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Case Study

Auto Recycler Adopts Environmentally Friendly Practices

Summary:

Automobile salvage yards can play a positive role in protecting the environment by reusing and recycling automobile liquids and parts. Many automobile salvage yards in Utah are not evacuating and properly containing fluids and wastes for reuse or recycling before the vehicle is salvaged for parts. As a result, releases of hazardous materials into the environment are common at these businesses.

Tear A Part, a business located in Salt Lake City, Utah, is working to improve environmental issues within their industry by transitioning from an automobile salvage yard to an auto recycling facility.

Background:

The Mantas family, who had the idea of implementing environmentally sound practices, while turning a profit, opened Tear A Part in February 2002.

Tear A Part processes an average of 1,000 vehicles per month using a



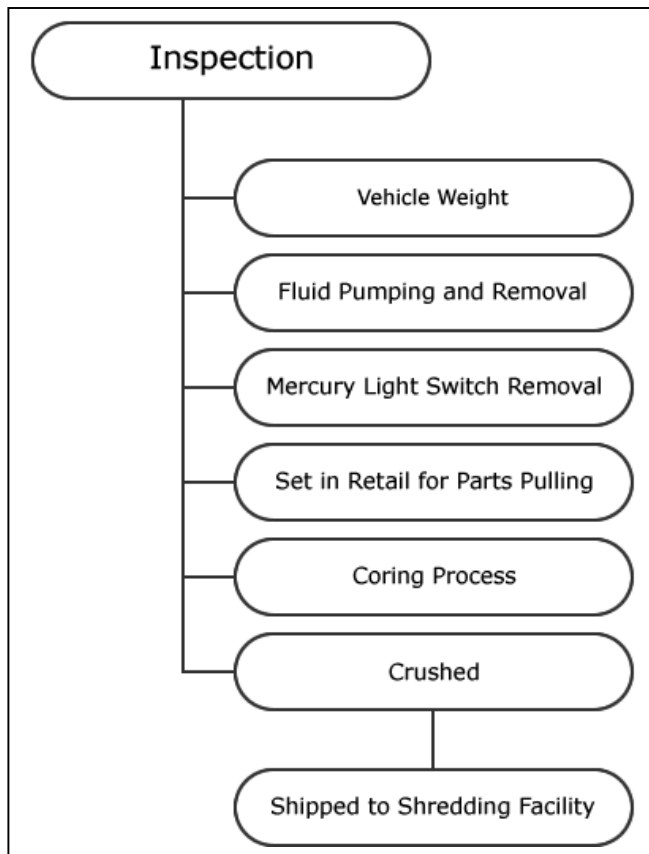
process that properly removes and contains all of the vehicle fluids, lead acid batteries, tires, mercury switches, and other hazardous materials prior to crushing. Tear A Part employs 18 well-trained employees.

Reuse/Recycling Process:

Incoming vehicles are placed on a fluid recovery rack. Tear A Part uses a rotating drainage rack system that processes two vehicles at one time. All of the vehicle fluids are pumped into dedicated recovery tanks. Other hazardous waste materials are removed and properly contained before the vehicle is stored in the yard for parts removal. The fluid and waste removal process takes approximately 8 ½ minutes per vehicle.

Tear A Part places a priority on **reusing** (requires no additional processing) as many of the vehicle fluids and parts as possible followed by **recycling** (requires processing) wastes. Mercury switches are recovered for proper disposal. Vehicle wastes are either used on site or packaged for resale to the public at the retail store located on site.

Process Flow Chart:



Vehicle fluids are properly recovered from all incoming vehicles.



Vehicle fluids are then contained in dedicated recovery tanks.

Tear A Part's Main Waste Streams:

Refrigerant ~1 ½ lbs/vehicle
 (Captured and sent for reclamation by an EPA-certified technician using EPA-approved equipment)

Antifreeze ~1 ½ - 2 gals/vehicle
 (Recycled and reused on site or sold to public)

Used Oil	~4 - 5 qt/vehicle
Brake Fluid	~1-2 pints/vehicle
Power Steering Fluid	~1-2 pints/vehicle
Transmission Oil	up to 5 - 7 qt/vehicle
Gear Oil	~ 2 qt/vehicle

If not contaminated, all of the above fluids are mixed and used to heat buildings using approved oil burning equipment. Excess oil is sold to a local recycler.

Fuels (gas, diesel) ~5-10 gals/vehicle
 (Reused on site or given to public)

Mercury ~2 lights/vehicle
 (Disposed of at licensed facility)

Oil Filters ~1 pint/vehicle
 (Must be punctured/gravity drained for 12 hrs. and then recycled)

Scrap Metal
 (Sold to local processing facility)

Tires
 (Sold for reuse; when necessary sold to recycler)

Lead Acid Batteries ~16 - 20 lbs/bat.
 (Sold for reuse or sold to recycling facility)

The fluid recovery area is concrete with a floor drain. Wastewater is collected in a cement vault with an oil separator. Oil from the separator is sold to a recycler and the wastewater is sent to a wastewater treatment facility.

Equipment Costs:

Two Vehicle Rotating Drainage Rack System with fluid extraction system (Single car system can be purchased for \$20,000 or built for approximately \$1,000 excluding fluid extraction system)	\$200,000
Fork Lift	25,000
Hand Tools	\$5,000



Two vehicle rotating drainage rack system with built-in fluid extraction system.



Single car drainage rack without built-in fluid extraction system.

Economic Benefits:

Tear A Part recovers the labor costs of removing and storing vehicle fluids and parts by either reusing products on site, selling to customers at the retail store located on site, or selling to recyclers.

Antifreeze	Filtered and reused on site or sold in retail store
Fluids (used oil, transmission and gear oil; brake and power steering fluid)	If not contaminated, fluids are mixed and used to heat buildings using approved oil burning equipment. Excess oil is sold to a recycler.
Fuels (gas/diesel)	Filtered and reused in the yard machinery or given to public.
Lead Acid Batteries	Reusable batteries are sold to public. Others are sold to recyclers. Customers are charged a "core" fee unless the old battery is exchanged at the same time.
Parts (transmissions, catalytic converters, engine cores)	Sold to recycler.
Refrigerant	Sold to recycler.
Scrap Metal	Sold to recycler.
Tires	Sold to public or sold to recycler.
Windshield Wiper Fluid	Filtered and reused on site or sold to public.

Environmental Benefits:

The environmental benefits from properly removing and containing vehicle fluids and parts are huge. Ground and surface water contamination is minimized since vehicle fluids are not deposited on the ground. Mercury from light switches and lead from lead-acid batteries is not released into the air or water, and refrigerant from air conditioning units is not released into the atmosphere.