Environment

Deborah Flemming, Environmental Technician at Snap Lake Mine, Prepares water samples for testing.

The company Environmental Policy is available at www.debeerscanada.com in several languages. Both mines and the exploration division have Environmental Management Systems that are certified to ISO 14001:2004. Part of the Management System requirements include training and awareness plans being in place, and implemented. All new hires undergo environmental awareness training. More specific training related to their job and the environmental risk is provided where appropriate according to a training matrix that forms part of the individual environmental management system.

Mandatory cross cultural training helps employees and contractors understand the value of the land to communities close by.

Environment Continued

Table 5-1 Environmental performance during 2009,

Metric	Milestone	Snap Lake	Victor	Gahcho Kúe	Exploration	De Beers Canada 2009	De Beers Canada 2008
Major Incidents1	0	0	0	0	0	0	0
Moderate Incidents2	0	1	0	0	0	1	0
Minor Incidents3	200	111	109	0	5	225	224
AEIFR4	16.2	23.1	20.7	0	17.1	20.5	–

Legend

1 Major Incident: A reportable environmental incident associated with widespread, long-tem, irreversible negative ecological or social impacts with a high risk of legal liability: also contains all of the following aspects: complete disruption of natural systems, high degree of irreversibility (>5 years), non-compliant with legislation and high likelihood of prosecution, significant negative public perception, and reportable to the authorities in terms of relevant legislation.

2 Moderate Incident: An incident associated with a widespread or localized, medium-term, reversible significant ecological or social impact and/or has a risk of legal liability: also contains all of the following aspects: an impact on the natural system, reversible impact within 5 years, non-compliant with legislation, reasonable likelihood of prosecution, potentially negative public perception, incidents likely to be reportable to the authorities in terms of legislation.

3 Minor Incident: An incident limited to the immediate area of occurrence associated with a short-term ecological disturbance or environmental nuisance or a transgression of an internal standard including complaints from interested and affected parties): also is entirely reversible impact after once-off intervention, limited impact on natural system, non-compliant with legislation but a low likelihood of prosecution, insignificant or no negative public perception.

4 AEIFR: All Environmental Incident Frequency Rate

Table 5-2 Frequency vs size in litres for hydrocarbon spills during 2009

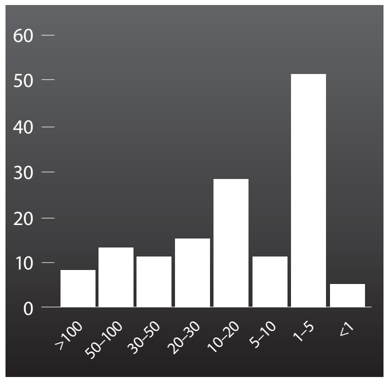
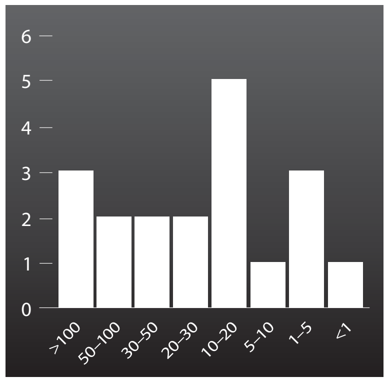


Table 5-3 Frequency vs size in litres of antifreeze spills during 2009



The product, rough diamonds, is not packaged individually. They are sealed in polythene packets containing a number of diamonds from a single size category and the packets are placed in metal containers that are sealed and shipped to the client. The metal containers are returned to the mines for re-use, while the polythene packages are handled under the client's recycling program.

Environment at Snap Lake

The Snap Lake Mine is situated within the barrenlands of the NWT. This is an extensive tundra landscape with till sheets, extensive boulder fields (felsenmeer) and outcrops of gneisses, metavocanics and granites. There is some exploration in the region around the mine by third parties outside the lease area to explore for minerals. There is currently no exploration within the Snap Lake lease area. There are no other operations or planned operations within a protected or sensitive area. There are no International Union for Conservation of Nature (IUCN) Red List species or habitats in the immediate vicinity of the Snap Lake Mine.

There were no incidents of non-compliance with any applicable international declarations, conventions or treaties, national, regional or local regulations associated with environmental issues. There was a non-compliance issue around the storage of ammonia nitrate at the Snap Lake Mine. However, this was brought into compliance even through the mine shut down in the summer of 2009.

The totals for materials used at Snap Lake during 2009 are summarised in Table 5-4.

No materials were used that were either processed or unprocessed wastes from sources external to De Beers Canada.

Energy use for Snap Lake totalled 51,783,755 KWh, and all of this was direct energy from diesel generation on site.

Environment at Victor

The Victor Mine is situated within the James Bay Lowlands, an area of extensive wetlands or muskeg. There is some exploration in the area around the mine exploring for, and evaluating, adjacent kimberlites for possible resources to extend the life of the mine. There are no other operations or planned operations within a protected or sensitive area. There are no IUCN Red List species or habitats in the immediate vicinity of the Victor Mine.

No materials were used that were either processed or unprocessed wastes from sources external to De Beers Canada.

There were no significant spills of chemicals, oils or fuels during 2009. There were 109 minor spills, and no moderate or major spills.

Table 5-4 Snap Lake Mine material usage, 2009

Material	Unit	Amount	How measured
Ferrosilicon	tonnes	156	Direct reading
Oils & hydraulic fluids	litres	137,921	Direct reading
Grease	kgs	8,650	Estimated
Sulphuric acid	litres	16,440	Direct reading
Oxygen	m^3	738.3	Direct reading
Argon	m^3	400.76	Direct reading
Nitrogen	m^3	84.6	Direct reading
Cleaning solvent	litres	1640	Direct reading
Degreaser	kg	21.5	Estimated

There were no incidents of non-compliance with any applicable international declarations, conventions or treaties, national, regulations associated with environmental issues, but there were three non-compliances at Victor during the year. One related to the extraction of more water than permitted by an approval during the construction of a seasonal ice road during the winter; one related to the failure to collect one monthly sample for a mercury from final discharge because of a miscommunication between work crews and a failure of internal checks, and the third incident related to the inability to meet point-of-emission standards for the incinerator due to carry over of particulates in fine droplets / mist form from the wet scrubber. Most of these are sodium and potassium salts that formed within the incinerator itself. The manufacturer and the team at site are continuing to work to address this problem.

Strategy

The overarching environmental strategy remains to work in a responsible manner, using the precautionary principle and adaptive management techniques to:

- minimize negative impacts
- prevent adverse environmental effects, including preventing pollution,
- protect and enhance biodiversity where we work, and
- manage energy consumption and minimize greenhouse gas emissions to reduce the negative impact on climate.

Water use is to be minimized and recycling maximized: material use is to be to be minimized and wherever practical, reuse and recycling is encouraged. Waste production is to be managed and production of wastes reduced where practical; hazardous wastes are to be managed appropriately and disposed of in accordance with legislation and good operating practices. Legal compliance with legislation is imperative.

Both of the mines operated by De Beers Canada are remote, with seasonal access by road for usually less than 60 days. The short time for access and the distance to recycling depots make it challenging to recycle many materials. All hazardous wastes are removed from the sites for disposal at licensed hazardous waste disposal sites.

The largest volumes of wastes produced are waste rock from the mining and processed kimberlite material in the form of coarse sand to gravel sized particles, and a fine sand-sludge. Transport costs from the mine site to other potential users preclude reuse of this material. Where practical, inert waste rock may be crushed and used as aggregate or fill for construction and road building locally.

Management systems are used to manage and control our approach to the environment. Risks are regularly assessed and reviewed, and are used in identifying environmental management plans. Traditional ecological knowledge is gathered in collaboration with affected communities and combined with 'western science' to reach optimal management plan design.

Biodiversity

The current activities do not endanger the biodiversity of the mine areas significantly because each of the two mine areas is a small part of a much larger biodiversity region. Currently two specific biodiversity management plans are in place and biodiversity is addressed through the general environmental management plans rather than through separate specific plans. Plans for monitoring caribou migration are in place and are being followed at both mines, and should any impacts on migration patterns be noted, this would be addressed through adaptive management plans. Collaboration with environmental groups on protection, especially with regards to caribou continues. A more detailed biodiversity action plan will be prepared during 2010.

Biodiversity plans for Victor include several foci. First is for the monitoring and assessment of caribou in the Victor mine study area to determine the effect, if any, that the project may have. This monitoring and assessment work is being performed by a combination of mine personnel, consultants, government and First Nations. A helpful tool in understanding the caribou migration patterns is the use of radio collars to provide radio telemetry tracking.

The second area of focus is the use of only native plant species in revegetation of the site, and the exclusion of imported noxious weeds. A revegetation research program is underway, in cooperation with Laurentian University and is funded in part by Natural Science and Engineering Research Council grants. This research is identifying plants, ecological structure, propagation potential and revegetation techniques. The site environmental management system procedures prohibit the use of agricultural seeds, straw and the like for revegetation and slope stablization.

Another area of environmental research is the muskeg. This program is being undertaken by a consortium from the universities of Waterloo, Toronto and Queen's. The program will evaluate the regional connectivity between the upper and lower aquifer systems through the clay and bioherm formations in the project area. The research will quantify changes to the peatland hydrology caused by dewatering of the Victor mine pit. At the same time the mercury mechanisms in the peatlands will be investigated. This peatland and muskeg program is a five-year program started in August 2007 and due for completion in July 2012. It is expected to cost about $2,000,000 over the five year period. Peatland research is also being undertaken by Laurentian University, and this program is to develop practical, cost effective techniques for the reclamation of disturbed peatland. This is a three year program that began in July 2007 and is due to be completed in September 2010.

A crew from the Victor Mine conduct a fish study in the Attawapiskat River.

Energy and climate
Energy use and management surveys have been undertaken at Snap Lake and are scheduled for Victor. One outcome of the Snap Lake survey is a wind generation pilot project to establish the feasibility of using wind power to reduce the amount of energy needing to be produced by diesel-fired generators and thus reducing emissions.

Other studies planned include the possible use of ground source heat from the mine dewatering at both mines to supplement seasonal heating and cooling, and the use of waste heat from compressors underground. Waste heat from the Snap Lake generators is already re-used.

Steps to manage and reduce emissions from mobile and static equipment are also under review.

Materials initiatives at Victor are focused on reduction in ferrosilicon consumption.

Greenhouse gases
Greenhouse gas emissions were created by the on-site diesel generation of electricity, from the earthmoving and light vehicle fleet, and from incineration.

Using the World Resource Institute "Scope 1" parameters for direct greenhouse gas emissions, it is estimated that the CO_2e for all activities at the Snap Lake Mine totalled 70,888 tonnes, all of which were direct emissions. NOx emissions are estimated at 2,705 tonnes CO_2 equivalent, which are included in the above total.

At the Victor Mine CO_2 equivalent emissions totalled 45,403 tonnes, of which 26,734 tonnes were direct emissions and 18,663 tonnes were indirect. NOx emissions are estimated at 312 tonnes of CO_2 equivalent which are included in the direct emissions total above.

At both mines, the only use of ozone-depleting substances during 2009 was in kitchen coolers and fire extinguishers. No emissions took place.

Water management
Water is essential to the health and wellbeing of everything on the planet. Therefore at both sites, waste water from mine dewatering requires careful management.

Water management falls into several categories:
(i) water produced by dewatering of the mine workings;
(ii) disposal of water from mine dewatering, which may require pre-treatment prior to discharge to bring the outflow to an acceptable quality level;
(iii) supply of potable water;
(iv) disposal of 'grey water';
(v) supply of water for the process plant (including recycling);
(vi) disposal of process water (including recycling), and in the case of Victor;
(vii) supply of supplementary water to existing waterways to ensure that they are not adversely affected by the mine dewatering activities.

Total water use for mining operations and exploration totalled 33,572,417 m^3 excluding the recycled water (1,903,588 m^3 [5.7 per cent]).

Energy Efficiency: SkyPower – Background:

Exploring energy efficiencies that have the potential to drive savings in fuel consumption is what lies behind the Snap Lake Wind Power Research Project with Sky Power.

De Beers entered into a Memorandum of Understanding with Sky Power in 2008 to investigate the feasibility of wind power generation. This required the construction of two 60-metre-high meteorological towers (weather stations) at the mine, as well as the collection and monitoring of weather data over the next year. It was believed that a wind farm capable of satisfying the base load for mining operations, could reduce diesel consumption by close to 6 million litres a year saving $43.5 million dollars over the life of the mine at 2009 fuel prices.

The wind farm itself would consist of a number of towers, each approximately 80 metres in height (120 metres to the top of the highest blade) and each capable of generating 1.25 Megawatts of electricity at 100% efficiency.

Construction of the two weather station towers was completed in 2008, and data collection began in October 2008

The mine has now collected 14 months of data, and data collection continues. This data is uploaded via satellite to the Sky Power wind engineers and scientists in Toronto for analysis.

Initial wind data was promising and supported the viability of a wind generation project. In September 2009 De Beers and Sky Power launched a feasibility study. This is currently underway and will be completed in July, 2010.

The project team is reviewing a number of options relating to the supply of base load power at Snap Lake from renewable sources, including available options for a hydro-electricity power line into site.

The buildings at Snap Lake are heated primarily using glycol warmed by waste heat. The mine seeks to recover the maximum amount of waste heat from the diesel generators in order to reduce the load on the diesel-fired glycol heaters. This is done through the use of heat exchangers which remove the heat from the engine coolant, transferring it to the glycol. As an initial experiment, one exchanger (out of the four) was increased in size. This increase in-turn improved the ability of the exchanger to recover heat by an estimated 30 per cent. We have now received the additional parts required in order to increase the size of the other three exchangers and are preparing to complete the work. It is expected that the additional heat recovery capability of the exchangers will reduce or eliminate the need to use the diesel fired boilers to support our building heating needs, which could reduce our diesel fuel consumption by 800,000 to 1 million litres per year.

It is expected that the additional exchanger plates will be installed in the second quarter of 2010.

The reduction in production at the Snap Lake Mine during 2009 resulting from the economic downturn, also contributed to reducing the site's energy and fuel consumption.

Throughout 2009, De Beers Canada and the Snap Lake Mine endeavoured to implement the Mining Association's Towards Sustainable Mining (TSM) protocols, which include energy and greenhouse gas emissions management. Based upon the metrics established as part of the TSM, the Snap Lake Mine took positive steps towards meeting the requirements of the program.

The key focus areas, were those of improved data tracking and an increased awareness of energy use and GHG generation among the general site population at the mine The intent is to better enable Snap Lake to make the incremental changes needed to improve our management of GHG and energy. This will be further supported by the newly formed Energy and GHG Management Committee which met for the first time in March 2010.

We continuously promote awareness about reducing our consumption of fuel by, for example, reducing idle time on vehicles, reducing the distances that equipment must haul rock and by parking or decommissioning redundant equipment.

Energy use for Victor totalled 84,860,272 KWh. This was all drawn from the national grid. In addition, emergency power was generated by on-site diesel generators when the grid power was temporarily unavailable for several hours. Greenhouse gas emissions for this emergency power generation are captured through the figures for the consumption of diesel fuel. It is assumed that all of the grid power was generated by the Otter Rapids hydro-electric station.

The portion of the new transmission line from Moosonee to Kashechewan was finally commissioned in November 2009.

Environment Continued

Table 5-5 Water use for mining operations - Snap Lake Mine

	m³	How measured	Source
Mine dewatering	6,220,097	Direct reading	Mine
Potable water (treated)	6,830	Direct reading	Snap Lake
Recycled water (processing)	163,048 (2.6%)	Direct reading	Water Treatment Plant (WTP)
Non-potable water	309,232	Excludes water from dewatering	Seepage from sumps at the North Pile, pits, sumps at the ammonium nitrate storage, airport, fuel berms and similar sites) pumped to the Water Treatment Pond and then to the WTP treatment and discharge.

Snap Lake Mine:

Total water use for mining operations is shown in Table 5-5.

The water management system at Snap Lake is designed to collect, transport, treat and discharge both surface and underground water. Mine water is pumped from multiple collection sumps underground, through pipelines which bring the water to surface into the water treatment plant (WTP). There, it is treated to the required standard before release to Snap Lake.

Some of the mine water arriving in the WTP is recycled for use in the main process plant, or is used for surface dust control and concrete production. Water is also used to transport fine processed kimberlite to the North Pile (deposition cell on surface). All water from the deposition cell and all surface runoff is collected and transported to a water management pond, which is later treated in the WTP before being discharged to Snap Lake.

Fresh water is withdrawn from Snap Lake at a pump-house for potable water use in the camp/accommodations. The water is treated to meet health guidelines for human consumption. Sewage and 'gray water' from the camp is treated in one of the sewage treatment plants on-site to meet the required standards.

Regular sampling of water occurs at points within the water management system and at adjacent water courses throughout the year. De Beers is currently in compliance with regulated limits.

Victor Mine:

Total water use for mining operations is shown in Table 5-7.

Dewatering water from a well field around the open pit is discharged to the Attawapiskat River. Studies for the Environmental Assessment indicated that mixing and dilution occurred in the receiving body within 150 metres of the discharge point. Process water was discharged to the central quarry and then discharged to the first cell of the processed kimberlite containment facility in February 2009. This facility consists of a series of storage cells, each surrounded by a compact coarse processed kimberlite retaining wall or berm. Water from these cells is directed to the old central quarry and is recycled. The overflow from the containment cells and the central quarry drains through the muskeg which traps any remaining fine solids prior to discharge into adjacent creeks during non-frozen periods of the year. During winter excess water is discharged to the Attawapiskat River in accordance with environmental permits. Regular sampling of adjacent water courses throughout the year has not shown any unpredicted anomalies and total suspended solids and effluent quality has been as anticipated.

At Victor, NGOs had raised concerns about mercury from dewatering muskeg (from methyl mercury) polluting the potable water supply and the food chain through disposal into the Attawapiskat River system – where there is already a naturally high level of mercury. This issue was considered extensively during the mine's federal environmental assessment and was found not to be a significant impact. Nevertheless, further studies continue to be undertaken in conjunction with experts from AMEC Earth & Environmental, the University of Waterloo, Queen's University, and the University of Toronto to obtain additional data for additional assurance. Early results continue to support the environmental assessment findings, however the full results for this study will not be available until 2013 as this is a five-year program.

Stronger concerns were raised about peat decomposition in 'dewatered areas' and the potential for the release of increased amounts of methyl mercury. In response to these concerns, and based on updated hydrogeological modelling, predictions of expected rates of increased total and methyl mercury were developed by our environmental consultants (AMEC Earth & Environmental) and submitted as part of the permit application packages for the Ontario Ministry of the Environment for well field dewatering.

The most recent predications indicate only very slight increases in mercury release that would be difficult to detect within the context of natural background variation. The mercury concentration levels in the receiving waters are expected to continue to be well within federal and provincial water quality guidelines for the protection of aquatic life, consistent with the Comprehensive Study Report predictions

Materials and waste

Currently a detailed life-cycle assessment is not undertaken. Processes to improve the recyclability, material reuse, energy use and reduction of material and energy use are all reviewed on a regular basis, together with a review of the environmental impacts. Scientific research into rehabilitation, specifically for revegetation, is supported. Materials stewardship is thus in its early stages of development.

The largest waste stream is waste rock. Opportunities to reduce this appreciably are relatively small, and there are no realistic uses for these wastes as both mines are remote with only seasonal access and transport costs would be prohibitive. Nevertheless, enquiries were received during the year at Victor about the possible use of waste limestone rock for crushing to provide aggregate for the community of Attawapiskat. This opportunity is being examined, although the distance to the community (approximately 100 kms) would require a round trip of 200 kms. The economics for this are being considered by one of the entrepreneurs in the community.

During the environmental assessment, the nature of all overburden, rock, processed materials, tailings and sludges or residues was characterised, and the risks associated with these was assessed. Measures were put in place as part of each mine's environmental management system to manage these materials in a responsible manner and to minimize any residual risks associated with them. Ongoing monitoring of the materials during operations confirms whether or not actual operational results are as predicted. Adaptive management is used, in conjunction with consultation with affected communities and regulatory bodies, to adjust the mitiigation measures as required.

Waste

Data for materials, waste and water use at Victor Mine during 2009 are shown in Table 5-7 and 5-9, together with the destinations for these wastes.

Total amounts of waste created at Snap Lake Mine during 2009 are shown in Table 5-6, together with the destinations for these wastes.

Storage of waste rock and processed kimberlite

Storage facilities for processed kimberlite and waste rocks are designed in accordance with the Canadian Dam Association and the Mining Association of Canada recommendations. All storage facilities are subject to at least an annual inspection by a suitably qualified certified external geotechnical engineer, and slopes for retaining walls are monitored continually. During 2009, the first containment cell for processed kimberlite was constructed at Victor.

The potential for metal leaching was assessed during the environmental assessment for each mine. Where such potential is present, periodic monitoring is undertaken to compare actual conditions to these predictions. Results are reported to the regulatory bodies, and are included in an annual Environmental Report. Risks are higher at Snap Lake than Victor as the carbonate rocks at the latter providing a natural neutralizing buffering. Adaptive management would be used to adjust mitigation plans for any unpredicted adverse effects where necessary, though to date, results from this monitoring have been within the predicted range.

Rehabilitation

Snap Lake Mine

Lands owned, leased or managed for the Snap Lake Mine totalled 550 hectares. None of this total lies within a biodiversity-rich habitat. Table 5-10 shows any changes made to the total amount of land owned, leased or managed for production activities or extractive use.

Most of the land leased at Snap Lake is impermeable: the bedrock consists of gneisses, metavolcanics and granites which have very low permeabilities. These rock units are overlain by a sequence of glacial tills, and sands with variable permeabilities.

There were no significant spills of chemicals, oils or fuels during 2009. There were 111 minor spills and one moderate spill/incident in 2009.

Table 5-6 Waste created during 2009 - Snap Lake Mine

Waste	Amount	Destination
Non-hazardous waste (cubic metres)	360	Land fill
Liquid hazardous waste (litres)	255,420	Licensed hazardous waste disposal facility off-site
Wastes incinerated (cubic metres)	383	Incinerator on site
Toner cartridges (printer)	60	Returned to vendor

Table 5-7 Water use for mining operations - Victor Mine

	m³	How measured	Source
Mine dewatering	n/a	Included in Non-potable water figures	
Potable water	0		
Treated potable water	39,248	Treated on site	Well
Non-potable water excluding reused / recycled water	26,997,.010	Figure includes process plant use (taken from the Attawapiskat river), mine dewatering wells, surface water from around the mine, creek flow supplementation and ice road construction	Process plant supply is Attawapiskat River. Mine dewatering from perimeter well network. Surface water is diffuse seepage from muskeg, surface runoff & precipitation. Creek flow supplementation is from Attawapiskat River. Ice road water is taken from mine dewatering wells, the Attawapiskat River, Nayshkootayaow River, and various small un-named creeks.
Process water	n/a	Included in non-potable water.	
Recycled water (processing)	1,740.540 (6.4%)	All recycled from process plant	

There were no significant environmental impacts caused by the principle product, diamond, or by services related to the mine. Diamond is an inert and non-toxic form of carbon. Diamonds have many uses. The waste from diamond cutting and polishing is normally re-used in the drilling, cutting or polishing industries. Diamonds that are cut as gem stones are occasionally re-cut with the waste being re-used as above. Most gem and near-gem quality diamonds are used in jewellery and are reclaimable. Industrial quality diamonds are usually consumed during the industrial processes that use them. These processes make use of the physical properties of diamond (e.g. hardness, electrical and optical properties). There are no percentage figures available for the product that is reclaimable or reclaimed at the end its life.

Victor Mine

There was no change in the lands owned, leased or managed for the Victor Mine and these totalled 6,686 hectares, all of which lie within the James Bay Lowlands. These Lowlands are extensive areas of muskeg (peat lands) which were pristine prior to exploration and development. None of this total lies within a biodiversity-rich habitat. Table 5-11 shows any changes made to the total amount of land owned, leased or managed for production activities or extractive use. This total includes the freight handling yard in Moosonee.

None of the land leased at Victor is impermeable: the bedrock consists of dolomitic limestone and carbonates which have significant permeability. These rock units are overlain by a sequence of glacial clays, tills, sands and gravels with a low permeability overall. This glacial sediment package is overlain by a zone of waterlogged muskeg (peat) which is permeable.

As at Snap Lake, there were no significant environmental impacts caused by the principle product, diamond, or by services related to the mine.

Two summary reports under the Follow Up Program Agreement for Victor were produced in the first half of 2009 as required and compared predicted results with actual results for the 2006-2007 construction period and for 2008, the first year of operations. Observed impacts were all within the range predicted by the environmental assessment. Future reports will cover each calendar year. The Follow-Up Program Agreement report for 2009 is currently in preparation and should be issued before the end of June 2010.

Environmental legal compliance

At the Victor Mine in 2009 there was a non-compliance of the waste incinerator air emissions to provincial standards at point of emission due to particulates, though tests in 2009 were also elevated for dioxins/furans and lead. This source is very small and these parameters are far below point of impingement standards at the property line.

There was a non-compliance issue around the storage of ammonia nitrate at the Snap Lake Mine which was corrected during the summer of 2009.

One moderate incident was recorded at Snap Lake for non-compliance with the Federal Halocarbon Regulations. The regulations apply to cooling equipment that contains ozone depleting substances (kitchen coolers and air conditioning for the computer server room). During the inspection it was found that requirements for maintenance records and annual equipment leak testing were not met. This event was counted as an incident (versus "non-conformance") as it could not be confirmed that there was no release of halocarbons, and there was a potential for enforcement action and negative public perception. The root cause was determined to be poor change management during the handover of responsibility to De Beers during mine commissioning. A response outlining corrective actions was submitted to the inspector and no further enforcement action was taken. Corrective action consisted of performing a leak test to confirm integrity of the equipment, and implementing an operating procedure and maintenance records.

Table 5-8 Waste created during 2009

Material	Snap Lake	Victor	Exploration	Total
Aircraft fuel (Litres)	6,021	65,370	35,055	106,4662
Diesel (litres)	20,021,261	8,870,627	59,937	28,951,825
Electricity purchased (KWh)	0	85,970,638	130,246	96,100,884
Heavy fuel oil (Litres)	0	0	0	0
Intermediate fuel oil (litres)	0	0	22	22
LPG & liquid fossil-fuel gases (tonnes)	10	10	0	20
Natural gas & fossil-fuel gases (cubic metres)	0	0	18,864	18,864
Unleaded gasoline (petrol) (litres)	980	5,854	1660	8,494
Treated potable water (cubic metres)	6,830	39,248	0	56,078
Natural potable water (cubic metres)	0	0	0	0
Non-potable water including re-used / recycled water (cubic metres)		26,997,009	0	26,997,009
Re-used / recycled water (cubic metres)	23,505	1,740,540	0	1,764,045
Ferrosilicon – FeSi (tonnes)	156	279	0	435
Grease (kgs)	8,650	4,424	10	13,084
Hydrochloric acid (litres)	0		2	2
Oils & hydraulic fluid (litres)	137,921	106,815	84	244,820
Sulphuric acid (litres)	16,440	15	0	16,455
Nitric acid (litres)	0	30	0	30
Reused oil/grease (litres)	150,000	0	0	150,000
Cans sent for recycling (tonnes)	0.70	0	0.80	1.50
Cardboard/paper sent for recycling (tonnes)	0	0	10.65	10.65
Contaminated water (litres)	0	0	0	0
Drums sent for recycling/reuse (number)	0	0	2	0
Earthmoving tyres sent for recycling (number)	252	0	0	2
Electrical and electronic items sent for recycling/reuse (Kgs)	0	0	450	252
Glass sent for recycling (tonnes)	0	0	0.45	0.45
Lead acid batteries sent for recycling/reuse (number)	144	150	0	294
Light vehicle tyres sent for recycling (number)	298	0	0	298
Liquid hazardous waste (litres)	0	0	0	0
Non-hazardous waste to land-fill (cubic metres)	360	4,202	10	4,472
Plastic sent for recycling/reuse (tonnes)	0.50	0	1.15	1.65
Scrap metal sent for recycling (tonnes)	0	0	0	0
Solid hazardous waste (cubic metres)	0	46.8	0	46.8
Toner\Ink sent for recycling\reuse (number)	9	0	105	114
Used oil/grease sent for recycling/reuse (litres)	12,600	0	25	12,625
Waste incinerated (cubic metres)		217	0	600

No fines were incurred or paid for any environmental infraction during 2009

Environmental Incidents, Accidents and Near Hits

There were no major environmental incidents or accidents at either the Snap Lake or Victor Mines during 2009. There were 273 minor incidents and one moderate incident, all of which were reportable under environmental legislation. In each instance, spills were cleaned up effectively and completely, and there were no unauthorized discharges of contaminants to a water body.

Product lifecycle management is controlled by the end user of the product.

Table 5-9 Waste created during 2009 - Victor Mine

Waste	Amount	Destination
Non-potable water (m3)	26,997,009	Discharge to Attawapiskat River
Lead acid batteries (number)	150	Battery recycler
Non-hazardous waste to landfill (m3)	4,202	Landfill at site
Solid hazardous waste (m3)	46.8	Hazardous waste disposal facility off-site
Waste incinerated (m3)	217	Incinerated

Table 5-10 Summary of Lands owned, leased or managed for production activities or extractive use, Snap Lake Mine

Total land disturbed and not yet rehabilitated (opening balance) in hectares.	188.4
Total amount of land newly disturbed within the reporting period in hectares.	3.2
Total amount of land newly rehabilitated within the reporting period to the agreed upon end use in hectares.	0
Total amount of land disturbed and not yet rehabilitated (closing balance) in hectares.	188.4

Table 5-11 of Lands owned, leased or managed for production activities or extractive use, Victor Mine

Total land disturbed and not yet rehabilitated (opening balance) in hectares.	534
Total amount of land newly disturbed within the reporting period in hectares.	198.3
Total amount of land newly rehabilitated within the reporting period to the agreed upon end use in hectares.	0
Total amount of land disturbed and not yet rehabilitated (closing balance) in hectares.	732.3

Mine closure

Snap Lake Mine

As part of the environmental assessment of the Snap Lake Mine, the Mackenzie Valley Land and Water Board (MVLWB) considered estimates from both De Beers and the Department of Indian and Northern Affairs regarding the costs to close the mine and reclaim the land used by the mining operation. The MVLWB used that information to determine the amount of security that should be established for the Snap Lake Mine. The security amount for the Snap Lake Mine was set at $60,101,922. The determination of security is made so that as each phase of the project advances, De Beers is required to provide security equal to the reclamation liability of that phase. This way, the security on hand will always equal the reclamation liability of the Project at each phase. The MVLWB established that the security for the project should be paid by De Beers over 4 phases of the project. The payment schedule was developed to protect the public from unacceptable financial risk while ensuring fairness to De Beers. De Beers has met all of the MVLWB requirements for security. These funds set aside by De Beers are held by the Department of Indian and Northern Affairs. The MVLWB will consider reductions to the security requirements based on the demonstrated success of the measures De Beers takes toward reclamation objectives as the mine progresses. De Beers is updating its Closure and Reclamation Plan for Snap Lake in the summer of 2010 and will be inviting community input.

Victor Mine

Two closure plan scenarios have been considered for Victor. The first of these is a premature cessation of operations entailing removal of all infrastructure, land rehabilitation, pollution remediation, post-closure monitoring and aftercare, and also includes a contingency. A cost for closure under a premature cessation of activities was estimated at $25,550,000 in 2006 dollars. The second case is a closure cost for the end of operations (currently forecast to be in 2017). This forecast also covers removal of all infrastructure, land rehabilitation, pollution remediation, post-closure monitoring and aftercare, and also includes a contingency. The cost for closure was estimated at $42,840,000 in 2006 dollars. Financial assurance for the full cost of mine closure has been provided to the Ontario government as required by legislation. The next review and update of the Victor closure plan is underway in the first few months of 2010. Discussions on labour transition from operations to the post-closure state will start in 2010 with the affected communities, and will be included in the periodic closure plan updates as these transition plans are agreed.

Gahcho Kué Project

One closure plan is in place for Gahcho Kué, and the cost is estimated at $20,700,000 to remediate and close the current site and infrastructure.