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DIAMOND MINING AND SUSTAINABILITY AT DE BEERS' CANADIAN MINES

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De Beers operates two diamond mines in Canada, the Snap Lake Mine, Northwest Territories, and the Victor Mine, Ontario. Both mines are remote, and are served by a temporary ice road in winter for 60 days or less. For the remainder of the year, access is by air only. The bulk of the dry goods and fuel are transported to site over the winter road. Perishable goods and fragile articles are transported by air. All employees and contractors for both mines travel to and from the mines by air. At Snap Lake Mine, power is from diesel-fired generators, and waste heat is recovered and re-circulated for heating. Power for Victor Mine is drawn from the national electricity grid: standby diesel-fired generators are available if the power supply delivered via a transmission line is disrupted. This diesel-fired generation is sufficient to provide emergency power to keep the accommodation complex and de-watering pumps for the mine functioning. Studies were undertaken to determine the suitability of both mine sites for alternative power generation from wind or from solar sources. However, there is insufficient sunlight year-round to make solar energy a viable alternative at either site, and the studies for wind power indicate that this is not viable at Victor. Wind power studies at Snap Lake have been extended to determine whether there is adequate wind available because the first set of data was inconclusive.

Because mining involves the extraction of finite resources, the sustainability of a mine is

defined by the extent to which it can serve as a catalyst for benefits that extend well beyond the life of mine. The challenge in mining therefore, is to work with affected communities to utilise the value realised by a mining operation to assist affected communities to help them in realising their goals and aspirations. Both the Snap Lake and Victor mines commenced production in 2008, and each mine affects four separate groups (i.e. eight groups are affected). Four of these communities are remote fly-in villages, with seasonal road access using a winter ice road for less than two months a year, and fifth has access only by rail or by air, while the remaining three communities have all-season road access.

De Beers recognized early in the mine planning that it is important to incorporate sustainability into the planning cycle. One of the key tools used to help build and maintain a relationship with our main affected communities of interest is an impact benefit agreement (IBA). "Communities of interest" (COI) is the term used to refer to communities that are affected by mining in Canada in preference to the term "stakeholders." Those aboriginal groups affected by mining do not consider themselves to be "stakeholders" since they do not have a "stake" in the land: they consider themselves the custodians of the land for future generations. De Beers has concluded four IBAs with the four main groups for Snap Lake Mine, and three IBAs with the four main communities for Victor Mine. One



IBA for Victor Mine is with two related communities. There is also a Working Relationship Agreement with a fifth, lesser affected, community for Victor Mine. A second key tool is the use of company employees dedicated to implementation of the IBAs and the relationship with our main COI. These individuals work with the communities to build, strengthen and maintain our relationship and trust with our COI. Another significant contributor to success is the availability of allocated resources, such as people and funding, for both the company and communities to implement the agreements.

Employees for Snap Lake Mine are mostly drawn from surrounding communities and from the city of Yellowknife. These villages have populations of less than 1,500, while Yellowknife has a population of about 19,000. In all of these, about 70% of the population is under the age of 21. There is a history of mining in the region, which has had both positive and negative effects. One the one hand, it makes community engagement and recruitment easier because the groups are familiar with the practice of mining, on the other hand, they are also aware of the negative legacy issues historically associated with mining. At Victor Mine, the four nearby communities all have populations less than 3,000, while the city of Timmins has a population of 46,000. These communities have a similar age distribution to the NWT, but the closest communities around the Victor Mine do not have a history of mining, although Timmins itself has been a gold mining centre for about 100 years.

In the NWT, training is delivered through a series of initiatives. Pre-employment training is available through a number of initiatives, one of these being the Kimberlite Career and Technical Centre (KCTC – see www.ykctskctc.nt.ca accessed on 21 July 2011). The KCTC serves not only Snap Lake Mine, but also other diamond mines within the NWT. This “produces pre-trades ready students ... to allow students to have exposure, experience and experiment in the trades

(and) demonstrate the relationship between academics and hands on learning.” (KCTC website, op.cit). Mine-related courses include the construction trades, mechanics, robotics and welding. Another initiative involves the Mine Training Society (MTS – see www.minetraining.ca/index.php accessed 21 July 2011). The MTS is a non-profit society comprised of aboriginal, industry and government partners. Industry partners include BHP Billiton Diamonds Inc, Diavik Diamonds Inc and De Beers Canada Inc. MTS is involved in the screening, selection and placement of northerners in diamond mining jobs, and also building a legacy of education and awareness. A third initiative commences once an individual is employed by the mine and involves on-the-job training which applies to all employees. All employees undergo an orientation upon commencement of their employment. This includes general environmental, health and safety training, cross-cultural awareness, specific core competencies for their job and where applicable, first aid training as well as a site orientation. A further initiative applies to those meeting the entry criteria for apprenticeship training or management and supervisory training: these individuals are admitted to appropriate training subject to available spaces. Once an employee has acquired the skills necessary for a given position, continuing education is encouraged to increase abilities and to help the individual progress. An individual development plan is created and updated as part of an annual performance appraisal program.

At Victor Mine, slightly different initiatives are followed. Some pre-employment training is delivered through a training centre in Attawapiskat, as well as training available at colleges in Timmins and neighbouring centres because there is no direct equivalent to the KCTC or to the MTS in the region. Orientation upon hiring and training are very similar, the differences being that training at Snap Lake Mine relates to an underground mine, while that for Victor Mine



relates to an open pit mine. The majority of the training for both mines focuses on those skills based on identified needs at each mine that are transferable to other mines or other industries. This creates opportunities for an employee to develop sustainable skills that can serve him or her for life. In developing the individual training plans, the desires and aptitudes of the individual have to be incorporated. Ontario has a common core curriculum whereby participants are recognized as reaching national standards. Both mines offer the Ontario common core curriculum to enable those trained to have their skills recognized elsewhere.

Adult education is commencing at both mines, and is designed to improve the capabilities of those participating. At Snap Lake Mine, De Beers has established a Learning Centre to support workers participating in various training initiatives. The Learning Centre is staffed by two qualified Training Coordinators who provide support for employees taking a range of literacy, education and training programs and who teach a variety of programs. At Victor Mine, a similar program is run by the mine Training Department. One of the obstacles to further education is the difficulty in motivating employees to participate in learning opportunities after working a 12-hour shift. While De Beers does offer “time-for-time” for employees taking upgrading, it is considering other ways to support employees to pursue additional education and training on site. Some courses that are offered at the mines to employees have also been offered with mixed results in those local communities where there has been interest. In one case, an on-line financial management course was well received, while a management course was less successful than anticipated.

General education is also addressed through De Beers “Books in Homes” program. De Beers works closely with the schools in nearby COI in providing books to the children on an annual basis. In the NWT, staff travels to each of the communities with a plane load of books, set up a

book fair and the children and teachers browse and select three books of their choice courtesy of the company. At Victor, the children choose from titles selected by the teachers. The program is in its ninth year and feedback received from teachers indicates a significant improvement in literacy levels among the students: the students are reading more and have improved comprehension skills. More importantly, these books are taken home and shared with siblings and parents, therefore reinforcing the value of literacy. Where practical, books are purchased through a local bookstore. The Books in Homes program was recognized in 2009, receiving the ‘Northwest Territories Ministerial Award for Literacy.’

A basic knowledge of mining has been introduced for COI to Victor Mine by adoption of the “Mining Matters” program prepared by the Prospectors and Developers Association of Canada. As well as through a “Mining Ready” conference. This focuses on economic development targets for business readiness for the mining industry in the communities. This conference was sponsored in partnership with a number of other mining companies through an Aboriginal Resource Circle in the Northern Ontario region. There is no history of mining in the area, and this program helps raise the awareness of the students in the schools

Similarly, business opportunities for the delivery of goods and services exist for both mines. Preferential contracting opportunities are stipulated in the IBAs. In some instances, there are specific contracts that have been set aside for a particular community, and these have generally worked well. In several instances, these business opportunities have led to the community-owned business branching out and expanding its business to provide goods and services to other mines and industries. The total expenditure on business opportunities and contracts for the Snap Lake Mine from the commencement of construction in 2006 to the end of 2010 was Cdn\$1,536,811,365, of which Cdn\$1,077,774,946 (70%) was spent



with Northern businesses and within that, Cdn\$676,091,853 (63% - or 44% of the total) with Aboriginal-owned businesses. The comparable figures for the Victor Mine from the commencement of construction in 2006 to the end of 2010 total Cdn\$1,107,714,100, of which Cdn\$325,484,982 (29%) was spent with Aboriginal owned businesses

One of the obstacles for both mines is the limited capacity of many aboriginal communities, coupled with a long list of social and other local issues that demand the attention of the leadership and community members. Often mine-related issues are not a high priority for these communities. This in turn hampers the individual community's ability to participate and fulfil its commitments within the IBAs. The presence of the company's representatives in the community can often help mitigate these issues.

A major obstacle to employment is the limited understanding by community members of what is in the IBA documents. Many community members continue to believe that there is just an annual payment and many do not understand or realize that there are other benefits. The limited internal capacity within some communities hampers their ability to participate as actively as they could, and community members do not take advantage of some training and employment opportunities. The relatively low level of education in many communities is a barrier to many applying for training and for employment. Because many perceive themselves as not adequately qualified, the individuals choose not to even bother to apply for available jobs. Another obstacle is the requirement for a criminal record check for future employees. This is widely misunderstood, and many do not apply because they do not appreciate that each applicant is considered individually and the nature of the record, how long ago the incident occurred and the relevance of the indiscretion to the employment being sought are all factors that are considered. There are a number of mechanisms

in place to help overcome the lack of formal education through, for example, the use of prior learning assessments to help use life skills and experience to offset more formal entry requirements. However, individuals have to be actively accountable for their own participation in order to participate in the process.

Employment targets have been difficult to meet at Snap Lake Mine because there are three operating diamond mines competing for employees from almost the same communities. There is a finite number of available people who have the skills or desire to work at a mine, and once they are employed, companies have to look elsewhere. In the case of Victor Mine, initially there was very high unemployment within the nearby communities, and the targets were met comfortably. In 2009, the employment targets were raised. At the same time, recruiting commenced in 2010 by another mine, and a major dam project also started hiring labour from the same communities. There is, therefore, increasing competition for labour and some individuals are moving from the Victor Mine to alternative employment that is closer to their home community. Nevertheless, by mid-2011, Snap Lake Mine had approximately 38 % of its labour force from northern communities, of which 24% was of self-identified aboriginal ancestry or from groups identified within the IBAs. At Victor Mine, about 45% of the labour force is of aboriginal ancestry.

Environmental protection is recognised as a shared value by both the COI and De Beers, and this has been used as one of the building blocks in building and maintaining the relationship. Environmental monitors are hired from the local communities where possible. An Environmental Management Committee was established at Victor Mine with equal representation from the main affected community and the company because of the sensitive nature of the environment and the large number of government approvals that were required for the



mine. Among other things, this committee considers draft applications for regulatory approvals before they are submitted to the regulators so that issues and concerns of the community can be included in the application. The committee also reviews all reports for environmental incidents, and all reports submitted to the regulators dealing with the environmental monitoring activities. At Snap Lake Mine, there is a Snap Lake Environmental Monitoring Agency (SLEMA) which undertakes independent monitoring of the environment through the licensing process. SLEMA is funded by De Beers, and includes representatives from De Beers from each of the communities including a panel of Elders. The panel oversees environmental monitoring and has access to all environmental reports filed. SLEMA prepares an annual summary report on its activities, which is filed with the communities and De Beers.

Under the territorial government requirements in the NWT, the Snap Lake Mine prepares an annual socio-economic report that provides an overview of training and development, health and wellness, commitment to culture, literacy, social investment, business development and employment. These reports provide a useful summary of some of the benefits of the Snap Lake Mine. The socio-economic reports are widely distributed to the communities. Both mines prepare an annual progress report on IBA implementation for each of the eight communities of interest.

Cultural protection and enhancement is practiced at both mines through a focus on development of aboriginal (indigenous) language, cultural events and practices. Both mines have a centre with a cultural focus – in one case a cultural centre and in the other a tepee – and these help to strengthen interest in the specific culture and heritage values, as well as improve the knowledge, self-esteem and pride of those participating.

A Cultural Centre was set up at Snap Lake Mine to support the cultures of the aboriginal

people in the area and to showcase arts and crafts, which is an important component of aboriginal cultures. The Cultural Centre also has a library of books and videotapes which feature aboriginal cultures and northern lifestyles. The Cultural Centre also hosts an “Artist in Residence” program that occasionally brings in aboriginal artists to demonstrate and share their skills and their art. Cultural workshops are held there on a regular basis for the staff and these are usually well attended. These workshops, facilitated by local northern artists, have included painting, traditional sewing and fish scale art. At the Victor Mine, cultural support is centred on a tepee, and a larger double tepee for larger gatherings has just been completed. These provide a venue for the pursuit of cultural events, ceremonies and meals with traditionally prepared foods, and also facilitates cross-cultural experiences between the aboriginal and non-aboriginal staff such as through traditional drumming ceremonies. Corporate social investment supports local annual gatherings of our Aboriginal neighbours, as well as initiatives for health, education, environment, community development (although this is limited while capital to build both mines is repaid), arts culture and heritage – including language, small business development and sports. Participation in these social investment initiatives demonstrates how De Beers values the relationship with the communities.

While considerable progress has been made since both mines commenced operations in early 2008, there is still a long way to go to reach the targets that De Beers has set itself. In addition to the sustainability targets, there are also the related issues of natural resource use, climate change and greenhouse gas emissions and the like.

In summary De Beers’ experience is described to date in terms of approach, successes, failures and challenges. Significant progress has been made with employment, training including education, and business opportunities, as well as cultural preservation and strengthening.



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Furthermore, the focus has been on those skills and opportunities that are not specific and unique to mining so that there will be a wider range of future opportunities for those who participate. This

is a unique working environment, and De Beers' approach has to be innovative, responsive and flexible, and above all else, it has to involve the communities themselves.