

IRON ORE COMPANY OF CANADA
GRADUATE DEVELOPMENT PROGRAM

Angelina Mehta, Nicole Slade
Graduate Engineers
Iron Ore Company of Canada
PO. Box 1000, Labrador City, NF, Canada, A2V 2L8
angelinamehta@hotmail.com
sladen@ironore.ca

ABSTRACT

This paper provides background on the Iron Ore Company of Canada, and it describes the objectives and format of the Graduate Development program. The program's mission is to challenge graduates with new opportunities. Two women engineers recount their experiences with IOC, providing the perspective of women in a male dominated field.

ABOUT THE COMPANY

The Iron Ore Company of Canada (IOCC) operates an open pit mining complex and beneficiation plants in Labrador City, Newfoundland. Product are hauled by the Quebec North Shore and Labrador Railway (QNS&L) , a wholly-owned company, over 400 km to Sept-Iles, Quebec on the gulf of St. Lawrence. At Sept-Iles, which is about 1,000-km Northeast of Montreal, IOCC maintains stockpiles, railway maintenance facilities and a shipping terminal.

IOC was incorporated in 1949 when mining exploration and development started at Schefferville, Quebec. We at IOC have quite a history!

Our business has already changed tremendously with a lot of more on the horizon. IOCC now has three shareholders: North Limited with 56%, Mitsubishi Corporation with 25% and the Labrador Iron Ore Royalty Income Fund, a publicly held company with 19%. We are now selling almost world markets.

With the market environment growing more and more complex, with ever increasing competition, with expansion on the horizon, with a substantial reduction in personnel over the next 2-3 years, we collectively need to take stock of who we are and where we are. We want to be successful. We want to satisfy our customers and our shareholders. We want to WIN.

Knowing that if we work as a team, we will have a clear common view of where we are going. It will challenge the way we currently do things. It will energize all of us at IOCC towards a rewarding future.

BASIS FOR THE GRADUATE DEVELOPMENT PROGRAM

IOC retained 2,065 full time permanent employees on the payroll as of December 1999, down from a recent high of 2,375 in May of 1997. Approximately 72% of this workforce was located at the Labrador City Newfoundland mine and plants site, while just over 27% worked on the Railway and at the port and were based in Sept-Iles, Quebec. The remaining handful of employees is stationed at the corporate head office in Montreal. The total workforce is scheduled to decline to approximately 1,700 through accelerated voluntary retirement by 2003. The IOC workforce is mature averaging almost 45 years of age with over 20 years of service. The majority of this force will become eligible to retire during the next five years.

IOC is in the second year of a strategy to reduce our bargaining unit and staff workforces by 25% through voluntary early retirement incentives. This challenging the workforce in that there is almost constant change and a very significant loss of experience as the longest service employees leave. Considerable work redesign and knowledge transfer must occur during the next two years in order to survive this transition.

Owing to the unusual distribution of age and service of our people the retirement trend will continue beyond our current downsizing program thus we expect to loose approximately 125-175 people per year from 2003 to 2007 which will need to be replaced. The skill sets of these new employees as well as those who remain from our current workforce must be improved in the academic areas of maths, sciences, and computers and upgraded in the combination of traditional maintenance and operations capabilities. It will therefore be very important to continue to attract and retain young professionals early in their careers.

Cultivating relationships with targeted Universities and Technical Colleges is a sign of IOC's proactive recruiting strategy. We cannot wait till we need fully skilled professionals; we must help develop them.

DESCRIPTION OF THE PROGRAM

The Iron Ore Company's Graduate Development Program has as its mandate the challenge of providing a source of qualified and acclimatized professionals for entry level positions at the Labrador City and Sept-Iles locations of the Company in the areas of Engineering, Information Technology and Business.

Career pathing may take many forms and we believe the Graduate Development Program encourages young professionals to play a key role in establishing their own direction for the future.

The program was designed:

1. To meet the succession needs of our maturing management group at the lower and middle management levels
2. To reduce recruiting / turnover costs, encourage career planning and retain and develop important Human Resources for our future.
3. To upgrade the technical skill level of the front line supervisory group
4. To provide a short term technically skilled Human Resources to support divisional projects and other short term needs (ie: illness and /or vacation replacement).

Working with various parts of the organization, in both technical support and leadership roles Graduates are given opportunities to learn from experienced field personnel in Labrador City and Sept-Iles, Quebec.

Ongoing dialogue and keeping abreast of organizational challenges allows Graduates to explore all opportunities within our organization.

The graduate development program is a two to three year rotation process comprised of approximately four-month work assignments.

In total 32 graduates have been recruited since program began 1995 in the following disciplines; Mechanical, Electrical, Mining, Metallurgy, Chemical, Environment, Civil, then Business, then 3 Year Technology.

Two current employees in the field of Engineering – a Mining graduate from McGill and a Mechanical graduate from MUN will relate their learnings and experiences as IOC Graduates – our leaders of the future.

ANGELINA MEHTA, MINING ENGINEER

I graduated from McGill University in April 1997 after completing a mining engineering degree that included four 4-month workterms in the industry and 1/3 of the courses in French at École Polytechnique. My first workterm was at Sigma Gold Mines (Placer Dome Canada) in Val D'or, Quebec where I worked in technical services as a surveying student. The next summer I spent driving 190-ton haul trucks at Placer Dome's Endako Mine in Fraser Lake, British Columbia. My third work experience was with the government in Ottawa, where I worked in a laboratory conducting tests in the rock mechanics field. Finally, I completed a term with INCO in Sudbury at one of their underground nickel mines, where I was part of the engineering group conducting studies on water flow in the mine.

In the past three years, I have benefited from a very diverse range of experiences. IOC has encouraged me to pursue projects that have not necessarily fallen into the mining engineering discipline, but which in the long run improved my global understanding of the business.

My Graduate Development experience started with 6 months on the Technical Services team. This group is comprised of planning engineers, geologists, and surveyors. The work that I did in my first term was not as significant as the relationships that I built during that time. I was lucky to have the support of the people on this team as I became familiar with the department, the mine, the company, and of course the new town I was living in. My work with Technical Services included shadowing the people on the team, learning about the planning process, and data analysis. It was here that I first learned about the mine Dispatching system we use and its amazing ability to track data (at least amazing to an engineer); and this interest lay at the beginning of the career path that I have

followed ever since. It was also here where I learned that a sense of humour goes a long way when working in a male dominated field. As a gift at the end of my term with this team, I was given a modified men's swimsuit calendar. The guys had scanned in their own faces over the bodies of the models! I'm sure this may have offended some people, but I had a good laugh since I knew they were only having fun, and the results of the calendar were truly hilarious.

When I was thoroughly comfortable in this department, and had finally secured an office, I was moved into the Operations department as an "Operations Engineer". My role was to provide technical support to the mine supervisor on topics such as ore grade needs, bench level control, and so forth. This role put me on an operations team, where I followed a 12-hour shift, alternating days and nights. It is interesting to note here that I was the 1st woman in a supervisory position in the mine. It is also interesting that my direct supervisor politely offered to let me follow only the day shifts if I wanted. I told him I was a big girl and I could do nights shifts. I wanted to be considered part of the team so I could develop a good rapport with the operators. This term allowed me to become even more familiar with the DISPATCH system; in fact, I became trained to work as a Dispatcher. Part of this job involved quite a bit of air time on the radio, and the guys quickly learned to imitate my voice and play all sorts of pranks on the air by pretending to be me. The laughing made the night shifts pass more easily.

After six months in the field, I was itching to try something new. I was approached about moving to Sept-Iles, Québec for six months where IOC's dock facilities and railway offices are located. This would involve a term in the maintenance field, which is outside my discipline of mining, and it would mean working in a very French environment. Of course I jumped at the opportunity since I would be living in a city where I had access to Walmart and Tim Horton's! Seriously, it was an opportunity to practise my French and to apply my general engineering skills to see how I managed in the Mechanical Engineering field. The six months in Sept-Iles were well spent in that I developed many friendships and contacts in that part of the company, and I continue to draw upon their experience and help when I need to. Also, the move from the mine, which is at the very beginning of the mining process, to the dock, at the very end on the process, helped me gain a growing appreciation for the details involved in producing a quality product.

I was happy to return to the friends and colleagues in Labrador City for my last term. I worked in the Load and Haul department (again operations) where I was given the responsibility of finding ways to optimize the DISPATCH system. This was an exciting role, since it involved learning about and evaluating new technology. An advantage to the graduate development program was that I was able to participate in the decision as to where my last term would be. I was able to develop my interest in DISPATCH, which eventually led to the position that occupied until recently.

I recently resigned at IOC to move back to Montreal where my family is located. My decision was mainly based on personal reasons, and I will always be grateful to IOC for the opportunities I had and the development I went through with them.

The Grad Program Mission was developed by grads and it is "to promote the development of a diverse set of skills for graduates by challenging them with a range of opportunities so that they may become capable future leaders within IOC". I believe the experience I have gained and continue to gain at IOC certainly includes variety and challenge, and allows me to look to the future with confidence. As a woman in a male dominated field, I learned that I did not have any disadvantage with respect to my work opportunities. However, I did learn that as a woman, my success with these opportunities greatly depended on my attitude and on my sense of humour.

NICOLE SLADE, MECHANICAL ENGINEER

In May 1998, I graduated from Memorial University of Newfoundland with a Bachelor of Mechanical Engineering degree. It is still hard to believe that was two years ago, it is great to be back in St. John's. The degree program at Memorial consists of six 4-month work terms and eight 4-month academic terms. My first work term was with the Newfoundland and Labrador Hydro corporation in Holyrood, NF. I was assigned to the Engineering Department with the main duty of completing high pressure piping work packages. The next winter I worked with Peter Keiwit and Sons as a mechanical engineering student on the Hibernia oil platform located in Bull Arm, NF. The following fall, for my third work term I returned to Newfoundland and Labrador Hydro. I had the opportunity to complete the last three of six work terms with the Iron Ore Company of Canada. My first work term with IOCC was with Project Engineering with the responsibility of completing spare parts lists and sketches for a new regrind mill installation. The next work term was spent in the mine with Mine Maintenance completing drill mast overhauls. I returned to Project Engineering for my final work term to provide technical support for the new wet mill installation.

The past two- (2) years have been an amazing array of experiences, ranging from the technically challenging to the culturally challenging.

My first six- (6) month Graduate Development rotation was completed with the Mine Maintenance Department in Primary Ore. To give you an idea of the size of the pits, daily ore and waste movement is nearly 50,000 cubic meters or 150,000 tonnes. The Mine Maintenance department maintains critical production equipment such as haulage trucks, shovels and drills. My role during this rotation was to provide technical support to the department, which mainly included implementing an RCM (Reliability Centred Maintenance) program for the haulage truck fleet. This was a very challenging task as the existing maintenance program had been in place for many years and one that the people were comfortable with. No one likes change. This experience was a positive one; I learned a lot from working with the experienced people. Also, to work around the massive open pits and larger than life equipment was fantastic.

My next rotation began in January 1999, again a six-month rotation. This assignment took me from where the raw ore is taken from the earth to the dock terminal in Sept-Iles, where the pellets and concentrate is loaded onto the ore carriers to be shipped to world markets. Sept-Iles is located at the mouth of the Gulf of St. Lawrence. The Sept-Iles harbour is one of the busiest in Canada and one of the three largest Canadian ports in terms of the tonnage handled. Sept-Iles is a city with a population of 25,000 people. This was a very challenging assignment as Sept-Iles is a French speaking city and I do not speak the language. I was responsible for the mechanical side of the Shiploader Electrical Modernization project. Although this assignment was very challenging, I feel it opened up other doors for me within the organization. It is very helpful to have a global understanding of the company. There are people who work with IOC for 20 years and never see the Sept-Iles part of the organization, and here are Angie and I with this experience already under our belts!

My next assignment was with the Pellet Plant back home in Labrador City. As I had previously completed a work term in the concentrating facilities, the Pellet Plant was one of the last places I had not worked within the organization. I was appointed to the Technical Services department as a junior engineer. This was one of my first exposures to Front Line supervision. I had had nightmares about facing the crews and what their response would be to me. But to my delight, every person I have worked with has shown me the utmost respect. The people I worked with in the Pellet Plant were very supportive. If I have learned anything from the people I have worked with it is that to get respect you must give respect. This rotation was planned to be for six months, but was cut short at three months when I was offered the newly developed position of Change Support Leader for the Pellet Plant.

The role of Change Support Leader is not a traditional "engineering" role, but the experience it offers in the personal development and management areas is amazing. To give you some background, North Limited of Australia purchased controlling interest in IOC in April 1997 as part of their global acquisition strategy. Before North's acquisition, IOC sold its product to the shareholders, thus not having to be concerned with competition in the open markets. Since North's take-over, IOC has had to compete with the world's marketplace. North has set a vision for IOC; to "Become the #1 producer of value added iron ore products in the world". To obtain this vision and to survive in today's marketplace IOC needs to look at and change the methods of doing things. The role of the

Change Support Leader is to help lead IOC through this change into the future, which means operating with fewer people and producing more products, while maintaining costs. IOC is going through this change as we are here today. This has been my most challenging assignment to date. To be a leader during such times of resistance and turmoil is difficult and everyday I learn something new, this is what development is truly all about.

Although I have been the minority in each department I have worked, excluding the secretaries and administrative assistants, I have never felt inferior or out of place. In the 90's I was fortunate to have had the opportunity to learn from the women before me who have helped to pave the way for acceptance and understanding of women in technical fields.

For the next generation, I hope to provide advice and support to my younger colleagues. I believe mentoring activities not only benefit the recipients, but the community at large by improving the professional surroundings and opportunities. Mentoring also increases the number of successful role models for the next generation of females making the career decision to enter science fields.

I hope that by the end of this conference, everyone participating has felt they have been a part of something important that contributed to both their own and other's professional lives.