

PRAIRIE WOMEN'S HEALTH
CENTRE OF EXCELLENCE

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Improving
Women's
Health



**Injury and Injury Prevention:
Women in Work Related
to Mining**

R. Stout

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The Prairie Women's Health Centre of Excellence
56 The Promenade
Winnipeg, Manitoba R3B 3H9
Telephone: (204) 982-6630
Fax: (204) 982-6637
Email: pwhce@uwinnipeg.ca

This report is also available on our website: www.pwhce.ca

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Injury and Injury Prevention: Women in Work Related to Mining

**Roberta Stout
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Executive Summary

Over the past three years, Prairie Women's Health Centre of Excellence (PWHCE) has been involved in exploratory studies on the experiences and perspectives of Aboriginal women working in resource extractive industries in Northern Manitoba and Saskatchewan.

Each study took a peripheral look at the occupational injuries sustained by women in the mining sector in both traditional positions, such as administration and housekeeping, as well as in non-traditional jobs, like processing.

Building on these earlier reports, the current project includes the voices of seventeen women occupying a variety of positions in the mining sector within rural, remote and northern settings in Manitoba, Saskatchewan, Alberta, Yukon, and the Northwest Territories. Interviews with these professionals set out to understand what contributes to women's vulnerability for work-related injuries in mining; what are their specific health and safety concerns and; what are their recommendations for making the sector more responsive, supportive and safe for them and other women workers.

The report is divided into five sections. Following an introduction to the project, there will be findings related to safety training, injury prevention, occupational injuries, and other work-related stressors. The report concludes with a number of recommendations that surfaced throughout the discussions with the women.

Recommendations

Based on what was heard from the women, a number of recommendations have been developed. While some of these can be applied across the board to include male colleagues, many are specific to the needs of women workers. All of these recommendations were directed to the mining companies to mitigate women's injury in the workplace.

Bearing in mind that safety training is pivotal for injury prevention, mining companies should be mindful of the following strategies:

- Provide women with greater and on-going opportunities to learn about personal and industry safety.
- Continue to emphasize the importance of women's participation in all safety workshops and training in order to review, repeat and build on previous safety knowledge.

- Develop and offer women employees with hands-on experiential safety training above and beyond standard preparation (e.g. when teaching about fire extinguishers, use them).
- Offer daily safety meetings for all employees, even amongst those whose hours, shifts and positions do not currently allow for this.
- Ensure that peer to peer training include partnering seasoned workers with new hires.
- Develop and give women the option to attend women-specific safety training sessions and workshops.
- Evaluate the effectiveness and short-comings of safety practices and training for women.
- Promote awareness amongst women of all safety policies and regulations within the industry.

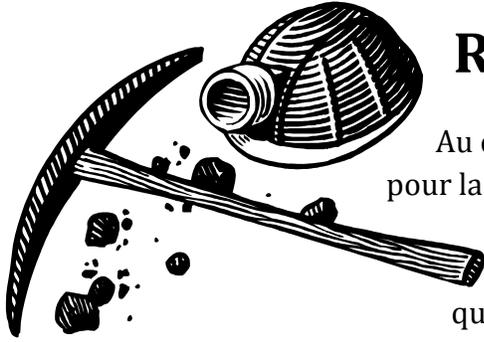
While women acknowledge that injuries, accidents and near misses are a constant in the mining sector, they envision the following strategies for mining companies in order to move towards safer workplaces for them.

- Conduct research on maximum weights which can be safely carried by women and understand that these weights may be different than those safely carried by men.
- Provide women with properly fitting personal protective equipment.
- Understand how and why injuries, accidents and near misses are reported, under-reported or not reported by women.
- Create a safe corporate environment that will encourage women to report injury, however minor, without fear of ridicule, blame or shame directed at them from male co-workers.
- Encourage a safety culture where women have the right and responsibility to refuse unsafe work.
- Discourage risk-taking, short-cutting and cost-cutting directives which place production above personal safety.
- Provide nutritious food options and choices, including vegan and vegetarian alternatives.

Women recognize that there are gender-specific stressors which influence how they experience the workforce, namely around maternal health and sexual harassment, which need particular attention by mining companies.

- Acknowledge the unique challenges faced by women in their professional and care giving roles.

- Understand that there are a lot of unknowns around what is safe exposure to industry-based chemicals during pregnancy.
- Develop clear policies around safe working conditions for pregnant employees.
- Influence industry to accommodate working mothers, through the provision of childcare supports and more flexible working hours and locations.
- Create and increase designated spaces for women through mine sites.
- Counter all forms of workplace sexual harassment and intimidation.
- Provide women with safe spaces to freely ask questions about the work culture, shift work, camp life, and gender and power relations within the industry.
- Increase opportunities for networking and sharing amongst women in mining.
- Provide women with confidential spaces (off-site and on-site) where they can voice work-related grievances, concerns and experiences without fear of reprisal.



Résumé

Au cours des trois dernières années, le Centre d'excellence pour la santé des femmes - région des Prairies (CESFP) a participé à des études exploratoires portant sur les expériences et les perspectives de femmes autochtones qui travaillent pour l'industrie d'extraction de ressources dans le nord du Manitoba et de la Saskatchewan. Chaque étude a privilégié un examen d'emblée sur les femmes blessées au travail dans le secteur minier qui occupaient des postes traditionnels, tels que ceux liés au travail administratif et domestique, aussi bien que les postes non traditionnels, tels que ceux liés au traitement.

En misant sur ces rapports antérieurs, le projet actuel comprend les propos de dix-sept femmes qui occupent des postes divers dans le secteur minier au sein des régions rurales, éloignées et nordiques du Manitoba, de la Saskatchewan, de l'Alberta, du Yukon et des Territoires du Nord-Ouest. L'objectif des interviews avec ces professionnelles était de comprendre les facteurs qui les exposent à des risques de blessures liées au travail du secteur minier, leurs préoccupations spécifiques en matière de santé et de sécurité, et leurs recommandations qui feraient en sorte que le secteur réponde mieux aux besoins de ces femmes et d'autres travailleuses tout en leur offrant un meilleur appui et une sécurité accrue.

Le rapport est composé de cinq sections. Après l'introduction au projet, vous y trouverez des conclusions relatives à la formation en matière de sécurité, à la prévention des blessures, aux accidents du travail et à d'autres facteurs de stress liés au travail. Le rapport se termine par un nombre de recommandations qui ont découlé des discussions auprès des femmes.

Recommandations

Nous avons formulé un nombre de recommandations en fonction des propos communiqués par les femmes. Bien que l'on puisse élargir le champ d'application de certaines de ces recommandations pour y inclure leurs compagnons de travail, plusieurs s'appliquent aux besoins précis des travailleuses. Nous avons adressé toutes ces recommandations aux sociétés minières dans le but de minimiser les accidents du travail chez les femmes.

En tenant compte du fait que la formation en matière de sécurité est essentielle à la prévention des blessures, les sociétés minières devraient retenir les stratégies suivantes :

- Fournir plus d'occasions d'apprentissage et continues sur la sécurité personnelle et industrielle aux femmes.
- Continuer à souligner l'importance de la participation des femmes à tous les ateliers et à toutes les séances de formation sur la sécurité de manière à passer en revue les connaissances acquises liées à la sécurité, à les confirmer et à miser sur elles.
- Voir au perfectionnement des employées en leur offrant une formation pratique et expérientielle en matière de sécurité qui va au-delà d'une initiation standard (p. ex., en leur apprenant le fonctionnement des extincteurs, il faudrait également les utiliser).
- Assurer la tenue de réunions quotidiennes sur la sécurité à l'intention de toutes les employées même de celles dont l'horaire, le quart ou le poste actuel ne l'exige pas.
- Assurer que la formation par les pairs comprenne le jumelage de travailleurs expérimentés avec de nouveaux employés.
- Assurer le perfectionnement des femmes en leur offrant le choix d'assister à des séances de formation et à des ateliers axés sur la sécurité des femmes.
- Évaluer l'efficacité et les faiblesses des pratiques et de la formation en matière de sécurité qui visent les femmes.
- Promouvoir la sensibilisation des femmes à l'ensemble des politiques et des règlements en matière de sécurité au sein de l'industrie.

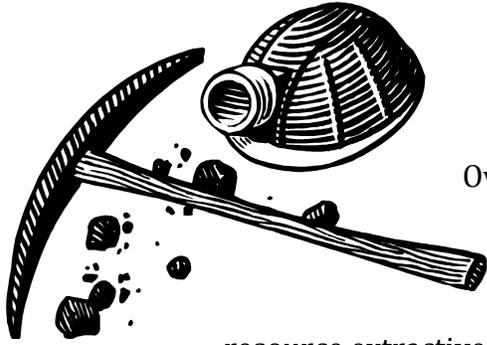
Quoique les femmes reconnaissent que les blessures, les accidents et les accidents évités de justesse soient des facteurs constants dans le secteur minier, elles croient que l'adoption des stratégies qui figurent ci-dessous par les sociétés minières contribuerait à des milieux de travail plus sécuritaires pour les femmes.

- Mener des projets de recherche sur le poids maximal de sécurité pouvant être soulevé par une femme et comprendre que ce poids pourrait différer de celui qui s'applique aux hommes.
- Fournir de l'équipement de protection individuelle bien adapté à la taille des femmes.
- Comprendre le comment et le pourquoi des déclarations, des sous-déclarations ou de la non-déclaration des blessures, des accidents et des accidents évités de justesse de la part des femmes.
- Créer un milieu organisationnel sécuritaire qui encouragerait les femmes à déclarer les blessures, quelque mineures qu'elles soient, sans craindre de se faire ridiculisées ou blâmées par leurs compagnons de travail ou sans craindre qu'elles fassent l'objet de leurs remontrances.

- Favoriser une culture de sûreté où les femmes ont le droit et la responsabilité de refuser un travail dangereux.
- Décourager les consignes qui préconisent la prise de risque, les raccourcis et la compression des coûts, et qui accordent une plus grande importance à la production qu'à la sécurité personnelle.
- Offrir des choix alimentaires nutritifs, y compris des choix végétaliens et ovo-lacto-végétariens.

Les femmes reconnaissent qu'il existe des facteurs de stress propres à chaque sexe qui ont un effet sur l'expérience en milieu de travail, notamment la santé maternelle et le harcèlement sexuel, questions qui méritent l'attention spéciale des sociétés minières.

- Reconnaître les défis particuliers auxquels s'affrontent les femmes dans leur rôle professionnel et de fournisseur de soins.
- Comprendre qu'il y a beaucoup d'incertitude face à la question du niveau sécuritaire de l'exposition aux produits chimiques industriels au cours d'une grossesse.
- Élaborer des politiques claires sur les conditions de travail sécuritaires pour les employées enceintes.
- Agir auprès du secteur minier dans le but de répondre aux besoins des mères au travail en assurant un soutien aux services de garde à l'enfance et une plus grande souplesse des plages horaires et des lieux de travail.
- Créer des postes réservés aux femmes dans les sites miniers et augmenter le nombre de ces postes.
- Lutter contre toute forme de harcèlement sexuel et d'intimidation sur les lieux de travail.
- Faire en sorte que les femmes se sentent libres et à l'aise de poser des questions qui touchent à la culture organisationnelle, au travail par quarts, à la vie dans les camps et aux relations de pouvoir et au rapport entre les sexes au sein du secteur minier.
- Augmenter les possibilités de réseautage et d'échanges entre les femmes du secteur minier.
- Fournir des endroits privés réservés aux femmes (sur les lieux et ailleurs) pour leur permettre de pouvoir exprimer leurs griefs, leurs préoccupations et relater leurs expériences concernant le travail sans crainte de représailles.



Introduction

Over the past three years, Prairie Women's Health Centre of Excellence (PWHCE) has been involved in exploratory studies on the experiences and perspectives of Aboriginal women working in

resource extractive industries in Northern Manitoba and Saskatchewan¹.

A primary goal of these two projects was to understand Aboriginal women's employment experiences in the mining sector. Each study took a peripheral look at the occupational injuries sustained by women in both traditional positions, such as administration and housekeeping, as well as in non-traditional jobs, like processing.

Building on these earlier reports, the current project includes the voices of seventeen women occupying a variety of positions in the mining sector all of whom have worked in rural, remote and northern settings in Manitoba, Saskatchewan, Alberta, Yukon, and the Northwest Territories. Interviews with these professionals set out to understand what contributes to women's vulnerability for work-related injuries in mining; what are their specific health and safety concerns and; what are their recommendations for making the sector more responsive, supportive and safe for them and other women workers.

Context

Previous PWHCE research on women in mining pointed to interesting findings around health and safety concerns and injuries sustained by women. A number of the women reported work-related injuries due to insufficient health and safety training, employment inexperience, and long-term and repetitive physical exertion. They also confirmed deeper stressors like the lack of childcare, sexual harassment and discrimination.

Nationally, the mining sector indirectly employs 26% of the total workforce in Canada, or upwards of 360,000 Canadians². With 840 mines currently operating across Canada, 150 afford increasing economic development opportunities to rural, remote and northern populations and communities.

¹ Stout, R. 2010. "Aboriginal Women's Employment in Non-Traditional and Resource Extractive Industries in Manitoba: An Exploration of the Issues", Prairie Women's Health Centre of Excellence: Winnipeg.

Stout, R. 2011. "Aboriginal Women's Employment in Non-Traditional and Resource Extractive Industries in Saskatoon: An Exploration of the Issues", Prairie Women's Health Centre of Excellence: Winnipeg.

² Natural Resources Canada, *The Minerals and Metals Policy of the Government of Canada*, see [www.nrcan-
nrcan.gc.ca/smm-mms/poli-poli/htm/mmp-pmm/int-int-eng.htm](http://www.nrcan-
nrcan.gc.ca/smm-mms/poli-poli/htm/mmp-pmm/int-int-eng.htm)

Women comprise 14% of the total mining workforce³. Over-represented in support and culinary positions (72.4% and 72.7% respectively), women's visibility within trades-related positions continues to lag behind their male counterparts⁴. Only 1.3% of industrial and heavy equipment mechanics and millwrights, and 4% of underground miners, are women⁵.

There are recognized health and safety issues related to work within the mining sector. Long term exposure to toxins and chemical compounds, such as asbestos and solvents, can lead to chronic health problems, including respiratory disease and cancers. Uranium mining exposes workers to radio-nuclides and has been linked to lung cancer, leukaemia⁶ and chromosomal aberrations⁷. There are a host of other physical ailments associated with mining, including arthritis, sprains, noise-induced hearing loss and musculoskeletal disorders⁸.

Canadian statistics demonstrate that in 2007 the rate of work-related injury within the mining sector was 12.9 per 1,000 employees⁹. For the period ending in 2008, a total of 2,688 cases of fatal and non-fatal injuries were compensated within mining and quarrying. Of these, women comprised 134 of the cases¹⁰.

Lacking from the literature is an understanding of how work-related injuries and social stressors are experienced by women in mining. For example, how do women respond to work-related accidents and physical injuries? How do women experience social isolation and the male-dominated work culture? What do women see as the health ramifications of working in a mine during pregnancy? How do these and other factors contribute to stress and anxiety?

³ Women in Mining in Canada, *Ramp-UP: A Study on the Status of Women in Canada's Mining and Exploration Sector*, 2010, see <http://www.mininghrforecasts.ca/en/resources/Ramp-UPFinal2010.pdf>

⁴ Mining Industry Human Resources Council, *Canadian Mining Industry Employment and Hiring Forecasts 2010*, see http://www.mininghrforecasts.ca/en/resources/MiHR_Canadian_Mining_Employment_Forecasts_Jul_y2010.pdf

⁵ Women in Mining in Canada, *Ramp-UP: A Study on the Status of Women in Canada's Mining and Exploration Sector*, 2010, see <http://www.mininghrforecasts.ca/en/resources/Ramp-UPFinal2010.pdf>

⁶ *Leukaemia Among Czech Uranium Miners*, by L. Tomášek, I. Malátová, in: Proceedings of the 9th International Conference on Health Effects of Incorporated Radionuclides Emphasis on Radium, Thorium, Uranium and their Daughter Products - HEIR 2004, GSF-National Research Center for Environment and Health, Neuherberg, Germany, Nov 29 - Dec 1, 2004, U. Oeh, P. Roth, H.G. Paretzke (Editors), Institut für Strahlenschutz, GSF-Bericht 06/05, p. 128-135

⁷ Chromosomal aberrations in uranium and coal miners, by G. Wolf, D. Arndt, N. Kotschy-Lang, G. Obe; *International Journal of Radiation Biology*, February 2004, Vol. 80, No. 2, p. 147-153

⁸ National Research Council and Institute of Medicine of the National Academies, *Mining Safety and Health Research at NIOSH: Reviews of Research Programs of the National Institute for Occupational Safety and Health Committee to Review the NIOSH Mining Safety and Health Research Program*, Committee on Earth Resources, 2007.

⁹ Human Resources and Skills Development Canada, *Indicators of Well-Being – Work-related injuries*, 2007, see http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=20#M_3

¹⁰ Human Resources Development Canada, Labour Branch, see <http://laborsta.ilo.org/STP/guest>

This project aimed to look at whether there are any specific factors that contribute to women's vulnerability to work-related injury and stress. Also, what health and safety concerns are different and similar for women working in different positions in mining?

While a full set of the interview questions can be found in Appendix A, the following overarching themes guided the interviews:

- Are women receiving adequate health and safety training prior to entering their positions?
- What can women tell us about their knowledge of workplace safety and injury prevention programs?
- How do women manage occupational risks and their vulnerability to injury?
- Are women encouraged to report injuries and risk for injury?
- What do women see as necessary for creating more supportive and safe environments designed to prevent injuries?

Methods and Limitations

While the goal was to speak with forty women, a total of seventeen actually participated. A call for participants was made in the fall of 2011 and interviews began in January 2012. As with previous PWHCE projects on women and mining, recruitment was a challenge. Contacts in government, academia, technical institutes, the research community, and directly through mining sector human resources were made with limited success. Personal contacts and previous connections with women in the industry proved the most useful method of recruitment.

A number of the women were very concerned about confidentiality and anonymity. They needed to know that all potential identifiers would be removed in the final report. The fear most often voiced was that they would lose their job for having participated in the study. Therefore, every effort has been made to maintain confidentiality of the participants, including the region, company and specific positions held.

Given the geographic reach of the study, PWHCE utilized a flexible approach to speak with the women. While some were personally interviewed in Winnipeg, most interviews were done by telephone.

Disclaimer

PWHCE recognizes that there are many detrimental and diverse environmental and health threats related to mining in Canada and abroad. PWHCE also recognizes the economic opportunities afforded by northern economic development and that women, like men, should have equal opportunities to participate in these economies if they so choose. That said, our studies have not sought to promote mining industries. Rather they seek to gain insider perspectives of what it is like for women to work in the industry generally.

Therefore, as in our two previous projects, participants were asked to reflect broadly on their experiences working in the sector, to share their thoughts on the health outcomes of work-related injury, and to discuss the opportunities and challenges related to safer employment environments for women in mining.

The Women

Of seventeen women who participated in the study, five identified as Aboriginal and two as belonging to other ethnic groups. They ranged in age from their early twenties to their mid-fifties. All had at least a Grade 12 education. Most had a post-secondary degree or certificate in a field related to earth sciences, including geology, geo-sciences and biology. Others were trained as engineers, medical responders or health and safety coordinators. All of the women were employed full-time in the mining industry at the time of the interviews. Several had been employed by more than one mining company or had occupied different positions over the course of their careers. The women's careers spanned from less than one year to over twenty years, with the average tenure being seven years.

Two women held positions centered on mine processing operations and one woman was strictly in an office-based environment; the remainder of the women split their time between office and field work. While the majority were engineers and geologists by trade, many also took on other roles in addition to their full-time positions, including equipment operation, health, safety and environmental coordination, training and mine rescue. Over half of the participants were doing some level of shift work, often times with long distance commutes to and from home involving both air and ground transportation.

The Report

The report is divided into five sections. Following an introduction to the project, findings are presented related to safety training, injury prevention, occupational injuries, and other work-related stressors. The report concludes with a number of recommendations that surfaced throughout the discussions with the women.



Section 1: Safety Training

The following section provides an overview of women's experiences and perspectives on health and safety training; information shared in health and safety orientations, workshops and meetings; work preparedness; and recommendations for improving training related to mining.

Although the women were working in a variety of positions related to mining, they had all received training in one form or another. Employers were the primary providers of occupational health and safety training. In all but one case, the women received training once they started their positions.

Training for different positions was held in co-ed groups. In other words, there wasn't specific training designed for positions held by women. None of the women interviewed recommended training for women only. If anything, as one commented, "safety training is a constant, no matter if you're female, male, and no matter what job you do. You get trained in all areas of safety. Then dependent on your job, you get different training." Another stated, "I do think that our health and safety training needs to be individual oriented because while it takes one person x amount of time to train, it doesn't necessarily take the next person the same amount of time."

Occupational Safety Training

Orientation for some began with an introduction to the "rules and regulations of the entire company along with the provincial [and federal] legislation laws" after which specific on-the-job training was provided. For others, learning about safety and "[w]hat chemicals [are] use[d] and what they could do if you get in contact with them" preceded their entrance into the mine site.

On the whole, women working underground reported the provision of on-line based training, security certifications, computer simulation, equipment operation and job shadowing delivered through their company. One geologist broke down her training as follows:

When you are hired you undergo about two weeks of Safe Production Training. That includes all of your WHMIS [Workplace Hazardous Materials Information System] training, working around large equipment, proper looking procedures,

initial assessment of the workplace and identifying hazards. We do a lot of computer-based training. We stay at the Safe Production building – or training office – and we work closely with one of the peer trainers. Then you actually go and spend some time with the peer trainer underground. You learn to drive personnel carriers. You learn about all of the underground equipment. Then you're released from the Safe Production crew and you shadow other Geologists in Trainings (GIT) in more senior positions. Then your peers agree you can spend some time underground by yourself. The time frame for all of this can be anywhere from a month to eight months. It really depends on the development of the individual. We have a substantial training. I do feel it was adequate.

The use of simulation technology in training was described by another geologist as an important way to understand issues of worksite visibility and safety. Even though her position did not require her to drive a truck, she was given the opportunity to virtually steer this piece of equipment through different settings and around common obstacles, such as pedestrians, thereby gaining insight into her own safety on the job.

You get to see real time, real scenery of what you would actually see and know that when this truck driver's driving, you really can't see someone once they get about fifty feet from you. Your visibility is so limited because the trucks are so large. That helps me as a geologist who is walking around by myself to know that I really need to make myself visible so that the heavy equipment around me can see me.

Mine site visibility extends beyond work conducted underground. Even those not required to work underground need to know how to be visible to mine site vehicles and traffic. One participant spoke to this important learning in addition to her exposure to other personal health and safety measures while working on surface at a mine.

I didn't really have to learn too much about underground safety which in a mine is the biggest part. For me, it's mostly about surface safety. Being aware of all the traffic that's around you and proper lifting techniques because I have to lift boxes with core. My training was very minimal. They went over their safety policy about reporting accidents if you have one. I didn't have a whole lot of training but my job's not very unsafe.

Another surface worker explained how on-site training helped her to situate herself around a Drill Rig, a piece of machinery she works with closely. Trained by her supervisor, she was shown where she could and couldn't stand, what parts of the machine were moving and

how to communicate with the drillers through non-verbal signals. All of these measures “made sure that I wasn’t going to get hurt while I was there.”

Industry manuals also formed part of worker training to “make certain that we all have the opportunity to learn everything we can about how to work safely.” These documents outline safety measures for specific activities in the field, emergency procedures and required safety equipment.

If you’re traversing for the day, you should have a second set of clothes in the event that something should happen and you cannot come back to the camp. You need to carry a satellite phone so you can call for help. You have First Aid kits. You have some type of emergency signalling devices. Those are some of the things that would be listed in parts of our safety manual that are requirements.

Specific and more intense training is designed for particular positions in the mine. Given the huge responsibility of “moving men and equipment through open shafts that could be five thousand feet” and that the position of hoist operator is “probably one of the most difficult jobs in mining with regards to stress, [it has] a heavy focus on training” for example.

Underground scaling is “one of the major safety things underground.” Training requires not only seeing rocks underground but listening to the way they sound when they are hit. In this way, “[t]hey give you proper training on recognizing a [ping] sound and making sure you’re sounding your way in and making sure that you have a proper exit so if something does fail, you can back up quite quickly without trapping yourself.”

In addition to their employment positions, some of the women also chose to train in mine rescue. Some did so in part to become more aware of personal safety, and more confident and comfortable in working underground at a mine.

I’m on the Mine Rescue Team. To get comfortable underground, I figured ‘I’ll learn how to save myself and people.’ As soon as they were looking for people I signed up. I think that was the best safety training I ever had. I think knowing what could happen, things like smoke and fire and ground failure, made me feel a lot better, knowing what would the response be from surface and from underground.

In a few instances, women spoke of receiving limited to no training. Women in surface positions, not requiring underground work, spoke of having different and less intense training for workplace health and safety. Also in cases where women had previous

experience with other companies or were transitioning from field-based to office-based responsibilities, the need for health and safety was viewed as less vital and thus was less extensive.

I had only a brief office safety orientation when I started my job though I did have more extensive safety training when I worked for this company a couple of years ago. I think they figured that since I had worked for them before I did not need a whole new run-down of things. I mostly know what to expect in the office and in the field. Prior to starting work at the site I had conversations with colleagues and with my boss about what to expect safety-wise and was encouraged to talk to them should I have concerns.

In this same vein, one woman who worked primarily as an engineer in an office setting was provided limited training. “There’s nothing really specific in the engineering programs about health and safety.”

While not a common theme among the women in this study, two participants expressed a complete absence or lack of training for specific tasks required of them. This did not appear to cause them too much concern at the time.

I didn’t have the safety training before I used the harness. There is safety training for the harness in which they let you fall for a very short distance so you can see how it feels. I didn’t get the full training because it was seen as just a ‘safety measure.’ Where I worked was not an open space. It was not that easy to fall, but it was still a possibility. I felt safe because I had the harness when I went up but I was more concerned about hitting my face or something than I was about falling.

While training can be provided in a multitude of ways, for some it can only go so far. According to one participant, the real opportunities for learning came “once I was actually out there in the field.” The ongoing nature of training for her position also “reinforced safety.”

Training Continuum

Through conversations with the women, it became clear that training for workplace and safety has evolved over the past several years. Women who had been involved in mining for over five years, in particular, commented that training has improved, increased and become more formal. Women stated that this may be due in part to the growth and size of industries, costs associated with time lost due to injury and the trend towards greater workplace safety and injury prevention. As one woman stated, the ideology used to be

“we’re here to produce, but don’t get hurt’ and now it’s ‘we’re here to produce and do it safely.’” Another remarked, “I never felt that my safety training was inadequate. It’s just more formal now.”

When reflecting on the various positions held over a lengthy career in mining, one participant observed how health and safety training has progressed and improved over the years. Her current position has afforded her the most training thus far and now she counts on being tested regularly. She said, “[s]ince I’ve started, the safety training has only increased with time. There’s still your initial training period and then you have a mentor. But also there’s a continual set-up where there’s certain things you get tested on.” She went on to state, “I know there’s stuff that I did when I first started [in my mining career] that I would not be allowed to do now. You were taught how to do things safely but there were things that you were allowed to do that now I just wouldn’t even try.”

Without a doubt, industrial development is on-going and ever-increasing. As such safety training has needed to keep pace with a growing workforce if for nothing more than to curb the potential for more work-related injuries.

When I first started, the training that I had was a little more informal. It wasn’t so much as a company directive but just as a ‘people watching out for other people’s back’ kind of thing. Whereas now, not only is it people watching out for people’s backs but it’s a company requirement. Before it was more somebody just saying, ‘[d]on’t forget she’s kinda new, so just watch that she’s not doing something that she shouldn’t.’ Or ‘[b]e sure you go with her and make sure that she’s doing it right.’ Whereas now, it’s built in to the actual work requirements that until those checks have been done and somebody has signed a piece of paper that says, ‘I have watched this person doing this task and I think they can do it safely by themselves’, that you’re not even allowed to do it. It was kind of just part of the culture before, but it is now just become part of the required workplace.

One participant expressed that size matters for companies when it comes to safety training. Her suspicion is that smaller exploratory companies have less at stake when it comes to safety whereas the larger, more established companies, employing thousands, have a name and reputation to uphold.

When you work for junior mining companies in exploration, it’s not that they don’t care about safety but it’s certainly not their number one priority. Whereas I don’t personally work in the [named industry] a lot of my colleagues do. I know that up there you can’t do anything without five forms to figure out how you’re going to do it safely. I suspect that that’s partly because of the volume of people

involved. There are thousands of people who work in the [industry] and there are thousands of people that they're responsible for in terms of maintaining their safety. It looks really bad on them if they have safety incidences. It's a huge cost to them too if they're having people injured on the job. Whereas in exploration mining camps, a lot of the junior mining companies, those that don't currently have operating mines or have one or two properties that they're trying to develop, typically want to turn around and sell the property. They want to get the ore preserves and the design up to a certain level that is attractive to a larger company so that they could take it into operation. They don't have a lot of ownership for what goes on in their name. They're kind of, 'get in – get out and make some money.' So I think it's just a different attitude.

Challenges to Workforce Preparation

Many women felt that the safety training they had received prepared them for their positions in the mine-site. One mine employee said that her initial orientation struck her with fear. She said, “[t]his isn't a Cornflake factory. It's a dangerous metal that we work with here. My orientation was so good that it scared me. They didn't give me too much information but they gave me information that stuck in my head.” Since day one she has taken her personal protection seriously and is deeply concerned that others do not. She stated that some “come through the plant, through the administration building, touching the doorknobs with their work gloves when they're on their way taking samples to the lab and there's a lot of people that smoke, and they're touching the same doorknobs to go outside and have their cigarettes.” So while her orientation prepared her for proper hygiene on the mine-site, it has not been the case for everyone.

Another woman echoed the dangerous aspects of mining and how important it is that employees be properly prepared prior to starting their positions. She also stated that training be ongoing. “I think mining is an extremely dangerous profession. Every day we're dealing with explosives thousands of feet underground. The training we provide is geared towards working and maintaining risk to as low as reasonably achievable, maintaining situational awareness, and we have daily safety talks.”

Peer-to-peer training, mentorship and observation are integral pieces to safety training. It was however not always the case that new recruits were trained by seasoned veterans but instead by younger and inexperienced peers. As such, some felt they were not fully prepared for their positions. “Well [the first days] were pretty scary. I was taking over from another woman. She was actually younger than me. She was a summer student. She trained me.”

Other women echoed similar experiences.

I was being trained by somebody who was also pretty new to the mining industry. He was pretty young and he got hired six months before I got hired. So I felt that there was some stuff that he definitely missed and I only learned eventually by doing the work myself. Maybe those experienced persons should have said that they needed more training. The department itself is pretty young and trying to figure itself out. I would say that the training there was a little bit lacking.

Inadequate training and a lack of comprehensive knowledge about the workplace practices left some of the women feeling uneasy as they started their positions. “When I first was going underground by myself, I felt a little nervous because it was unfamiliar in the sense that I knew there was a lot that I didn’t know. I didn’t know a lot of the mining process and what the miners did. I knew that they used explosives.” Another woman made clear that the employers need to take measures to fully train their new employees to prevent work-related injuries.

I would say unfortunately there are a lot of contractors and employers that don’t properly train their workers. When you bring these new workers or inexperienced workers or young workers into these sites, that’s when injuries happen, with improper training. I think that there can be improvements with new hires but I think it falls back on the employer. How are they screening [new hires] or are they just sending people to these sites and expecting them to have those skills already?

It goes without saying that inadequate training has the potential to lead to injury.

Going underground, I know that there are people who don’t have enough training. We had an incident where one girl wasn’t trained properly enough and wasn’t familiar enough with the underground areas including where she should and shouldn’t be. An area wasn’t marked off and she went to it and started climbing down the ladders. All of a sudden there were no more ladders! She was by herself. Luckily, she didn’t weigh very much and so she climbed right back up the ladders. She was very shaken up about it.

On the one hand, training, competency, confidence and routine can mitigate work-related injury. On the other hand, complacency and repetition can contribute to injury. One woman commented that when she was a new employee she made a greater effort to use her training to be safer on the job. “I would say I was a lot more safe then because I double-checked everything and I never got complacent in that sense.” Another woman said that,

[industry] certainly gives you the space and time to train with someone. I don't always know that it's heavily regulated enough. I don't know whether or not it's long enough. It's kind of like you get some theory, you get some training and you're pretty confident. You've got to make a few trial and errors. But honestly, some of those trial and errors could be doozies. So you're really walking a fine line. It's not until you've spent a year or so, more like two years on your own, outside of the training element, to really formulate your routine.

Another woman questioned the competency, or lack thereof, amongst her fellow co-workers. Safety is a shared responsibility of employees, in particular when using heavy equipment in high risk work environments.

I guess the basic grounds is competency. But do we understand where the beginning line of competency is? Where does it end when you're dealing with a man's life in your hands? I've seen some pretty questionable individuals sitting behind the big controls and I've heard stories in other mines of the accidents and things that happen because someone's not on the ball. And with that kind of big equipment, it's a split second, actually, you can't blink fast enough before something goes wrong.

Then after working in their positions for a certain length of time, day-to-day routines set in. According to one participant, this can be a point where injuries occur since one can either have an inflated sense of confidence or lose a sense of awareness due to repetition.

When you're first new at the job they show you what to do to keep yourself safe from injury. But then once you become more of a seasoned operator, that's when I find a lot more people get injured because it's the routine of it all. You say, 'Oh okay, well I've done this a million times.' And it could be that million and one time that chaos happens and you get hurt. The more routine you get, the more seasoned you get, the more comfortable you get, then you're not as cautious.

Frequency of Safety Meetings

Safety meetings ranged in frequency from daily to monthly to yearly. They included discussions around near misses or incidences that resulted in injury at the mine site. In this way, all employees were better equipped to deal with similar situations.

Daily meetings were viewed as one way to become aware of any changes that have happened since their last shift. Discussions included what to watch for and what is important to know before starting the workday. The daily check-ins also assisted those

who are fatigued from the routine to stay alert of risks. “We have...a record of incidents that happen on a day-to-day basis, not only [on this mine site] but from other mine sites just so that same incident doesn’t happen to anybody else.”

Every morning they have a shift line-up. They all go underground. Before they even get on any equipment they have to do an initial check and fill out a sheet and make sure everything is in working order. Then they go down to their lunchroom where their foreman will inform them of anything that happened on the previous shift and discuss any hazards that are in the workplace that they may not be aware of or things they need to watch for. Then he lines them up to go to work and do their ‘safety talk’. Then they go to the workplace and they have to do what’s called a SLAM. It’s our acronym for ‘Stop, Look, Assess, Manage’. They’ll look around and check and see any hazards, anything that’s different from when they were there last, and make sure everything’s in good order. They have to check for housekeeping to make sure that there’s nothing laying around that they could trip on or anything out of the ordinary.

Even when little may change day-to-day, the reporting of seemingly insignificant incidents or near misses can mitigate potential injury. One woman stated, “Not much changes day-to-day, but it is good to report incidents. Like ‘Yesterday I slid down the hill funny on my truck so let’s remember to drive safely when it’s raining’ and things like that. We call them Tool Box Safety meetings. It’s pretty common in my industry.”

In addition to daily meetings, another woman spoke of interactive safety audits of employees which happen monthly.

We have everything from safety meetings to interactive audits. They do a safety talk every morning during the shift line-up before the employees actually go to work. We do safety reviews at the end of every year with them. Sometimes supervisors go out and they do job safety observation. They do those often, one per employee per month. And so they’ll actually go to the worksite where the employee is at and watch them work and go over the procedure for the task they’re doing, review it with them and just make sure that everyone’s working safely.

In addition to safety talks, some employees are required to fill out forms to identify workplace risks. According to one participant, this was in accordance with the company’s goal of having a “low rate of injuries.” That said, another woman commented that filling out such cards was a waste of time since most employees don’t actually use them. In her words,

“They give us these five point safety cards that are a waste of time and trees because 90% of them just go in the recycle bin anyway.”

Monthly meetings were also discussed, which covered more specific topics as opposed to specific incidents. “Monthly, [there] is a safety meeting here for all the front-line supervisors who in turn will put it on for their crews. Every month there’s an initiative which might be personal protective equipment, slips and falls, Workplace Hazardous Materials Information Systems or the nine points of scaling.”

Seasonal or yearly safety meetings were also noted by the women and included specialized training, like bear and wildlife safety each spring. Other topics, like “working alone” are intended to refresh employees on how to stay safe when working in isolation.

In some cases, safety issues, concerns and topics have simply become incorporated into overall employee meetings. Almost all of the women stated that their participation at these meetings was mandatory. When not mandatory, employees were strongly encouraged to attend. “I don’t think [safety meetings] are enforced, but the company is small and people show up. If they didn’t, it would be clear who was absent.”

In some ways, safety is so prevalent that I almost don’t know that it’s mandatory anymore. At pretty much every meeting we have now there’s a ‘safety share’. We have monthly safety meetings no matter what role you’re in the company. There’s a monthly safety meeting that you’re expected to go to. If you’re away and you might miss one or two in the year, there is the opportunity to take that safety meeting on your own. If there were a lot of people missing in the meetings then they hold another meeting. It’s not a strict ‘you have to go to every single meeting’, but if you only went to five out of ten you need to go back and review those you missed. I believe that the miners have a safety huddle every day. There are also incident reports that we have access to all the time. There is a report that’s put out every day of all incidents and near misses.

Most of the women recommended more consistent and ongoing training. According to one, “I don’t think there’s any such thing as adequate safety training. I think it should be ongoing.”

There were however a handful of women who did not participate in regular or comprehensive safety meetings for one reason or another. Women not working in the field for example commented that routine safety meetings occur with less frequency for them.

In the field, there is a pre-shift safety meeting once a day, every day. This involves a job-safety analysis in which those of us heading out to work have a

conversation with our on-site supervisor and our cross-shifts about some of the safety issues, how to mitigate them, and whether anything has changed since the previous shift to be aware of. In the office, there is a safety meeting once a month.



It's easy for someone to get tired in my line of work. We work twelve hour days, every day, for months. So it's easy to get tired and forgetful and it's just important to talk about safety every day. When I was in the field, every day we had a quick safety meeting. But I'm back in the office - we have a safety meeting every month. It just keeps it in mind always. We also discuss new things that come up for people who you don't see all the time or don't work with all the time, things that you hadn't considered.

Some positions are such that daily safety meetings are impossible. Mill operators, for example, are required to be at their posts at all times. In this way, to gather a whole crew is not practical. As one participant stated, "They can't leave their area until their cross-shift comes in. There's never any time to get all the operators in one room. They have a safety meeting once a month when they're on night shift. They normally go through the incidents that have happened, or the foreman might pick a topic."

Operators don't have Tool Box meetings. Mechanics do and the electricians do. They meet every morning and have a little safety topic that they all discuss from prior events or near misses, like a heads up. But we operators don't do that because this is a 24-hour-a-day operation. There's no time for a Tool Box meeting for operations. We have Safety meetings every second shift for an hour when we go through the serious events of everything that's happened. Somebody slipped on ice and banged their elbow. Somebody got a splash of caustic or a solution in their eye. So for about an hour out of a month we reflect on safety.

For those who did not have daily or even weekly meetings, there was an underlying perception that the company was not fully taking their safety seriously. "I know this company that I work with now cares. They do care about safety and all that stuff, but not enough to give us fifteen minutes every morning with the whole crew together to reflect on safety."

Women also believed that brief but consistent and frequent safety meetings would lead to a greater awareness to changes needed in the workplace.

If you're in the field, you should have a safety meeting once a week. It only takes fifteen minutes, twenty minutes out of your day. Maybe you might want to take another half an hour to go through some piece of equipment that hasn't been used in a while, and make sure that everybody's on par on how it runs.



There should be a safety meeting every week and include reports of prior events that caused injury. It opens your eyes and it is an 'awareness refresher'. Like I said, it's all the routine, and 90% of the time injuries are while you're doing routine work, routine jobs you get so comfortable at, you don't realize that you're cutting a corner here, or you're cutting a corner there. But safety meetings give you a refresher. They open your eyes a little bit more so you're not just a robot. You go in and flush this. You go in there, shut off the valve. But sometimes you'll be gone for a week and the valve will be changed and you get a burn from a hot solution because you weren't aware that the valve was changed because you do your routine and open up the valve and it starts spraying out somewhere else because they changed the system without really letting you know, right? And then you get hurt. Safety meetings let you know if they've modified any parts of the system. And if it's a major modification, then your boss will come around and give you a little bit of training on how to do it to prevent injury.



Section Two: Injury Prevention

All of the women were aware that safety starts as a personal responsibility and is an ongoing practice. They recognized that exercising good communications, practicing awareness and education, using personal protective equipment, and general workplace preparedness all contribute to injury prevention. They acknowledged that their actions and practices also contribute to the safety of those around them.

It's continual on a day-to-day basis. Everybody's got to look out for themselves. That's one of the most important things to stay safe and always watch your entrance to your workplace, to make it safe for yourself and for all the other people that have to come through there.

Individuals need to keep informed and use “common sense” to think about “who and what is around you” to ensure that “other people will be safe too.”

Communications

A lot of information is communicated on safe practices, be it through manuals, workshops, preparatory planning or that which is shared by senior co-workers. “With every job task they have work instructions so you know exactly what you need and exactly what you need to do. There is a lot of planning prior to a job. You know what to look out for. The experienced operators also give you some insight on how to be safer.”

Through discussions with the women, mutual trust, collective awareness and continual communication factor into everyday job safety.

I guess it's a trust factor. My life is in their hands, and their life is in my hands. You've got to watch each other's back and keep each other safe, whether it's properly flushing a pump, rolling up hoses, finding a defect in a valve and reporting it to your cross-shift or to your partner in the area. Awareness is so important and communication.

The buddy-system is a vital communications system employed between those underground with those on the surface. It is also a way of having a partner with you at all times, either physically or through regular radio check-in, who can provide help immediately if something goes wrong.

[Companies] understand more and more with time how important it is to have partners, a 'buddy system'. When I work in the field now, you always have a student or an assistant. Somebody is with you all the time. If you're doing your job properly to make sure your assistant is capable of doing the things that you do, your assistant can help you if you get hurt.



We have 'working alone procedures' that need to be followed. As geologists, we spend quite a bit of time working alone underground. We need to fill out the correct paperwork and have the appropriate communications because you're not allowed to be more than two hours by yourself. That two hour timeframe is pretty significant. At that point, I would need to contact someone, whether it's face-to-face contact, telephone, or radio, but there needs to be two-way communication. I'll set up another time in two hours and I'll check back in.

In addition to verbal modes of communication, non-verbal signals were also significant amongst crews of varying positions. For example several engineers who worked with drillers explained that prior to beginning work, a communications plan would be put in place. Agreed-upon signals are important for crew members since equipment noise overrides the possibility for verbal communication. "I always talk to the operator beforehand and figure out how we're going to communicate with each other because it's hard. You can't really talk to each other because it's over the equipment, so you got to get your hand signals sorted out."

The use of non-verbal communication was also important for those working underground since full vision and hearing are also suppressed. There is an "internal underground language" which includes the use of horn honking, lights, radio technology, and in the case of an emergency, the diffusion of odourous gases.

You're essentially driving blind and you're listening. You can listen but you can only hear, say the horn honking. One honk may mean this. Three honks may mean that. Some of the honks are supposed to be different depending upon the repetition portion. You can't see down there. So you got cap lamps and you have telephone systems or emergency systems. You try to have radios where you can. If not, in an emergency like in the threat of fire, they use things like stench gas, that formaldehyde egg-rotten smell is unmistakable. And that's to alert us as well. That's an extreme backup, they go to great lengths to make sure that they have all the available communication.

Radio and satellite technology also come into play for communications. As previously alluded to, they reach and locate workers underground as well as keep contact with those out in the field, away from the mine base. Back-up plans between co-workers are used as a secondary means of ensuring worker safety and preparedness.

If we're in the wilderness I make sure I understand if we're working with a helicopter, I make sure that we have the pick-up time set up with the helicopter, and that the helicopter knows where we might be moving to so that when they come to pick us up, if it's not where they dropped us off, they know where to look for us. We typically have satellite phones if we're working in the wilderness, in addition to the radios that would keep us in touch with camp, because sometimes that radio contact isn't always as good.

Communication also involves making reports of injury or near misses so that others know of potential dangers on the worksite. Connecting the dots between these provides insight into how companies and employees can avoid repeating similar incidents. "Everyone reports any injury that happens, so everything gets documented and stays in the system and then we look for connections. Like, 'We've had a lot of these injuries. Why are these happening?' We'll look for solutions to that to prevent them from happening again."

Awareness and Education

Women did not simply wait to be told what was safe and what was unsafe. Many took measures to inform and educate themselves on how to protect themselves from injury. Being aware of one's environment was echoed across the board. One said, "I try to assess the risks and then determine what I'm going to do next. Most of the time it works out very well." Similarly, another stated "I try to get as much information about what I am going into as possible. I try to be careful and remain aware of my surroundings and mention to someone when I see something that is not quite right, or have a suggestion as to how I can feel safer on site."

Another worker took this a step further and explained that all employees "have the right to refuse an unsafe workplace" and when not provided, she is prepared to shut down her section of the mine. "I could write on a piece of paper 'this is a tripping hazard or this floor is uneven here.' If nothing happens, then I'll rope off the area."

For those out in the field, being aware means knowing the terrain, the wildlife and how to communicate with others.

I guess just making sure my stuff's in order, that I have the stuff that I need for the job. And then, looking around at where I'm going. Sometimes we just do mapping, which involves trekking across the countryside, looking at rocks. And looking ahead and being aware of, are you in radio contact? Are there bear tracks around? Just being aware.

Women are at times required to drive heavy equipment or work around it. Both cases require a great deal of awareness. When driving, you need to “make sure you’re maintaining your equipment properly and make sure that you’re looking ahead so that if there is an issue, you’ve caught it.” When working alongside heavy equipment, “you really have to have a sense of awareness about where you are and where the equipment is and knowing where your safety bays are to get out of the way.” Again, watching for oneself and for others was a given.

[We are] constantly evaluating our sites and that involves a daily housekeeping sweep because slips and falls are still number one. Talking about safety every day to employees was the best part of it: hazard assessments and job observations. Watch your co-workers, watch how they climb into that bus, watch how they walk off it. Are they even holding on to that railing? Are they taking into consideration the environment? Before they start that truck, are they walking around it, because we always teach that. Don't just expect that things are always going to be the same. So just taking that walk around the vehicle before even turning the ignition on sometimes will prevent an incident from happening.

For many women awareness and education go hand in hand. There is a lot to learn about the safety incidents that happen day to day and what industry needs to do to address these.

I probably responded to at least thirty incidents that were moderate in nature. One severe one, the rest were minor. I really learned to take other factors into consideration besides the obvious. Whether it was complacency, whether something personal was going on with the worker and they were distracted, or it could have been environmental, like visibility and light and not doing the proper procedure prior to the task. Or, were they at the end of their twelve hours? Were they at the end of their entire shift? You learn to ask a lot more questions.

Personal Protective Equipment

The proper use of clothing and personal protective equipment (PPE) mitigated work-related injury. As brought up in a previous section, some women practiced a high level of hygiene when it came to clothing worn at home, at camp and in the processing plant. In this way, great care and thought goes into alleviating cross contamination between these three environments.

Right from day one I have a totally different set of clothes that I wear under my coveralls and that go into the wash here at the mill every night. Not only that, but the clothes that I wear just here on site and that's right from my running shoes to my jackets, they stay on site. Even though when I come from the mill in the morning, I grab my little bag in the laundry downstairs, whatever I wear under my clothes. I do that all week when I'm here. The only time I'll wear the clothes that I wore from home is the day I'm going home after I get out of the shower.

For this same participant, personal hygiene for personal safety is of utmost importance yet she frequently sees co-workers cutting corners. Given the toxicity of the metal they are working with, carelessness for her is simply not an option.

I see a lot of people go out in the plant they just pull their coveralls right over top of their street clothes, the clothes that they wear to camp. They pull their blue jeans over top of their work boots, and their jeans are exposed out in the plant. They could be dragging their blue jeans in muck that might be out on the floors. I still see a lot of people, even mechanics, they're in the dirty equipment, fixing equipment and still you'll see them throwing their black, greasy or contaminated gloves inside a hard hat sitting outside the control room. I don't know what they're thinking. Maybe they don't get enough information when they come to site. The plant is contaminated although it looks clean. This is [a dangerous metal] we're running through here, not sugar.

Personal protective equipment is central for injury prevention for all of the women. PPE includes, but is not limited to, hard hats, hearing protection, steel-toed boots, high visibility vests, coveralls, safety glasses and goggles, gloves, helmets and life jackets. Women are aware that not using PPE could cause them personal harm and cost them their jobs.

That said, there have been situations where the proper use of PPE has not been adhered to. For example, on-site women need to be mindful and reminded about pulling their hair back, even when using a hard hat, so that it doesn't get caught in machinery or equipment. In some cases policies have been put into place about this safety measure because women

continued to wear their hair loose under their hard hats. As well both men and women have been known to find PPE cumbersome and unbearable depending on the weather. For example in the “heat, where you’re working in really hot and dry and really dusty climate, so it’s hard to wear that long-sleeved shirt, and the pants, and the boots, and the gloves, and the goggles, and the hard hat. There’s a lot of temptation with the environment, to take shortcuts.”

Though some indicated that “proper PPE doesn’t protect you a hundred percent, nothing does”, they all agreed that PPE “should just be a routine thing.” Another significant issue for women is that PPE is often sized for male bodies, given the historical predominance of men within the industry. Some women have had no problem finding proper fitting PPE whereas for others it has been one of their biggest problems for personal safety. All agreed that a proper fit was “so important. You just can’t do a twelve hour shift in something that you’re not comfortable in.” Primarily petite women and those with a woman’s size eight foot or smaller, expressed experiencing discomfort in their work clothing and boots. Many simply adapted through layering underneath their clothes and work boots. “I’m a pretty small woman, so I actually have lots of problem with [PPE]. I don’t feel totally comfortable with my clothing, it’s never my size, especially in the winter. That’s one of my biggest issues when I go to site, having appropriate clothing.”

They also give you steel-toed muckers, which are rubber boots that you wear underground and the smallest size they make is a men’s six. I have to wear those blue cushy socks. I put those on and they’re a little bit loose but they’re bearable. But I know there’s a lot of girls that have smaller feet than me. A lot of girls have floppy boots which is not really safe when you’re walking around underground.

There are special boot orders made for men who require larger than normal sizes yet this is not done for women who require smaller boots. “I work with a guy who’s feet are gigantic and they to special-order in boots for him which is kinda funny. They’ll special-order bigger boots for the guys, but they definitely don’t stock very many small boots for the women.” Women simply manage and adapt to bigger and bulkier PPE. Others stated outright that they are offended that they are unable to find or be provided with properly sized PPE.

As the gender landscape shifts within mining, PPE will need to be tailored to fit all sizes. This is not only for comfort, it is for personal safety in the workplace. According to one woman, “it’s improved but it’s still a work in progress.”

Size is a huge issue for women in mining. It's actually gotten better over the last five years, but because any type of safety equipment or PPE comes in man sizing, even size small is still what a woman would buy as size large, right? We've identified that here. They've gone ahead and contacted some of the suppliers that we get our equipment from and made a special request to have boots in smaller sizes. The smallest size of boot you could get was size six in men's sizing. When I started here, it's was like double wool socks plus slippers inside my boot. Now they bring in smaller sizes. Now we can get is size four men's, which is a six in ladies. Some of our new coveralls, now we can have the option of a tapered waist coverall that make them more fitting. Your coveralls need to fit you because you're walking around all kinds of equipment and you don't wanna get caught or pinched in something. Another example is the safety glasses. When I first started here none of them fit on my face. They were all too big, so if I turn my head they're falling off; if I look down they're falling off. And obviously, that's not gonna do very much for eye protection. So we had them bring in some different test types, and so now we actually stock a smaller, more fitted type of safety glasses. Now it fits me.

Fieldwork Preparedness

For those requiring remote fieldwork, packing the necessities to be prepared for unforeseen circumstances or prolonged stays due to inclement weather was of great importance.

I always have extra food, extra clothes, extra food when I'm, especially helicopter support and stuff. When I'm on a mine site that I can drive around I'm less concerned about those things. Helicopter support is so weather-dependant, you never know if you might get stuck somewhere for a little while. Well, when you're working with the helicopter it can impact when and where you can go do the kinds of things you need to do. And I've definitely heard of people – it's never happened to me cause I only worked on a helicopter site once for a few days – where they've gotten stuck at their drill pad and had to wait five or six hours for the helicopter to come pick them up. And, I don't know if anybody's, I don't think anybody's ever been stuck out overnight, but it can happen.

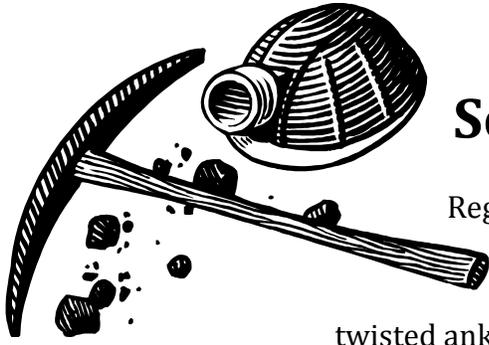
Depending on one's position, travel to remote and isolated areas is necessary. Wildlife was raised as a concern amongst some of the women although safety precautions and practices were commonplace. Of all the animals, bears were the most frequently listed as a potential danger by women in the field. Noise makers and proper placement of food items were

common measures to ensure fewer encounters with them. A few of the women also said that bear mace was part of their field equipment.

We've never been in any danger because of wildlife. That's not to say there isn't that danger. You do things to prevent encounters, like not leaving food out. You don't want to encourage bears. You do a number of things to make sure your food is down, away from your cook tent, that nobody is sleeping in the cook tent, that food is buried or it's put away or leftovers are burnt so that you do not encourage bears coming into your camp.



Last year we had a bit of a black bear problem, so I carried spray and I had a horn as well. I carry an axe with me, just in case. I had trouble with the quad so I have a little case on the front to carry tools in. When we're out in the field as well, we always, if I am going by myself, I always have a cell phone and a Walkie-talkie on me, and I always let someone know when I'm gone and when I'll probably be back.



Section Three: Injury

Regardless of their positions, most of the women had experienced a work-related injury. These ranged from tangible physical injuries like broken bones, sprains, twisted ankles, crushed hands, back and shoulder injuries, burns from solutions, edema of the legs, and eye injuries. Less obvious physical injuries included food related illnesses, respiratory problems, stress and anxiety, and ergonomic discomfort.

In order to get a sense of the injuries experienced, women were asked a series of questions related to the physical demands of their work. They were asked if they were required to sit or stand for long periods of time, whether they were required to travel long distances to their job sites or if they were shift workers. In each of these areas, they were asked to comment on any resulting health issues or potential health concerns. They were then asked to talk about incidents when they were injured on the job.

Many of the women were not strictly office-based or field-based but did a combination of the two. Work injuries are experienced by women employed in both domains and not only by those who had more physically demanding jobs. That said, the injuries were distinct in many cases.

Office-based Injuries

Of those who spent a lot of time sitting on the job, the number one health issue identified was ergonomics followed by fatigue and depression. When back or other physical health issues appeared due to their work stations, the women were proactive in seeking out help through an ergonomic assessment.

I was trying to do all kinds of things to be comfortable because I was never comfortable. I guess I'm shorter than average. The work station was not for a person my size. I was having lots of trouble and I was getting little stools to put my feet on. I was never comfortable. Just a new chair solves it all. I'm surprised, I never thought a chair would make such a difference. At the end of the day the back hurts a lot and I'm really tired.



I think that any sitting or standing, or being in any one position too long, can definitely have detrimental effects to your health. We are getting into more ergonomics and so we've actually had some people come in and, if you request it, you can have someone come in and look at your work station. I'm a pretty proactive person. So I don't know that if someone wasn't of the same personality type as me, I don't know that they would know to be able to do that.



It affects health. I've been more desk bound since I moved into this new role. It's been about a year and I'm definitely noticing that I don't feel like I'm in very good shape. I even have some back issues at the moment. An ergonomic assessment was quick to go, 'oh, well maybe I'm not sitting properly.' And just because we do sit for long stretches and it's just that much easier to get into problems if you're not sitting the right way.

Fatigue and other physical ailments were also expressed by the women. One woman said that sitting and doing computer work was affecting her eyes and back. Another said that she saw a chiropractor every two weeks because of her back pain which she attributed to "sitting in the office all day long." A third commented that she tries to get up as much as possible since her working environment makes her feel "tired and lethargic."

A few women voiced that they would rather be in the field than at a desk. Being stationary and indoors left them feeling unhappy and even depressed. One, for example, was immersed in physiotherapy at the time of the interview due to an injury she had while in the field. She candidly stated her dislike for being desk-bound and her desire to be doing fieldwork.

Similarly, another respondent echoed the desire to be in the field and that depression sets in as soon as she is back in the office. Being outdoors and physically active was an attractive aspect of some of the women's choice for a career in mining. "[I feel] sort of a depression because it's hard to come back and sit at your office for eight hours every day. I have a great office and [there are] wonderful people, but I'm stuck in a cubicle. I have to go around the corner to see a window so...it's an office..."

Heavy Equipment Operation

There are other ways that women can sit for long periods of time that do not involve office work. Heavy equipment operators are also required to sit for their full shifts. Lengthy sitting, with limited opportunity to move or stand resulted in one woman feeling stressed and unhealthy. Sitting in the same position for long hours also contributed to edema of the legs.

I had to sit, I could not move. Sometimes I could not urinate or go to the washroom. That was the equipment operator's job, that is the nature of that job. There were times that I was put in a position where because there wasn't enough people trained, if somebody was sick, if my cross-shift was sick and they didn't have a back-up, which they usually didn't, then I was forced to stay there because you would get pressure from the boss. That's all well and good except for the fact that eventually it takes a toll on the stress there. It does take a toll on your body. For myself, I had edema of the legs, over-swelling of the legs because I was constantly sitting for twelve hours like that. Health-wise, well you don't get as much exercise as you would like to that way...

Given the work and confines of heavy equipment operation, a participant told how she planned the day around bathroom needs. Although she did not have bladder infections from "holding it so long", she did have cramps.

You try to make a plan and normally the plan works. But for females things happen, just like they do for males, and if you overate that morning or had too much coffee...The best thing I could say is there's some days if I was doing an inspection, I would make sure that I didn't eat or drink anything until beforehand, until after we were finished because otherwise you'd be fearful of driving and something would happen. I've seen a female be so sick and nobody else able to replace her that she was forced to vomit in her cubicle because she couldn't get away. You really can't go anywhere.

Standing for Long Periods

Similar to those who were required to sit for a long time, those whose positions required long periods of standing also experienced physical aches and pains, along with fatigue. In one case, concessions for employee comfort were attempted through special flooring. And again, like the women who were proactive around seeking proper working conditions in their offices, this woman sought better comfort through proper footwear. "Ten out of

eleven hours, I'm on my feet. Sometimes I get a sore back, but in my area they've actually put rubber mats in the whole bay area. Every year you get a hundred dollars towards shoes, so like steel-toes, so I always make sure that I get good insoles."

A handful of the women brought up their age as a factor contributing to their fatigue. They also conceded that as they aged, soreness and physical strain on the body would become more pronounced.

I'm constantly moving. I don't know if it's old age or what, but by the end of the day, some of us can't even walk. It's hard to move. Your feet are so sore, your back is so sore, your body's just done, tired. By the end, after a twelve hour day of running around you get to your room and there's no socializing, there's no card-playing, there's nothing.



In the field, [I stand] for the better part of my twelve hour shift. I don't think this has had a big impact on my health. It can be tiring, and sometimes I am sore after a shift. This might build up over time during a field rotation, but we are never more than four weeks in the field, always with some time to rest and recovery time afterwards. I don't think this has greatly affected my health, though I suspect I will begin to feel differently as I get older.

On the other hand, when asked about standing for long periods of time, one woman spoke of being more active generally and healthier. In her case, her work "requires a lot of movement" which she believes has "only improved [her] health."

Shift Work

Many of the women interviewed were shift workers. Some of them were seven days on, seven days off, and some were two weeks on-two weeks off. While a few believed their health was not affected by this schedule, many more talked about their fatigue, lack of physical activity and boredom during their shifts, all of which can lead to work-related injury.

In terms of fatigue, one woman said "I did enter a burnout phase" after two years of being on call 24/7. Other women told how both during and following their shifts they were simply exhausted.

I think the fatigue is the major one because we work twelve hour shifts, and then we're often expected to do a lot of office work after that. So we'd come back and fill out forms and usually depending on how rushed the program is you can end up spending fourteen hours a day working, sometimes fifteen. So it's definitely the exhaustion that takes over.

Others spoke to the need to re-pattern sleep routines to accommodate their working hours. This was even more evident amongst those who were commuting long distances from home to the mine site and back between weekly or bi-weekly shifts, as well as those required to do night shifts.

Sleep is a major thing because there's a two hour difference from [home province] to [work province]. Also you're not sleeping on your own bed. I would say the first four or five days at work you are struggling to get up and you're tired. I get recovered at home. I feel sleep-deprived. I get two or three hours of sleep the first couple of days. But then your body gets used to it. But I think that's the biggest thing is sleep. S-le-e-e-p. Night shift is a killer. Your body's totally off..



It used to be no problem switching over from night shift to day shift. Tuesday before I flew to work, I would switch over. I try to stay up as late as I can Tuesday and sleep as late as I can Wednesday, and then try to stay up pretty much all night Wednesday night to come in Thursday to sleep in the afternoon. But half the time, for ten years I don't remember one night shift that I slept more than four or five, three or four hours. You don't sleep at all and it's hard. It's hard. But then you just kind of float through, which isn't safe anyway.

The women certainly recognized that sleep-deprivation can potentially contribute to workplace injury.

Oh, for sure, especially when your body's tired. I always say, 'My body's telling me to F-off' because there's sometimes where it's like your mind is still going cause it's night shift and it's different and it's like going into overdrive, right? But there's times where my legs don't even want to carry me up the stairs. You're dragging your feet around because it shocks your body. I remember when I first started doing shift work, holy smokers I was like a zombie! Your second night in, you'd be like, 'what the heck did we do yesterday?' You're just floating through the actions and the motions.

While she has established a routine that works for her, not all shift workers are able to prepare their bodies for the work required through twelve hour or night shifts. Given the interdependence between co-workers for safety, that some are not fully awake or aware can pose risks for workplace injuries or accidents.

I've gotten my routine. I know that I'm going on night shift and I know I have to start preparing my body for that. I've seen guys falling asleep standing up. Standing there with their eyes closed. I think 'Are you for real? Is he for really sleeping, you know?' Cause it's never happened to me. But I have seen people sit or come into the coffee room for coffee at coffee time, and fall asleep within seconds because they're not used to it.

Self-regulation and discipline around the establishment of a new sleeping routine also helped a participant to deal with her shift work and added that her biggest challenge is boredom.

I do 12-hour shifts, 7 days a week for 4 weeks at a time. I don't think it has particularly affected my health. It is different than a 9-to-5 gig, and perhaps more physically tiring. Sometimes I don't feel all that great when I am switching on to or off of night shift (7 pm to 7 am), but I don't think this has any long-term effects for my health yet. I am lucky to say that the biggest problem I have with shift work is boredom.

Even when women were not involved in intense physical work, the twelve hour shifts were exhausting, leaving women with little to no energy for anything else but low-key evenings following a workday. "I don't really do anything in the evening. By the time I'm finished dinner and get back to my room, I watch TV for a few hours, I'll call my husband and then I go to bed. I have a decent amount of time to sleep but my job is not very labour intensive, though. So it's easier for me."

Though exhausted, it can be difficult to voice this to superiors. One participant understood that long hours and fatigue were simply part of the work. Complaining about this wouldn't change the nature of the working conditions and schedule.

We don't get a break for a month. Some people say, 'well that's kinda nice cause then you can get into the swing of it'. But it is hard. After two and a half weeks, you really start counting down the days for a break. I knew it was my job, so I needed to tread lightly. I could sort of make jokes with my colleagues like, 'Oh my God, I'm so tired.' But my supervisor, I didn't want to go out of my way to

complain. Nothing was really wrong with me. That's the job and I wanted the job. I needed to get used to that. That's the job.

Being away from friends and family for a week or two at a time also affected women's personal lives. Some were married and their jobs took them away from their husbands for six months out of every year. For some, being away from a partner, the inability to find time to communicate regularly, caused a certain level of strain for a couple. "It's difficult because I'm not [home] all the time. When I'm at work and I've had a bad day my husband says, 'All you ever talk about is your crappy day at work.' It upsets him that I'm upset, and it's hard on our relationship for sure." Another stated, "I have a lot of friends who do constant work up in northern Alberta, and they, they're rarely home. It's hard for them to have good friendships, hard for them to see their families."

While a good number of women enjoyed being in the field as opposed to their office responsibilities, it was also not unique to hear the women say that they would prefer not to do shift work and to be closer to home. "If I could find a job in the city that would pay me as much as this job I'd be out in an instant. I hate working two on and two off".

In addition to disruptions in family and home ties, shift work also disrupts exercise routines. As one woman commented, "I find that I have to run a lot more. I have to force myself to exercise definitely a lot more. When I used to work underground I got exercise every day, but I don't now. I have to really focus on being active, though."

The Commute

A handful of the women interviewed did not require air travel or an extensive commute to their work site as they were located in an urban center close to the mine or administrative offices. Others did a combination of urban/office-based work with rural/remote and northern fieldwork. Of those who commuted weekly or bi-weekly to the mine site, they did so through air and ground travel. Travel could take anywhere from several hours to a full day. For some, commuting could be complicated, long and ultimately difficult for one's physical well-being. One of the women explained this as follows, "Often field sites are quite remote and it may take several hours by car, helicopter, or plane to get there. Mostly it is the transit (which happens during the day) combined with going on to night shift that is a bit rough health-wise in the short term."

Another had been on call for a period of two years and was required to travel immediately as needed by the company. The immediacy and consistency of travel left her in a state of burn out. "An incident could happen at two o'clock in the afternoon or it could happen at

three o'clock in the morning and we had to respond accordingly. For the two years I was doing it, I loved it. It was challenging, it was rewarding. But eventually I got burnt out cause it was just too much."

Again, as in other aspects related to physical work and shift work, travel fatigue may also become further aggravated with age.

It's going to be worse [as I age]. Coming in to work isn't so bad as going home. I know more than a couple fellows that it takes till Monday, Tuesday – we're Thursday flyers – but it takes the Monday or Tuesday for them to come back to normal. Like that's five days out of your week that you're numb, basically.

Physical Injuries

Women experienced physical injuries including broken bones, sprains, twisted ankles, crushed hands, back and shoulder injuries, burns from solutions and eye injuries. These were caused by a number of factors, including unforeseen circumstances, cost cutting practices, human error, ineffective peer to peer communication, uneven trails, improper pushing, pulling or lifting, and falls.

One participant had her hands crushed in a packaging plant. In her best estimation, the injury resulted from human error and poor communication between co-workers.

I had an injury in the packaging plant where my hands were both crushed. Due to a failure of communication, between the operator in the next area and the electrician that he was assisting and locking out the equipment where I was working. That's something that should never have been. You don't lock out anybody else's equipment. My hands are okay, but right up until this day, well, of course I'm getting older too now, but even back then when I was younger I can't get my hands cold. They'll ache. My fingers ache even right after that. I cannot get my hands cold, otherwise they just ache, like arthritis, and they're even worse now. They're not deformed or anything.

A back injury was reported by another participant. In this case, the injury was the result of a fall. She concluded that poor judgement and shortcutting safety procedures precipitated her injury.

I was working in a warehouse and fell from a tractor trailer. So I do know what it's like to go through a back injury and go through Worker's Compensation. I look back and I know I made a poor choice that day. I probably put myself at risk and I probably knew it at the time but I just chose to do it anyway and ended up

slipping. Instead of being lifted up with the fork-lift, I scaled the tires to look at the back row and I ended up slipping. I was near the top. I fell and then there were some tires on the tractor trailer that I fell on. I think it was more the fact that I landed on something that wasn't uniform. It was a jumbled mess. I did have to go through moderate duties for nine weeks and then I went back to full days.

Given the uneven ground traversed by workers when in the field, ankle twists and sprains occur with some frequency and don't usually require downtime. "You have to step on really uneven grounds. I was sampling on top of a muck pile. Coming down I just stepped on the rock wrong and twisted [my ankle]." She made a report to her supervisor, had it bandaged and "kept working."

In a similar way, upper body strains and injuries result from land-based travel through other terrains, including waterways. Mapping, as explained below, can involve heavy physical labour to get to a worksite, such as portaging and carrying equipment. This participant expressed that injuries can be unforeseen events and brought on by a multiplicity of factors, including the uneven landscapes, the difficulty in reaching remote worksites and cost-saving company directives. She also clearly stated that injuries, such as hers, can happen regardless of whether you are a man or a woman. Physical injury can also have the effect of temporarily or permanently altering one's position within the industry.

To access the area that we were going to be mapping we were attempting to take our equipment and find a route to a camp as cheaply as we could. It was go up the river, through a lake, and then up a little bit more of the river, and then place a camp. Unfortunately, the river levels were really low and the rocks stay the same size that they always are. So we had quite a lot of difficulties, walking in the river, pretty much having to carry the boat in the river. At times we were so hung-up and caught up among the rocks, that we realized at a certain point that we weren't going to be able to take our equipment there using that route. At this point there were two men and myself doing this. We were all working very hard to try and get our boat up. Being the lighter of the three, I was in the boat and the boat was hooked onto a rock. I leaned down on a paddle to lift the weight of the boat up and they'd pull, right? So in the process of that, we got the boat unhooked. But while I was pushing down on the paddle with one arm, I felt something pull on my shoulder. And then the boat is free and it's travelling down the stream, which you kinda don't wanna be without a paddle when you're going down stream. So the paddle was now wedged and stuck in the rocks. When I was pulling the paddle out, that same shoulder – I felt another pull. And it resulted in two probably minor injuries, but I stayed in the field. It's difficult to stop working.

You don't want to stop working when people are depending on you. I didn't know what was wrong. When I came back from the field I finally figured, 'Okay, it's not really healing.' So I needed to see the doctor and report it. We did do the reports in the field. The people who I'm working with signed for it and everything, they watched it happen. I don't think it really would have mattered much, woman or man it was just what happens sometimes when you're struggling in poor ground. Normally you don't get into a lot of issues. You do things as safely as you can. Everybody knows their own limits and they're encouraged to work within their own limits. So nobody's asking you to do something that's beyond your limits, but in some circumstances, you do exceed them without realizing it in an effort to move forward, right? It might have been 2009. It still affects me. The specialist, because I cannot rotate my arm, says that the shoulder itself is not stable enough yet so I can't go in the field. I definitely can't lift what I used to. I can't do the things that I like to do, so it's changed things. It has affected my work. I can't work in the field. So, now what do I do? And it hasn't really been addressed in our department. I think that I can suggest ways to change things, but I cannot move forward in my career if I'm not mapping. This bothers me.

Again, another case provides a similar perspective of the unforeseen circumstances which can lead to injury. This participant was simply in the wrong place at the wrong time when a large tree branch fell on her back while doing test pitting alongside a colleague at an overseas worksite.

The next thing I know, I'm lying on the ground. I don't think I passed out cause it happened really, really quickly. The tree was probably about six or eight inches across, it probably could have killed me. We went into the town about half an hour away and got an x-ray. I hadn't broken anything. I was pretty sore and I wasn't really getting any better, in terms of the pain, so I came home [to Canada]. I went to the chiropractor, the physiotherapist, and the massage therapist. It took about five months before I recovered from it fully. I haven't really had any problems since then.

A small slip on a metal staircase seriously injured one woman. She was going between routine points in the mine when she lost her footing and landed on her knee. Despite having cracked her knee cap, she continued to work to save face in front of her male colleagues until it was no longer possible due to the extreme pain.

I fell and hit the edge of the stairs. I think I was in shock. I got up, cause of course I'm embarrassed and fell back down. My leg felt really weak but I don't know if it's cause I'm the only chick, if I had to act tough, but I walked on it and I'm

holding back the tears, you know? I went to the bathroom to go pull off my coveralls and I was bleeding everywhere. I had cut my knee-cap right to my bone. I was mad at myself. I felt so angry and disappointed with myself for tripping on stairs. Out of all the safety things that could happen to me in this place, I have to trip on stairs? A little bit of depression went on there.

Unlike other participants, this woman did not feel that the company took care of her following this incident. She was flown to an urban centre but was ill-prepared to stay there for any length of time. For example, she did not have any of her personal identification or banking cards with her and she was expected to find her own accommodations, despite her debilitating injury. She had to become her own best advocate in this situation.

I did my x-rays and I got sent out the door. I'm standing there with crutches, I didn't have anything, I was up at work, I don't bring my bank card or nothing up here. I had nowhere to go. I was on my own. That's how they handled me. I phoned site and I said, "You guys gotta set me up with a place to stay for tonight because I can't travel home." They did eventually set me up with a hotel room but why did I have to phone?

After four months and intensive physiotherapy, she returned to work with a greater insight into the need for better injury reporting mechanisms for employees. She continues to struggle with lingering pain and shame as a female employee regarding her injury.

One woman feared damage to her cornea when a solution splashed under her protective glasses.

I was emptying all that access oil into another bucket to pump into a big oil drum and when it was draining the oil splashed and came up under my glasses and got me in the eye. It was burning pretty bad so I went immediately to the nurse's office and she washed it out and then gave me some antibacterial eye drop. It was fine after that. We did a report. I was mostly worried because you never know what's in those buckets from underground so I kind of panicked. I thought maybe I scratched the cornea or something.

There were a number of other minor work-related injuries discussed including stepping on nails, general back "wear and tear" from lifting and carrying heavy loads, repetitive work leading to repetitive strains, and splinters from carrying "wood boxes". None of these required time off from work.

Reporting an Injury

Not all of the women had experienced a work-related injury so they had not been through the process of reporting an incident. Several said they were still unclear how occupational injuries were reported. Only one said that she had no idea what the process was for reporting an injury. Many more, though, were able to explain the different steps and people involved in reporting an accident or injury, primarily “because it’s happened before”. In large part they said the process is dependent on location, time of day, scenario, and severity of the incident. It can involve, among others, the assistance of co-workers, a supervisor, a nurse, First Aid or First Responders and the Workers Compensation Board.

The majority of the women said that they have been strongly encouraged and expected to report all injuries, as minor as they may seem at the time. This also includes near misses, like if “something falls by you”, the reason being to improve the safety of the work environment. “On your first day when you do your training, you have to sign a thing saying that you will report all injuries or incidents, or anything like that. Even if you’re not injured [but] were driving the work truck and collided with another truck and you were fine, you would still have to report it as an incident.”

That companies are becoming more “safety conscious” demonstrates industry “progress” towards greater injury prevention. This was not always the case “...that’s definitely changed since I’ve started. Rather than have things happen to people and they think it’s too small or don’t want to admit it happened, they want to know everything that happened so that they can fix the cause rather than have it happening to everybody.”

Despite being encouraged to do so, not all of the women who experienced a work-related injury reported it. One said, “There are a lot of things that happen that people don’t report.” They chose not to do so for a variety of personal or professional reasons. A “combination of factors” for not reporting also included not wanting to deal with the paperwork involved, not wanting to take time off work, perceiving the injury to be insignificant or fear of getting into trouble.

Employee education is necessary to lessen their fear of reprisal and thus their reluctance to report work-related incidents. For example, given the high costs associated with heavy equipment and machinery, operators “were fearful that the [company] would hold them financially accountable” for any damages related to a near-miss or accidents.

There are people out there that have injuries and they’re afraid to tell because they’re afraid to get into trouble. If the operators do something wrong, and it

happens, immediately they think they're in trouble and I have to explain to them, 'No, this is not a disciplinary thing here. They put in serious events just so that other people learn from them, so the same thing doesn't happen. It's just a learning experience'.

Women also hesitated in filing reports or seeking out medical assistance because they know that these incidents are broadly shared amongst management and then trickle down to their co-workers during safety meetings. In one case a woman was asked repeatedly to present her work-place injury at staff safety meetings. This put her “on the spot” when she felt she had “absolutely nothing to do with” how the accident happened to her. In this way, one’s specific, and at times very personal, injury can become a point of very public discussion. For some this caused a great deal of personal embarrassment and shame for having been injured.

It goes on the report and it's talked about at the safety meetings and then everybody's aware of it. Thank goodness I was off site when they went through my injury cause I was ashamed of myself. Even though there's no names on those reports, it's a small town. Word travels fast in a small town. There's no secrets here.

For women specifically, having one’s name on a report can be so uncomfortable that some prefer to leave the mine site for health related issues.

If you go to the nurse with a health concern, if it's serious enough, they put it in a report and it goes out to all the managers and it has your name on it, and all the information of what you've told the nurse. So personally, I don't go to the nurse because I don't need my boss knowing if I have period cramps or something like that. It's awkward. If it was more serious I'd probably just drive to the closest town.

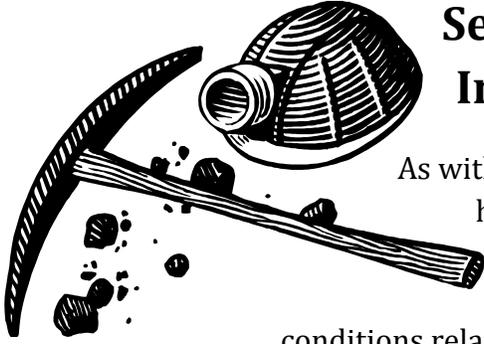
Company drug policies are another impediment to injury reporting. Several women admitted to recreation drug use when not working. While they didn’t agree with drug use at the mine site, they also didn’t agree with being required to do a urine test as part of an incident report primarily since it would pick up traces of drugs they used during their off shift days. In these cases, some chose to refrain from calling attention to minor injuries. “The only thing I can think of [why they wouldn’t report] is, depending on the incident, is if they have drugs in their systems. Cause depending on the incident, they have to take a pee test.”

Finally, a combination of the male-dominated and a “get it done” work culture made admitting an injury difficult for some women. Being the only female on a crew requires some women to prove that they can be as physically tough as her crewmates, “one of the boys” so to speak.

There was one time I went to pull out a box of rock and I had put my fingers inside the box and something was sticking up in the back, like a piece of rock or whatever. I tried to pull the box and it didn't move but the core inside slid forward. It smashed my finger and I broke my nail about half-way down, half-way over. It started bleeding out the middle of my nail, so my co-worker super-glued it shut for me. If I were to go to the nurse with a report of a broken nail and it were to go in a report with my name on it all the men would be laughing at me, going 'ha-ha, silly girl broke her nail at work'.

The problem with this though is that pride can at times result in a minor injury becoming a major injury.

I don't wanna sound like I'm a sexist cause I'm certainly not but it's mostly a male-dominated workforce. It seems to me that there's a bit of pride involved. 'Oh, it's only a small little scratch, it's no big deal'. And you end up continuing and now your finger is infected, or something like that. I'm not saying that that happens, but that is my own personal opinion that I think that would be the only reason things wouldn't get disclosed.



Section Four: Other Stressors and Injury

As with previous PWHCE projects on women and mining, we heard that there are additional stressors related to the industry that have multiple but perhaps less obvious effects on women’s health and safety. These include conditions related camp life, nutrition, designated spaces for women, and other stressors such as interpersonal relationships, contaminants, reproductive health, job advancement, weather, wildlife, and the work culture.

Camp Life

Many women who participated in the study were required to live in mining camps, ranging anywhere from one to two weeks at a stretch. Camps are set up to house and feed a commuting workforce. Women described their camps as modular “co-ed” or “Jack and Jill” residences with shared bathrooms and showers. Some were comfortable with these arrangements, others were not. One said she was fine sharing the dorms with male colleagues since she had grown up with brothers but still, “made sure that [she was] not just in a towel when coming back from the bathroom to [her] bedroom.” Others expressed a level of discomfort with having men for neighbours.

All the camps that I’ve stayed in don’t have a women’s wing. So your neighbour could be a male. Every time you come back into camp you have to check in and then they’ll give you a room. I would say that that shared bathroom, for the majority of the people in camp that work there, can be an issue. My niece that works in camp, she always talks about how stressful it is to be beside a male. A lot of the women officers that was their first concern, ‘who’s next to me?’ As soon as they hear the door click, they’ll walk out of the room and think, ‘Thank God it’s a woman!’ or ‘Oh God, I have to spend two weeks living with a male.’

Apart from having them as a direct neighbor, some men pass unexpectedly through women’s dorms (in camps where they exist). In one case, a seasoned worker was noticing more male traffic through the women’s wing of the camp and had recently started locking her room for security reasons. Another had underwear go missing from a shared washing machine which left her suspicious of her male colleagues.

However more significantly, women spoke of the isolation and loneliness they felt when living at camp. Despite the enormity of one camp, with its vast and perpetual access to

amenities, ultimately its remoteness wore on one participant. Of note, the isolation is not simply an issue of geography but concerns one's ability to have a social life. In other words, camp life and shift work take a toll on the body and so to socialize afterwards is not always a realistic option.

You can imagine living in a camp with 10,000 other people. It has six gymnasiums, six cafeterias, a Tim Horton's. It was very remote and isolated. Even when you landed at the airport you still had an hour and a half ride into the camp itself. It was just the most incredible thing I've ever seen. At four thirty in the morning you could hear these steel toes in the hallway. It was just like people marching, going to their day job and then you'd see the people returning from the night shift. The camp itself was very well maintained. There was constant access to food and coffee and tea and water. I think the isolation can get to you, you know. Most people are exhausted after twelve hours of work, so it's just a matter of eating and showering and getting enough rest, and you'd go at it again. So yeah, I can see that people can feel very isolated up there.

Another layer to the remoteness was being removed from all things familiar and familial. This was felt more so when communications to one's home life was limited or impossible. Workers either adapt or shut down to cope with these unique social landscapes.

That month was hard. I was completely isolated from everyone. I'm used to being able to just call up my parents and my friends when I need to. You can't Skype with people. You can't phone people unless you have a phone card. So it's tricky. You just have to start adapting. I need a lot of social interaction. Some people, when they go up to camp, shut down sort of. They just do their job and they go back to their room and they don't talk to anyone. I found that I became this ultra-ego of myself, this super bubbly, happy person because it's the only way that I knew how to get through that month. I would be up a bit later just being friendly and chatting with people because I was so lonely during the day. I hadn't expected to be quite so lonely. It was because I was stuck with these two really grumpy guys who had no interest in socializing with me during the day.

Physical inactivity also compounded social inactivity and was expressed by several women as having the potential to cause long term health effects. As in our previous study on mining in Northern Saskatchewan, women were not at ease with being the lone female in a gym filled with men. As spaces were male-dominated, the women simply chose to avoid them. As one woman said,

We had a little gym thing, sort of like a place to lift weights, but I'm pretty shy so I just didn't do any physical activity. I expect if I was one of the employees who does a lot more field work in my company that would be pretty draining. You just lose your routine. You adopt a completely different one that's a bit foreign. And then there is the exhaustion. But also, you're not eating what you want to eat, you're not cooking for yourself, and then you're not doing all the physical activity or the socializing that would keep you healthy...

Nutrition

Having access to healthy and nutritious foods was a common concern brought up by many women shift workers. Some women observed that the round-the-clock availability of food in some camps can result in overeating. For those with specific diets, such as vegetarians or vegans, being able to eat accordingly can be a challenge.

It is next to impossible to have a full and nutritious vegetarian diet while at camp. I will eat small portions of meat occasionally to make sure I'm getting enough protein, but it is a big challenge when meat forms such a large part of a camp diet. I can tell objectively that the food is good, though I struggle with the huge quantities of meat that are served and the lack of alternatives.

Some chose to bring their own food or snacks when in the field. "I don't spend tons and tons of time in the field and when I go I usually bring my own snacks. I bring my own almonds and raisins, or trail-mix to have during the day, so that I'm not eating the muffins and chocolate bars."

Despite progress underway to provide healthier options, many of the women described the food as "not terrible but not great". There are plenty of meat options, carbohydrates and fried foods and although fresh fruit, salads and fish are part of the food choices, they are often scooped up quickly. The women agreed that good food is essential for their health but also to do their jobs well.

I think people are starting to recognize that food is important. At first, it was like fried chicken, french fries and mashed potatoes, and fried sausage, so it was a lot of fried. The miners love it. They work all day underground. But it's also bad for their health, right? But now, I think they're starting to recognize that there is definitely a correlation between getting proper nutrition and working, and having the stamina to work. Being a vegetarian and working in a camp is not

easy. The salads have bacon bits all over. They are making an attempt, but it is a slow process.

Women recognized that miners in particular appreciated the high caloric food because of the demanding physical labour they do each day. But for surface workers, this kind of menu wreaks havoc on their systems and energy levels. One woman indicated that her weight fluctuates by up to ten pounds between her bi-monthly shifts and that she is concerned about her digestive system. “Not to get too graphic, but there are certain ways that your poop is supposed to look, and it’s not supposed to float because there’s too much fat in it. It tells you the amount of grease that I’m eating at work...”

I tried eating anything that wasn't fried or beef and the options were so limited that my energy level plummeted. So I went back to eating greasy food and I was sick again. They have salad and stuff but usually it's just a tub of iceberg lettuce, and that's it. They do have a tray of raw vegetables, but it's almost always empty by the time I get there, and they don't refill it. I think the ratio of greasy food to vegetables is so out of proportion. But a lot of the miners, they work underground, they work really hard, they need all the calories, whereas a lot of people on surface who work in the office don't really have a very labour-intensive job, so I'm not burning all these calories off.

With reference to shift work, women found it difficult to stomach meals in reverse. “I have to be careful as it can make me feel unwell or give me heartburn, something I've never had before. This may have something to do with being on night shift and eating dinner-type food for breakfast.”

Women applauded any progress made to bring in more food options, healthier menu planning and the display of nutritional charts.

Designated Spaces for Women

Companies need to adjust to a growing female workforce. Still today, there are mines which do not have women’s bathrooms underground. Two participants in this study corroborated with this. One said that even though she thought having this would be a great addition, especially for women who are underground for twelve hour shifts, that men would likely end up using it as well. The emerging spaces designated for women have been a battle hard won by women and one that has occurred because of the influx of more women within the industry.

You'd physically have to stop, go to the following building where the female section was. Back then it was very small. Now it's drastically bigger because they employ more females. So back then, you were given the smaller washroom off some office way down in Hell's universe and that was it, because there's only two or three of you. Now it's different. The washroom's right beside the operator pretty much so that's not an issue today. But those of us that went through that a number of years ago, what females are working with today in this industry, that's due to those individuals that had to live through that in order to make it better now. And I'll tell ya, we had to fight to get it.

Dry rooms are change rooms used by workers. Again, these are starting to be renovated to accommodate the larger number of female workers, but there is still much progress to be made.

We do not have our own dry room. Drillers have a dry room because their clothes get filthy. My clothes don't get quite as bad, but they are pretty dirty with grease and diesel and dirt at the end of shift and I would like to put them in the dry, but it is effectively a guys' change room/smoking hang-out and it would feel just not ok for me to be in there changing. I am one of only two women in the whole camp of 100+ that might require a dry, whereas there are maybe 20 men who use the dry. That said, it would be nice to have warm, dry work clothes that don't have to hang in my bedroom and get everything else filthy.



We call it the women's 'dry' but it's the change room essentially. When I first started here there was one toilet, two showers, and four lockers. We're slowly increasing women. So since then, and many times of doing the pee dance in the hallway, we've enforced and stressed to management that we needed more than that. So, actually, they underwent quite a strenuous project and expanded the washroom significantly. We've now got three washrooms, or three toilets, four showers, and twenty-four lockers.

It is not only work-specific spaces that need to be upgraded to reflect a changing workforce, but social spaces also need to be set aside where women are free to do recreational activities without the interference of men. But as with other women's spaces, this is usually recommended and advocated by the women themselves.

We're going to designate the one common room in there just for women. I'm happy with it. Attached to the gym is the recreation hall and there's ping pong table, there's a pinball machine, pool table, TV's. But you'll never find girls in there. Ever. So even having a little room for some of the girls to go to, to read or go on their computers, I think would really help.

Additional Stressors

A number of the women agreed that there were issues that caused them, and their female co-workers personal stress and anxiety. These were in large part related to work environments, the demands required of them and the workplace culture.

Many mines run on a 24/7 basis regardless of the season or weather. Work does not stop because of inclement weather. "Doing a couple of inspections in the middle of the winter was the hardest, it was freezing. And another inspection was pretty high and the wind was harsh." Women work throughout the four seasons. According to one, winter weather can present its own safety concerns and considerations.

The environment is a challenge, especially working in the North. We were very close to that border up there and during the winter months it means you are working, living, and traveling in minus fifty degree temperatures, blizzard conditions, which make you more susceptible to hyperthermia, frostbite, equipment failure. So Personal Protective Equipment, is really important in the winter.

Employees work to meet constant deadlines and can at times be asked to work beyond their usual 12-hour shift. One simply said, "with production you've got deadlines and even when you're underground one of the things you have to be aware of is what time it is. There is stress with varying types of deadlines. There's always some stress." Another said, "I've seen people quit because of other pressures from other people while they're on that type of job because it's so stressful." Stress is an everyday thing, in fact, it is "minute by minute."

It's high-risk, we use big equipment, so something could go wrong fairly quickly. So, the other part of the stress is the unknown. We have guys out in the crew, in the bush and there's a lot of things that have to get processed and done, and they're out there 24/7. So my emergency phone could ring at any time and it

could be something small or something big. That's where the stress comes from, so it does take a lot out of you.

The expectations placed on workers to go above and beyond their hours to advance in their careers, fatigue from doing extended shift work, and general attitudes on site all contribute to employee anxiety.

A while ago, leading up to a recent accident on site, I was pretty stressed out by the macho work attitude I was experiencing. I mean, this is rough work and the drills are running 24 hours a day, every day for several months on end. Obviously the guys working them get really tired. So why are they doing 6-8 week rotations?! I watch these guys get tired and I know how safety goes down hill the more tired they get. Some of my co-workers pull 24-36 hour shifts. Drilling can't stop, time is money. I would never pull a 24 hour shift because it seems dangerous and I know I would be ineffective past maybe the first 16 hours. I guess that means I will never have a field supervisory role, if this is what is required. This stresses me out because I worry that it could be expected of me, but I am unwilling to do it.

Contaminants

The actual mine environment was another point of worry for some women. In this way, they were concerned about the potential for long term personal health effects of toxins and contaminants.

They recently moved the conveyor belt where they crush up the rock away from the building. I guess they didn't realize it was going to be so dusty. It blows when the wind blows and it blows right through camp. A lot of people were really concerned with silicosis. That could lead to lung cancer! It's shards of rock ripping up your lungs.

Several women commented on health-related issues, including breathing problems and headaches due to airborne dust, particles and other toxins at the mine site. "Mostly there's been more dust in the air. I've gotten a bit of asthma now. I had to go to the doctor and get an inhaler. But I got an air purifier for my room. And it has helped absolutely ten-fold. I was getting migraines for a while." Another stated, "I had some exposure to diesel fumes and that sort of thing, and that can give you a headache if you don't know how to deal with it. Stuff like that. Little bit of chemicals here and there - that can be an irritant if you don't handle them properly and it's not a comfortable."

Work underground presents its own set of health challenges, namely hearing loss and lung irritation.

They do lung tests every year and hearing tests because there's a lot of fumes underground, especially from the machines. There's also concern especially with the geologists that go underground if there's not proper ventilation...They usually carry a detector with them. So if there's high nitrogen, carbon monoxide, their detector would go off. There is concern for your lungs and your hearing.

Reproductive Health

A number of women voiced anxiety on not knowing how exposure to workplace toxins would affect their reproductive health. None of the women was pregnant at the time of the interviews but some had been pregnant or had become mothers over the course of their careers or were contemplating motherhood. For some, it was the first and only time that they felt unsure and unsafe during their mining career. "I've done extra things in safety to feel safe but that was one time when I just felt my safety was in a totally different place. I knew I wasn't doing anything to affect me, but it was stressful in that, 'man, what can I do? Or, what can't I do? How do I handle this?'"

That they were unaware of the full extent of the chemicals being used around them, many did not want to return to the mine work once they were pregnant. "I was probably two months pregnant or less when I talked to my boss. It was right in the beginning because at that time, I was going regularly to the mines and I really didn't want to go in anymore." Fortunately her employer did not require her to do field work during her pregnancy.

Some women expressed a definite fear around industrial chemicals on the outcome of a pregnancy.

One of the concerns is those mines use all kinds of chemicals. You don't even know what they use for those projects. That was in the back of my mind when I became pregnant. I had to debate between saying too soon [that I was pregnant]. You never know if pregnancy will go or not, but I choose to do so because I didn't feel good going to a mine being pregnant because we're in all parts of the mine.

One was unsure whether employment in the mine resulted in her experiencing two miscarriages.

I have ended up having two miscarriages while I was working in the mining industry. I don't know if my work affected that or not. I don't know how you determine that. I just wasn't quite sure how to handle it very well. But I would say that probably in this current position my employer is pretty good about dealing with something like that whereas I could think of other places I've been that I would have been very uncomfortable trying to explain my situation and seeing how they would deal with it. I did tell my boss about it. I probably should have sooner. I realized afterwards there were more resources available than I thought. It's something that any woman in mining may have to be prepared to deal with. It's getting a little better but probably 80% of the time, maybe higher, your boss and your coworkers are going to be male. So then you're doing things that you normally do, which are safe, but then you're not sure if they are now because you're pregnant. So it's hard. Did it have something to do with the workplace? I can see that that would be something that other women would worry about too. When you first do become pregnant when do you tell people and how do you tell them? And then, what does that do to your job? And how does that affect the jobs that you have to do? And is your workplace prepared to give you other work? There's probably still a ways to go on that side of things. I do know somebody who had several children already. She ended up driving a truck underground until her last month. So some people can do it and there's no problem but you just don't know.

As alluded to above, stress around maternal health extended beyond environmental concerns to economic issues around job advancement. Some had no aspirations to become mothers and thus didn't feel that their job progression was at risk. One strongly emphasized to her employer that she would not be having children, "I think that I'm pretty vocal about my preference to not have children. I'm pretty open about it at work. I joke because I don't even like kids very much. I don't think, for me [job advancement] is an issue, but I think it would be if I hadn't voiced my opinion so much." Yet her male counterparts likely do not have to be vocal around fatherhood and parental obligations. Another stated,

I've moved up but you can tell that there's fear that about...I have to mention 'I'm not having kids, guys. It's all good'. You have to mention that a little bit. But I think there's a little bit of fear that women are going to quit. I've had bosses that mention that it's hard to hire women cause you know 'in five years, they'll leave'. But in a sense, everyone in five years can leave. It's not just women, but they're

expecting in five years, they'll have kids. But it's not a disease, it's just children. You can help us out here, you know. There's ways.

When motherhood was in their future plans, women that it had to be kept hush-hush. As the following shows, there is a stigma around women who aspire to have a baby since they often need to leave their positions. Some perceived that employers see as short-term workers and may not fully invest in them or limit their opportunities of advancement. Women were left with many questions around how to integrate parenting within their career aspirations. Similarly, they also had concrete solutions, such as accommodating them during the early years of parenting, from job redirection to the provision of local childcare.

There's a little bit of sexism and you can feel it. There's things being said, you know, especially at my age right now, thirty. You can kind of tell that they question, 'Is she going to have a kid, or not?' But a lot of women quit the mining industry when they have a kid, right, so it's kind of like a stigma in that sense. That stresses me out a little bit cause like, what if they don't advance me because they think I'm going to have a kid? What if I do have a kid? How would that affect my career? How would I progress? Would I just become stagnant? The company can't really accommodate for your child, right. Although, I think [the town] has an awesome opportunity, especially for the local people if [the company] were to provide a daycare. Women who live in [the area] could work and have their kid in daycare, especially young children.



They don't come out and say it, but you can feel it, I mean you hear talk. Like somebody asked one of the head guys why not more women work in the mining place, and somebody says, 'because they have kids'. I'm like, 'it's not a disease, guys'. My husband's great. He's like, 'I'd stay home with the kid, which is great'. But a lot of couples work at the same place. One of them has to give up, right? And it's usually the woman who gives up, which is unfortunate. One of them has to give up their job because you can't work two weeks in, two weeks out with nobody at home, right? A lot of the women quit when they have kids because there's no incentive for them, no programs, like a simple daycare. It's huge. Mining is Canada's biggest sector. There's got to be incentives for women. We're the primary caregivers. [My employer] wanted to talk to me about improving the camp conditions for women and things like that and I was gonna bring up considering putting in a daycare.

Women are surrounded by male-coworkers, supervisors and managers. In the rare cases when they have female role models, particularly those who advanced to higher levels in the industry while mothering, the ability to manage a career alongside parenting becomes a greater option. Certainly, working mothers benefit from supportive employers and family environments.

We look at the people in the Senior Management positions in our company and they're mostly all men. I have two really great examples of some strong female senior managers who have children and they have made it work. One of them has had to make a lot of sacrifices. She just never goes out in the field, really ever. But she's still a good manager and has a great job. The other has two very young kids and she just balances it with her husband. They just trade it off. You would need to have a lot of really great planets aligning to do intense work that we do and have a family. You need to have a good, strong partner who's willing to help you with that. And you need to have a company that's willing to let you take the time off too. Obviously, maternity leave is the law. We talk about that quite a bit. It's tricky.

Workplace Culture

Mining is a male-dominated industry. On one level, a few participants said this worked to their advantage in that they were treated differently, and perhaps better, than their male counterparts. They saw many of their colleagues as both respectful and helpful towards them which may not have been the case if they were men. "People are very positive, when they see women they are very respectful and it's been very positive."

If anything, being a woman in the mines, I probably am a bit on the other side. I'm a little bit lucky in the sense that I'll get to a heading [passageway] and I'll be trying to hook up a water hose, and the gentleman who's working there'll come over and say, 'Oh, do you want a hand with that?' I don't know that he would do that if I was a male geologist. So if anything, I maybe have a bit of an upper hand. Times have certainly changed from men thinking here that it was bad luck to have women underground.

At the same time that the "drillers or the construction contractors are a little over-protective" of women workers, they also have "almost a lower expectation" of them. In other words if a woman doesn't know how something works, she is cut slack because she is a woman whereas "a guy who's fresh out of school who doesn't know how something's done, might be given a hard time for that."

Other women's optimism can be tempered by their understanding of the more insidious pattern of a culture of workplace sexism.

Most of the guys are really respectful in camp. The first month or so that I was there though I would walk into the kitchen at lunch and everybody would turn their head and look you up and down. At one point I wanted to get a shirt that said, 'Quit staring at me'. I think it's just there's so few women that everybody looks at you. It doesn't really bother me but I know that it bothers a lot of other women. On my last rotation I went to play poker with some people and they were all really nice and they enjoy having a girl around. They usually watch their language and what they say. They open doors for you wherever you go. But then there's stories that you hear. I have a friend who works there and told me that there were bets going on underground about how long it's going to take until I break up with my boyfriend or something. At least they don't say it to my face.



Male bosses and co-workers have treated me differently because I am a woman, or said things to me that they would never ever dare to say to a man. It's hard to know what is whining and what is legitimately claiming unfair treatment, and yet I know that my even wondering this is part of the problem. The thing is the behaviour is never overt. It is always things that can (slimily) pass for 'jokes'. For example, a client once teased me, telling me that my male co-worker was being chivalrous' going on night shift so I could be on day shift. I thought, 'No, I'm on day shift because I'm new to this and there is more support for me during the day should I encounter a problem.' If this client thinks that, what other annoying, archaic things are going through his head?! That's the kind of thing that, if you point it out, you'll be told you're being 'too sensitive.' A female co-worker of mine had an experience recently in the field where the men she was working with simply took up and started doing her job for her and told her she could leave because they 'had it under control', even though it was definitely part of her job. What can you even do in a situation like that? On the surface, men and women are not really treated differently in the workplace. I don't think you could get away with overtly treating men and women different any more. However, it's the 'jokes' and the archaic stereotypes about men's vs. women's work (particularly in

the field) and the 'oh don't worry I can just do that for you' that are subtle and difficult to challenge that really get to me.

More women said that despite their ever-increasing numbers in mining and the introduction of policies against sexual harassment, they continue to experience some negative aspects of male-dominated sector. This is can become a point of deep stress for some women. Some even leave as a result of the work culture. For some, even though they may occupy the same position as their male counterparts, they feel the constant need to prove themselves as equals.

If you can't cut the mustard with the big guys, you know, the swearing and all that kind of stuff, if you're not used to that and you work in a nice environment, if you're downtown in a nice corporate office and everybody's sweet, that's not our given day over there. I'm just very independent so I think that's why I got by very quickly. I've worked with a big crew of men so I have a lot of experience in that environment. So that kind of crap doesn't bother me, but I have seen other females walk into the door and walk right out.



The first day on my job [as a geologist], [a colleague] sat me down at lunchtime and he said, 'I like to hire girls for database jobs because they're more organized and they make less mistakes. But if you want somebody to go to the drill when it's minus forty, a boy will do it, but a girl will be too cold.' So I make damn sure that every time I go to the drill, no matter how cold it is, I never say a word about it..



You really have to prove yourself. You really have to be good at what it is that you do. If you're qualified to do something, say as an equipment operator, you better be top-notch, because if you can't produce what you're supposed to produce, then you leave the window open for somebody to come in and point those mistakes out.

One participant explained how part of workplace preparedness for female employees is to understand that sexual innuendos, however unacceptable, are ingrained within the mining sector. She has witnessed cases where worksites have suggested hiring “more attractive

[women] to work in the camp". While not every man will participate in this culture, vulgarities and demeaning behaviours and attitudes towards female colleagues are not unheard of, including hazing.

Our female officers were constantly having to deal with some vulgarity in the workplace. We try to prepare them for it. You have to understand that you're going to have men staring at you constantly. But for the most part, I think you mentally prepare them as much as possible on what real camp life is like. Unfortunately, you're going to have that odd person that's going to make it more uncomfortable for you or more difficult. But you have a chain of command and we will intervene.



But you never know within a worksite if a woman's going to get hazed more and feel like she should be doing something stupid just to fit in and then that's when she's not taking her own safety into account. You would hope that she would be trained well enough to realize that her safety's more important than fitting in with a bunch of guys. I was fully prepared to 'get tough' as the girl.

Some women enter the field as summer student or young graduates in geology or engineering and may be supervising crews of seasoned men. This adds a layer to the gender and power imbalances within the worksite.

I never experienced anything horrible. There were actually quite a few women around doing different jobs. I went up knowing that there would be primarily men up at the camp but when I got there it wasn't too bad. That being said, twelve hours a day at my job was to hang out with two men while we drilled rock. I'm their boss and I'm this little, little girl, and they've been doing this forever. So there's a bit of that power play. But then there's also the fact that I need to get along with them so that we do good work together. It's sort of a balance of being buddy-buddy and rolling with the crude jokes and the teasing. Just like, 'Oh that green girl, she doesn't know what she's doing'. Being their boss, it's a bit of a balance and it's tricky. I was lucky enough to have a male supervisor who wanted me to do well and would come in and check on me and make sure that the guys were listening to me.

Upon further reflection, she understood that to keep the power imbalance at bay, she needed to roll with the punches but also recognized how challenging it was to endure a month of male cajoling. She was also acutely aware that there were boundaries that were not to be crossed.

I'm used to teasing. It's better for me to just laugh and ignore it. But maybe I shouldn't be putting up with what they're saying, I don't know. It's tricky to describe. So my tactic was to roll with all teasing. I feel like if I'd really felt in physical danger, I would have said something. But I was lucky enough to never feel that. I think by the end of the month I was pretty sick of hanging out with boys. I was just sick of the crude jokes. I needed some girls around.

Women were aware that many companies now have strict policies against sexual harassment. "Human Resources take it very seriously. They can include discharge, depending on the severity or what had occurred. I haven't had any issues, so it's pretty well maintained, I guess." Yet harassment continues and women endure it.

Harassment comes in all forms and styles. Any direct harassment towards me? Absolutely. But it's a career I wanted to pursue and I stuck it out and never gave up and I put up with it. That kind of intense harassment could drive other women to quit long before their time. And it's right from the bottom to the top. Females are getting more involved with mining but I'm afraid we are far from equality.



I don't know if it occurs as much now as it did when I was working in the mines. I was one of few women who were working at the time and then when I went underground, I was the only one. But if you have three hundred men and one woman working underground there's always going to be some people who say, 'Well, what are you doing here?' For the most part I found that you gained respect simply by doing your job. If you can do your job they have nothing to complain about. If I was going to drive the front-end loader some guys would say, 'Well that's a man's job. Why are you doing it?' I would be up-front with them and say, 'No part of your sexual anatomy is actually driving this bulldozer. So if I can do it, I'll do it. I need to feed my kids too, so it's no different'. You're always going to have some men who are not going to be able to move forward. But I think there's fewer of them. For the most part I felt that I could talk to my supervisor

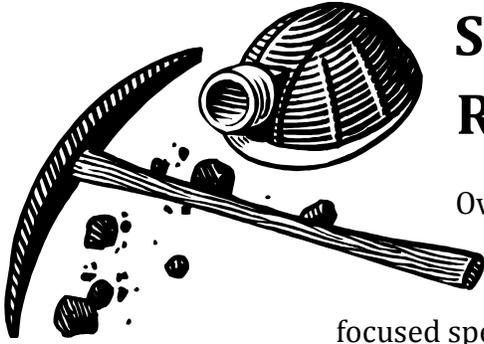
about it. And even if he didn't change it, he was aware of it. I think there's definitely room for harassment in places. I think companies have to be proactive in putting posters out saying that they have a no-tolerance issue or whatever. Cause it's a law. It's not just a matter of preference, it's a law.

While they may put up with the male-centric atmosphere, women are not passive about this. Many have taken their complaints to upper management and demanded that things change to challenge sexism, harassment and intimidation in the workplace.

There were rumours of the girls here. It's kind of ridiculous, but I think that's the same in every mining industry. Who's sleeping with who. Apparently, I was sleeping with five people this summer. I never slept with anybody. I also took the initiative this summer [about an incident]. I took it right to my boss. We wrote a letter for defamation of character. This guy's pretty well-known for talking about the women on site, so I got fed up and I did something about it. I think it does happen a lot but a lot of people won't talk about it, or go to upper management about it cause we're a minority and they think it won't stop. I'm pretty good at sticking up for myself. I don't really take crap from people out here. I think I have to bark more and bark louder.

Interesting, bullying and harassment are not solely directed towards women. Male on male bullying, perhaps a lesser known or discussed occurrence was also described. "Just this week alone, there was an incident that happened. I was happy that the company didn't take it very lightly as far as disciplining the guy that did that. It actually had to do with another man bullying a man."

Without a doubt, women are slowly changing the mining landscape. They are working side-by-side with men and women alike. Certainly industry will need to shift its traditional culture to provide a workplace that is respectful and responsive to women's needs.



Section Five: Recommendations

Over the past three years, PWHCE has endeavoured to understand women’s experiences working in mining and other non-traditional sectors. The two first projects focused specifically on Aboriginal women’s working conditions and perspectives in northern industries in Manitoba and Saskatchewan. The third project opened up to any woman working in the rural, remote or northern sectors in western Canada but asked specific questions around injury and injury prevention. All three projects involved women working in office-based (or “traditional”) positions and field-based (or “non-traditional”) positions.

Despite differences amongst participants, positions and work environments, their experiences with injuries and other stressors leading to injury were common across the three studies. It didn’t matter if a woman was working as an administrative, a housekeeper, a plant processor, a miner, an engineer, or a heavy equipment operator; she was vulnerable to a work-related injury. The nature of the injuries though, was distinct. For example women in office jobs sustained more ergonomic injuries while those in the field reported more physical injuries like twisted ankles, broken bones and burns.

Above all, PWHCE has heard women in all of the studies express a number of other job-related stressors and anxiety based on the male-dominated work culture of mining. Some have experienced verbal assaults as the only woman on a work site and then been driven to make the workplace more welcoming to other women. Others have come into positions of supervising all-male crews and have had to deal with hazing, teasing and social isolation. A number have had their personal safety and security violated. All of the women believe they have an equal right to work and advance in their chosen careers.

Women are their own best advocates, both in terms of seeing that they, and their female colleagues, are treated fairly within the sector. They also emphasized a number of recommendations to make the workplace safer for them. While some of these can be applied across the board to include male colleagues, many are specific to the needs of women workers. All of these recommendations were directed to the mining companies to mitigate women’s injury in the workplace.

Bearing in mind that safety training is pivotal for injury prevention, mining companies should be mindful of the following strategies:

- Provide women with greater and on-going opportunities to learn about personal and industry safety.
- Continue to emphasize the importance of women's participation in all safety workshops and training in order to review, repeat and build on previous safety knowledge.
- Develop and offer women employees with hands-on experiential safety training above and beyond standard preparation (e.g. when teaching about fire extinguishers, use them).
- Offer daily safety meetings for all employees, even amongst those whose hours, shifts and positions do not currently allow for this.
- Ensure that peer to peer training include partnering seasoned workers with new hires.
- Develop and give women the option to attend women-specific safety training sessions and workshops.
- Evaluate the effectiveness and short-comings of safety practices and training for women.
- Promote awareness amongst women of all safety policies and regulations within the industry.

While women acknowledge that injuries, accidents and near misses are a constant in the mining sector, they envision the following strategies for mining companies in order to move towards safer workplaces for them.

- Conduct research on maximum weights which can be safely carried by women and understand that these weights may be different than those safely carried by men.
- Provide women with properly fitting personal protective equipment.
- Understand how and why injuries, accidents and near misses are reported, under-reported or not reported by women.
- Create a safe corporate environment that will encourage women to report injury, however minor, without fear of ridicule, blame or shame directed at them from male co-workers.
- Encourage a safety culture where women have the right and responsibility to refuse unsafe work.

- Discourage risk-taking, short-cutting and cost-cutting directives which place production above personal safety.
- Provide nutritious food options and choices, including vegan and vegetarian alternatives.

Women recognize that there are gender-specific stressors which influence how they experience the workforce, namely around maternal health and sexual harassment, which need particular attention by mining companies.

- Acknowledge the unique challenges faced by women in their professional and care giving roles.
- Understand that there are a lot of unknowns around what is safe exposure to industry-based chemicals during pregnancy.
- Develop clear policies around safe working conditions for pregnant employees.
- Influence industry to accommodate working mothers, through the provision of childcare supports and more flexible working hours and locations.
- Create and increase designated spaces for women through mine sites.
- Counter all forms of workplace sexual harassment and intimidation.
- Provide women with safe spaces to freely ask questions about the work culture, shift work, camp life, and gender and power relations within the industry.
- Increase opportunities for networking and sharing amongst women in mining.
- Provide women with confidential spaces (off-site and on-site) where they can voice work-related grievances, concerns and experiences without fear of reprisal.

Appendix 1:

Injury and Injury Prevention: Women in work-related to mining in rural, remote and northern Manitoba, Saskatchewan and the Northwest Territories

Interview Guide

Demographic Information

1. How old are you?
2. What is your educational background?
3. What is your current employment status?
4. What is your main source of income right now?
5. Do you identify with any ethnic group?

Questions referring to industry

6. What is the nature of your work? How is it related to mining?
7. How long have you been involved in work related to mining?
8. What position do you hold?

Training

9. Did you receive training on work-place health and safety prior to starting your position/s?
10. Who provided this training?
11. Can you tell me about training you have received? What kind of information was shared?
12. Can you explain how this training prepared you for work-place health and safety? (prompt: was it adequate/effective against injury prevention)

13. How often are health and safety workshops and training sessions held?
14. Are health and safety workshops and training sessions mandatory?
15. Are there different health and safety training workshops for men and women employees? What about for different positions?
16. Could you provide insights or suggestions to improve safety training?

Questions referring to injury

17. In your work, are you required to sit for long periods of time? Do you believe this has affected your health? Can you explain?
18. In your work, are you required to stand for long periods of time? Do you believe this has this affected your health? Can you explain?
19. Are you required to do shift work? Do you believe this has affected your health? Can you explain?
20. Are you required to travel long distances, either by ground or by air, for your work? Do you believe this has affected your health? Can you explain?
21. Can you share any other workplace or work-related issues that affect your health?
22. Have you ever had a workplace or work-related accident or injury? Can you explain?
23. Are you aware of injuries sustained by other employees in your workplace?
24. Can you describe the safety precautions you are required to take when doing your job? Do you take additional precautions?
25. How do you manage work-related risks and vulnerability to injury?
26. Can you describe policies related to injury and injury prevention at your work?
27. Have you ever needed to report an injury? What was the process for doing this? Where any actions taken as a result of your injury report?
28. How are employees encouraged to disclose injuries and risk for injury?

Other stressors which may lead to injury

29. Are you required to live in a camp? What is that like? (diet, living conditions, physical activities)
30. Can you describe your diet and access to food at your workplace?
31. Are there spaces within the workplace designated for women (i.e. change rooms/showers/camps etc?)
32. Does your work, workplace environment, or camp life cause you stress or anxiety?
33. Are there any services in the workplace to help you with stress/anxiety?
34. Have you ever experienced workplace harassment, either from supervisors/co-workers? Have you seen other women in such situations? If so, what happened to those involved?
35. In your opinion, are women and men are treated differently within the workplace?
36. Are there many other women in the workforce? What positions do they hold?

Recommendations

37. Could you provide insights or suggestions to improve work-place health and safety?
38. Could you provide insights or suggestions to improve policies related to injury and injury prevention at work?
39. What do you see as necessary for creating more supportive and safe environments designed to prevent injuries?

Injury and Injury Prevention: Women in work-related to mining in rural, remote and northern Manitoba, Saskatchewan and the Northwest Territories

Focus Group Guide

Training

1. Can you describe the workplace health and safety training you received prior to starting your position/s? Where and by whom was this training provided?
Prompt: was this provided in your academic training? By your company? On the job?
2. Can you explain the information you received during this training?
3. Did the training prepare you for workplace hazards and injury prevention? How?
4. How often are workplace health and safety workshops and training sessions held? Is this adequate?
5. Are health and safety workshops and training sessions mandatory?
6. Are there any differences in health and safety training workshops for employees in different positions?

Questions referring to injury

7. What workplace or work-related accidents or injuries have you experienced?
8. Can you explain the safety precautions you are required to take when doing your job? Do you take additional precautions?
9. Are employees encouraged to disclose injury? If not, why not? If so, what is the process of reporting an injury?
10. Are employees made aware of the workplace policies related to injury and injury prevention?

Other stressors which may lead to injury

11. Do you see the industry as a male-dominated workplace? What are your thoughts of working within this environment?
12. Have there been situations of workplace harassment, either from supervisors/co-workers? Have you seen other women in such situations? If so, was there any remediation?
13. Are there any additional stressors related to the workplace that cause injury to women employees?

Recommendations

14. Could you provide insights or suggestions to improve workplace health and safety?
15. Could you provide insights or suggestions to improve workplace policies related to injury and injury prevention?
16. What do you see as necessary for creating more supportive and safe environments designed to prevent injuries?