350 kg)	1.Batteries will be stored in sealed plastic battery boxes at all times. 2.Battery boxes at all times will be stored on sealed areas in the event of accidental spillage. 3. Batteries will be stored in a designated segregated storage area.
7. Sludge	40,000 litre	1.Only pre-approved sludge will be accepted on site as per waste acceptance procedure.

		2.All sludge accepted on site will be held in a sealed hopper area with level controls and stored in cool conditions prior to drying. 3.The process is fully enclosed to reduce the generation of odours. 4.The loading of dried sludge will be carried out in a fully enclosed area. 5.A biofilter will be fitted to the processing unit to eliminate odour generation. 6.An automatic negative ventilation will be applied to the sealed underground area to prevent release of fugitive odour. 7. Operation of sludge dryer will be continuous while processing to prevent standing of sludge for long periods.
8. Mixed fuels	30,000 litres	1. Mixed fuels will be stored in double sealed tanks. 2. Tank levels will be monitored by electronic gauges to avoid overspill.
9. Glass, Windscreen washer,	Glass-10 m^3 skips (2) Windscreen washer- 1000l IBC (3)	1.No processing of these wastes will take place on site. Glass will be stored in sealed skips. Both Windscreen washer and glass will be bulk stored until there is sufficient quantity for removal off site. 2.Acceptance of wastes on site will be as per agreed waste acceptance procedure.
10 Brakefluids, Antifreeze	Brakefluids- (24) 1000l IBCs Antifreeze- (24) 1000l IBCs	1. Both Brakefluids and Antifreezes will be accepted on site in accordance with the relevant waste acceptance procedure.
11. ELVs.	20 vehicles	1. Stored on a fully sealed area.
12. Solvents	30,000 litres	1.Solvents will be accepted as per waste acceptance procedure. 2. Solvents will be stored in certified double contained tanks with steel constructed.
13. Fluorescent tubes	≈ 600 m^3	1.Storage will be in upright containers to prevent breakage in transit and storage on site. 2.If processing of fluorescent tubes occurs on site will be carried out in a fully contained unit to prevent flyaway material escaping. Water is applied once the unit has been closed to prevent any dust generation. All water will be collected and disposed by an agreed disposal route.
14. Aerosols	10 m^3 of aerosols	1. Any gases will be passed through a carbon filter to minimise leakage of gases. 2. Storage will be in sealed skips.
16. WEEE	≈ 60 tonne	1. Stored in a dry segregated area.
17. Tyres	≈ 100 tonne	1. Stored in a segregated area.

Note: The figures given above are variable and are dependant on the development of markets.

(iii) Management and Maintenance plans

All the above processes will be carried out in accordance with existing Management and Maintenance procedures which exist on site as part of the environmental management system. Operations are managed by

- SOP1- The assessment of new environmental aspects and impacts on site,
- SOP3 – The establishment of Objectives and targets as result of maintenance of the new aspects and impacts and the implementation of the preventative schedule as new requirements are demanded.

New procedures will be put in place where new operations are being conducted on site. All processes will be subject to risk assessments and where deemed necessary the appropriate actions carried out.

(iv) Management of emissions.

The proposed activities on site will not significantly add to the existing emissions. The only additional processing operations on site will be the following

- **sludge drying;** Emissions from which will be fugitive,
- **Shredding of tyres;** Will generate noise which will be carried out in suitably housed unit to prevent disturbance of noise to the surrounding area,
- **Dismantling of fluorescent tubes;** Will be carried out in a fully enclosed unit to prevent any emissions,
- **Aerosol processing;** Will be carried out in a fully contained unit. Any air emissions from the puncturing of the aerosols will be filtered through a carbon filter.
- **The blending /re-conditioning of acids/bases.** There will not be any significant emissions from the fixing of acids/bases.

The remaining proposed activities are using the site as a transfer station for onward treatment/disposal.

Existing activities on site result in emissions to the surface water, sewer and emissions to the atmosphere from the boiler. All existing emissions are covered in the Atlas IPC license. There will be no direct emissions from the proposed processing activities. In the event of a loss of power or a plant failure Atlas will not accept any further waste until a through put can be re-established therefore there will be no build up of waste on site.

(v) Laboratory Facilities

Analysis carried out by the Laboratory in Atlas are mainly requirements of the IPC licence which include the following:

- Monitoring of emissions to sewer
- Monitoring progress of oil recovery process
- Analysis of reprocessed oil quality and
- Surface water discharge

Analysis is also carried out on unknown samples, which may be accepted depending on analysis findings. Oil coming on site is tested for water content for processing purposes. If a sample of oil is thought to be different to a normal sample it can also be tested at the discretion of the collector or the laboratory

The role of the laboratory will expand over time as the waste accepted on site is broadened and new waste acceptance procedures are developed. Where new waste streams are coming on site they will be subject to sampling and analysis where appropriate and as approved by the Agency.

The laboratory also carries out similar waste oil analysis for Atlas N.I. and EMO Oil.
New procedures will be put in place in accordance with the documentation control procedure as laid out in the EMS.

An external laboratory is used to quantify levels of contamination within soils for treatment. The Laboratory is ILAB accredited.

The following table lists the equipment used by the Atlas Ireland laboratory for carrying out various quality and environmental analysis.

Item Description	Manufacturer	Model
Gas chromatographer fid/ecd detector	Varian	3800
Atomic Absorption	Varian	220
Hach	Hach	dr/2010
Hach reactor	Hach	45600
XRF	Asoma	200t
Muffle furnace	Carbolite	eaf 11/6
Karl Fischer	Mettler toledo	dl18
Flash point tester	Stanhope seta	13661-0
Viscosity bath	Grant	n/a
Distillation apparatus oil	Stanhope seta	n/a

Smoke point apparatus	Stanhope seta	n/a
Micro hammer mill	Glen Creston	14-680
Ultra sonic bath	Ultrawave ltd	u175od
ph meter	Jenway	3320
Satorius balance	Satorius	bp221s
Centrifuge	Jouan	b4i
Electro mantle	Electrothermal	ema0500/ce
Oven	WTC binder	n/a
Vacuum pump	knf labort	n 810.3 ft18

(vi) Atlas Site History

Atlas Ireland (formerly known as Atlas Oil) are part of the DCC Energy division of the publicly quoted company DCC. Atlas have been involved in the provision of environmental services to Irish Industry for over 25 years.

Atlas Ireland currently provide the following services:

- Contract Services
- Industrial and Automotive Supplies and Services
- Soil Treatment
- 24 Hr emergency response service
- Waste water treatment systems

Atlas Ireland initially started as a processor of waste oil, which began in 1977, since then the business has progressed with the development of additional aspects to the oil recycling/disposal industry. Tank cleaning services have been carried out by Atlas since early 1980s. Tank cleaning involves the cleaning and desludging of tanks, cleaning and skimming of interceptors and as a general progression from cleaning controlled oil containers, to the cleaning up of oil related spills and the eventual development of a fully established 24 hour emergency response service.

The remaining development of the business has taken place over the last 5-7 years. As waste management legislation demanded more requirements on industry to recycle/reuse rather than dispose and take more vigilant care with environmental issues it has led to a development in the market to find the best route of disposal or recovery for waste. It is with this in mind that Atlas initiated collection of used filters from various garages, body shops and industry, these filters are crushed on site with the excess oil going for processing and the metal being recovered off-site. To add to this service the collection of oily rags and waste was also incorporated into the collection system, which has provided a disposal route of such wastes for our existing customers. Oily rags and waste is

returned to Atlas and re-packaged in UN approved drums and shipped to Germany in accordance with TFS regulations (Council Regulation (259/93))

The provision of soil remediation services commenced in 2000 with the construction of the first soil pad on site for treatment of contaminated soil. The volume of soil accepted by Atlas has grown considerably in the last two years and has resulted in the construction of three further soil pads to allow an increase in capacity on site.

Atlas Ireland were granted an IPC license from the EPA in 1999 (IPC licence 472). Accreditation to the international environmental standard ISO 14001 was achieved in 2001. All developments on site in Atlas existing and proposed are referred to in Section B of the application.