

MINING THE TERRAIN OF CORPORATE-COMMUNITY
RELATIONS: FILMING THE COMMUNITY SUSTAINABILITY
COMMITTEE OF THE MT. MILLIGAN PROJECT IN NORTHERN
BRITISH COLUMBIA



(MT. MILLIGAN SITE (TERRANE CORP, 2009))

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SCHOOL OF COMMUNITY AND REGIONAL PLANNING

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MINING THE TERRAIN OF CORPORATE-COMMUNITY
RELATIONS: FILMING THE COMMUNITY SUSTAINABILITY COMMITTEE OF THE MT.
MILLIGAN PROJECT IN NORTHERN BRITISH COLUMBIA

by

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Abstract

This project consists of two parts. The main output of this professional project is the Mt. Milligan Project film. The secondary output is this report, which supports the film.

The film is a representation of the Community Sustainability Committee (CSC) members and their thoughts and hopes on the Committee, the Mt. Milligan Mine Project, Terrane Metals Corp. and the future of their region. The film illustrates the economic state of the region and the introduction of the mining project as a vehicle for change. The members of the CSC discuss the purpose, objectives and goals of the Committee. They elaborated on the value of the Committee to its members, the communities represented and the region of Northern British Columbia. Through the voices of the Committee members, the film demonstrates the inter-working of the committee; including the struggles and limitations of understanding the benefits and impacts of the mine in a regional scale.

To support the film, this report provides background information on the Mt. Milligan mining project and Terrane Metals Corp.. It also demonstrates the history of the CSC, including the initial development of the CSC and the concepts guiding that development. The report also examines reasoning behind the film, including objectives, purpose, target audience, usage and argument. Discussion on the production of the film is presented as well as commentary to the construction of the storyline and its relevance to current concepts. Finally the report discusses the challenges and lessons learnt in producing this project.

Acknowledgments

I would like to thank Terrane Metals Corporation for their full support in my professional project and for providing me with such a fulfilling opportunity to engage with and learn from both Terrane and the Community Sustainability Committee. I also would like to thank them for allowing me the privilege to present their findings in this professional project. I would like especially to thank Andrew Thrift and Glen Wonders for their insight and support. They invested time and energy into the development of this project and in doing so have furthered the message of the Community Sustainability Committee.

I extend sincere gratitude to all members of the Community Sustainability Committee, for welcoming me with open arms into the Committee and your represented communities. I sincerely appreciate the time and effort they have donated to be a part of this film.

My supervisor and readers, Leonora Angles and Dirk van Zyl have been able to provide an incredible amount of time and energy in order to help me complete this project. I may have had the two busiest professors at the University as my readers, but they have given me support and guidance and have always encouraged me to think outside of the box. Thank you.

I would like to thank my family for their unconditional support and love. Thank you for giving me the love and breakfast meals that fueled my body to develop and finish this project.

My friends, I am forever grateful for all of the love, kindness, support and encouragement they have shown me. Either through technical support, document edits or late night chats, my friends have kept me on route and reminded me of my capabilities. Thank you for always demonstrating to me the kind of person that I wish to be, taking part in my growth and development, and always reminding me that school isn't everything.

Also, I would like to thank all of those that have shown me what a lucky individual I am. I feel fortunate to be surrounded by such remarkable people.

Context

The Project - Film and Report

In 2013, the Mt. Milligan mine project will be in full operation. Located in Northern British Columbia, the mining project is expected to affect many surrounding resource dependent communities. To mitigate the impacts of the mining project and maximize any potential benefits that the mine may bring, Terrane Metals Corp., the operator of the mine, has developed the Community Sustainability Committee. A Committee made of community members, education institutes, health organizations, business, 1st nation groups and company members. The intentions of this Committee are to develop strong relationships and a dialogue among all these stakeholders, to enable them to plan for the future of the Mt. Milligan project. In conjunction with this report, the film, The Mt. Milligan Project investigates the relationship of these Committee members and their thoughts and hopes for what the mining project will bring to their represented communities and the region as a whole. The objective of this project is to understand the corporate-community relationship within the Community Sustainability Committee and recognize its value to its members.

The Company Client - Terrane Metals Corp

Terrane Metals Corp. (Terrane) is a junior mining company that focuses on exploration and mine development, with a corporate head-office located in Vancouver, BC. It was formed in July 2006, and originally acquired five mineral projects all situated in Canada. Three of the five projects, Mt. Milligan, Berg, and Maze Lake were purchased from Placer Dome Inc. The company employs approximately 20 staff members in its corporate office. In October 2010, Thompson Creek Metals Company Inc acquired Terrane Metals, including all their mineral projects. Thompson Creek is a North American mining company with projects located in the United States and Canada. Their sites include mines operating in British Columbia, Idaho and Pennsylvania. Exploration projects consist of the Howards Pass zinc deposit in the Yukon and the Maze Lake gold deposit in Nunavut (Thompson Creek Metals Company Inc.). The Company's head office is in Denver, Colorado. Through Terrane, Thompson Creek is currently in the process of constructing the Mt. Milligan copper-gold mine in northern British Columbia, which is expected to be in production in 2013.



Rob Pease, President and Chief Executive Officer of Terrane, stated; “Thompson Creek is committed to responsible development and mining and has an excellent track record of working cooperatively with host governments and communities wherever they operate, including British Columbia”.

(R&D Magazine, 2010). The acquisition appears to be a good organizational fit for the two companies on policies related to sustainable development. Terrane's policies have always included a strong emphasis on community relations and sustainable development. Terrane has developed two corporate policies that guide the approaches of their activities. They are Health and Safety Policy and Sustainability Policy.



During the development of a mine, their mandate is to conduct, construct, and operate in a manner that minimizes the negative effects on the environment. Further, the policies go beyond mitigating impact as the company sets out an objective to maximize the social and economic

benefit for communities and future generations.

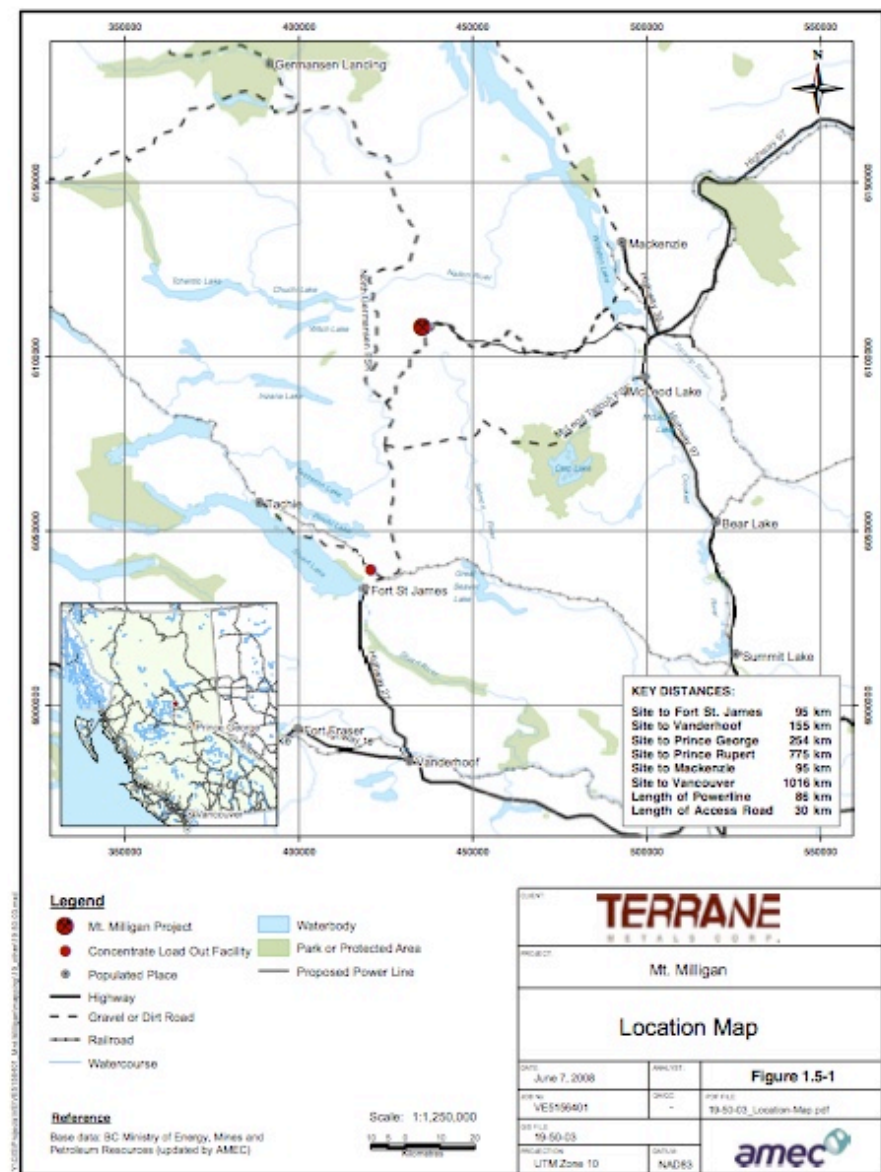


To continue with the goals and guidelines of their policies, Terrane has actively engaged with stakeholders, First Nations, and interested parties on a regular basis through various forums that include town hall meetings and committee meetings. Terrane believes strongly in dialogue with different stakeholders to ensure the transfer of good

information, from both the company to the communities and the communities to the company. Right from the beginning of any project, Terrane assures that the dialogue with the communities is conducted in a method that ensures transparencies and requires accurate and detailed recording, reporting and responding to the best of their abilities. Through multiple engagement opportunities, dialogues for mining projects are conducted in an open and collaborative manner. Comments are fully assessed on their merit and granted full consideration.

The Project - The Mt. Milligan Mine Project

Mt. Milligan mine project is located approximately 80 km north of Fort St. James or 155km northwest of Prince George in central British Columbia, Canada. The main deposit was first discovered in 1987, and a secondary, southern deposit was discovered two years later (British Columbia: Environmental Assessment Officer, 2010). The Copper-Gold Project is currently Terrane Metals' most significant asset. Terrane Metals has only owned the mine project since 2006, after they had purchased it from Placer Dome Inc., (Terrane Metals Corp., 2009). From 1984 to 2004, Placer Dome and along with other companies drilled 900 holes in over 200,000 meters of drilling to identify the



(Terrane Metals Corp., 2009)

porphyry-style copper-gold resource (Terrane Metals Corp., 2009). During that time, Placer Dome also completed a pre-feasibility study that was completed in 1991 and they received a mine development certificate in 1993 (Terrane Metals Corp., 2009).

Since acquiring the property in 2006, Terrane has been working towards developing the Mt. Milligan Project including re-establishing of the environmental studies, mineral reserve estimate, reviewing metallurgical process and mine design, and completing a Feasibility Update Study (Terrane Metals Corp., 2009). In 2009, Terrane received an Environmental Assessment Certificate, a Mines Act Permit from the province of British Columbia and a Environmental Assessment Certificate from the federal government (Canadian Environmental Assessment Agency, 2009). Since being acquired by Thompson Creek, they have been in the process of constructing the mine, which is expected to be in full operation by 2013. It is expected that the Mt. Milligan mining project will employ approximately 350 to 400 people during operations.

It is estimated that the open pit mine will produce copper and gold over a 15 to 22 year mine life period. Prior to October 2010, Terrane Metals Corp. was the sole owner of the Mt. Milligan Mine Project, and therefore, solely responsible for handling the operation of the project. Currently, Terrane is a subsidiary of Thompson Creek Metals Company, therefore it is Thompson Creek that has full ownership of the Mt. Milligan Mine Project. The Mt. Milligan Project has enjoyed good stewardship throughout its history even though it has changed hands three times. Placer Dome Inc., the first owner of the mine site is a Canadian mining company. In 1998, Placer Dome Inc. developed a Sustainability Development Policy and shortly after issued its first Sustainability Report, called "It's About Our Future." This was the first time anyone in the mining industry had stepped forward and published a report in sustainable development (International Institute of Sustainable Development, 1999). Terrane and now Thompson, each have demonstrated a commitment to responsible development.

Terrane's commitment to minimizing their project's negative effects includes innovative design and planning, as well as extensive public engagement. In order to maximize the project's contribution to sustainable development, Terrane has convened a Community Sustainability Committee made up of community members and Terrane employees to achieve desired social, economic and environmental sustainability outcomes in the region surrounding the Mt. Milligan mine. The expectation is that Thompson will continue to respect, preserve and accommodate the policies and procedures established by Terrane, including the Community Sustainability Committee.

The Committee - The Community Sustainability Committee (CSC)

In the early stages of design for the Mt. Milligan mine project, Terrane recognized the importance of early community engagement. They understood that the imprint left by the Mt. Milligan project would affect more than one community. The communities most likely to be affected by the project (as identified in the Environmental Assessment) include Fort St. James, Mackenzie, Vanderhoof and Prince George, as well as the Nak'azdli First Nation McLeod Lake Indian Band. It is Terrane's social responsibility to communicate to the communities the impacts of the mining project. However, they also needed to develop their social license to operate; Terrane had to build a relationship and develop trust among the communities. The mine is expected to operate for fifteen to twenty years. A mine operating for that long will inevitably have an effect on the community, and it was important for the communities to understand the effects as well as the potential. The mining project will bring opportunities into the region, such as jobs, potential contracts for local supplying businesses, and opportunities for education and training. Terrane identified the importance of working with communities to help them take advantage of what the mining project could bring to the community. This followed their sustainability principle of maximizing the benefits of the project. They also wanted to ensure that the community understood the complexity of the mining project, including the closure of the mine; that one day the mining project would eventually end. It was important for Terrane to ensure that the benefits to the community were managed in a way that would not leave the communities in an economic crisis once the mine was gone.

It was evident that the communities in the region were interested in the possibilities of economic growth in their area. However, many of these communities have not been faced with mining development before, and were wary about the potentially negative impact on the environment. The Community Sustainability Committee is a vehicle to empower the community to be a part of the process. The Committee acts as an ongoing forum, where information can be shared and communities are listened to and their opinions validated. Concerns and challenges from the communities can be put forth and addressed in a timely manner. Through the mining project, Terrane brings together communities to discuss concerns and hopes on the project. The mining project is a platform for dialogue and with the development of a working relationship among the community members, a ripple effect will develop, strengthening communities to talk about the long term. Together, the committee can understand how mining operates and how their community can benefit from the mining project to create legacy projects, which will continue long after the closure of the mine.

The committee is called the Community Sustainability Committee because Terrane would eventually like the committee to be independent from Terrane. Although during the operation of the mine, the issues on agenda may be surrounding the mine, once the mine has closed, Terrane hopes that the Committee will continue their dialogue into the future. Terrane does not lead all of the discussions that take place in the Committee; the community members are very much involved. The Committee currently has Terrane chairing meetings; however, they hope that the responsibility of chairing meetings will be shared among all of the CSC members. The committee has set its own mandate, developed their own terms of references and described for itself what sustainability means. The determination of sustainability begins with an understanding of current community needs and includes the commitment to ongoing engagement to ensure that dynamic community needs can continuously be addressed and evaluated. The broader perspective, sustainability and the region's needs, is encompassed within the CSC in a way in which Terrane can understand and work with. Terrane has shaped their actions, to the best of their ability, to meet the expectations of the community. The Committee has been valuable in helping Terrane develop their Environmental Assessment Report. The CSC members are connected to their communities and Terrane entrusts the members to be spokespersons of the Mt. Milligan mining project at a local level.

The Process of Engagement

Before the planning for the CSC was in progress, the executives at Terrane underwent an exercise that had them determine what their goal for the engagement process would ultimately look like and what they would lead to. The Seven Question to Sustainability was the name of the implementation; it was used to produce the Community Sustainability Committee. Terrane wanted to develop a stakeholder engagement model where stakeholder communities can address concerns and potential change through direct discussion with the mining company. Once the CSC was developed, the Seven Questions to sustainability was again used to apply to the needs and goals of the committee. The exercise assisted in the development of the values and limitations of the committee. For more information on the Seven Question to Sustainability please refer to Appendix 4.

The 'real' engagement occurred before the CSC was formed. The permitting processes require a significant level of community involvement, thus Environmental Assessment often forces companies to engage with communities. The difference in Terrane's case is that the community organizations were invited to help shape both what the benefits and impacts of the mining project could potentially look like over the long term, including post closure. This was done in a

formalized way that would give the community some meaningful influence. Through face-to-face open houses, group discussions and workshops, one-on-one meetings, letters, emails and phone calls, Terrane offered opportunities for communities to provide input and exchange information. In addition, company contact information was widely distributed and project information posted on the company website (British Columbia: Environmental Assessment Office, 2010). Terrane also engaged research and academic institutions to attain an understanding of the existing skills, training, and future needs in the region.

The objectives of initial consultation with the community, as stated in the province's Environmental Assessment (2010) included:

- To identify and evaluate all relevant information related to the potential effects the project could have on the region's environment, economy, society, heritage and health
- To ensure decisions on the project take into account, and are responsive to, the interests of all potentially affected parties including: First Nations, local governments, provincial and federal governments, special interests groups and the public
- To modify the project in response to stakeholder concerns before irreversible project design and construction decisions were made

(British Columbia: Environmental Assessment Office, 2010)

Terrane initially identified a number of groups, which they felt would have been interested in the proposed Mt. Milligan Project. The list below is that larger, more general ongoing list that Terrane developed before and during the development of the Environmental Assessment report. Over 1300 people were engaged in the process of stakeholder identification (British Columbia: Environmental Assessment Office, 2010).

- Federal governmental agencies and representatives
- Provincial governmental agencies and representatives
- Communities (local and regional governments, service organizations, and economic development organizations)
- Land and resource users (agriculture, industry, tourism, and trapping/guiding)
- Non-government organizations
- Research and academic institutions
- Local communities and the general public

(British Columbia: Environmental Assessment Office, 2010)

Terrane approached community organizations that would be identified through a standard stakeholder identification process, such as community relations' models standard to most companies' engagement process. However, once Terrane started to work on their objectives on the CSC, they started to think about the possibility of any gaps in representation. Terrane identified gaps in health and business development in particular; therefore, invitations were extended to those organizations related to health and business. This is a list of local and regional community representatives consulted during the stakeholders' engagement process as shown in Terrane's environmental assessment impact.

Local and Regional Community Representatives Consulted

Local Government

City of Prince George
District of Fort St. James
District of Mackenzie
District of Vanderhoof
Regional District of Bulkley-
Nechako
Regional District of Fraser-Fort
George
Regional District of Kitimat-Stikine
Town of Smithers Village of Fraser
Lake
District of Houston

Economic Development Groups

Fort St. James Chamber of Com-
merce
Initiatives Prince George
Mackenzie Chamber of Commerce
Prince George Chamber of Com-
merce
Prince George Community Futures
Development Corp.
Stuart-Nechako Regional Economic
Development Initiative
Terrace Economic Development
Authority
Vanderhoof Chamber of Commerce
Vanderhoof Community Futures
Development Corp.
Fraser Lake Chamber of Commerce

Community Services

Employment Action – Prince
George
Fort Outreach – Fort St. James
Fort St. James Employment Centre
Fort St. James RCMP
Fort St. James Rotary Club
Fort St. James Search and Rescue
Fort St. James Secondary School
Innovation Resource Centre –
Prince George
Mackenzie High School
Northern Health Authority – Fort St.
James
Northern Health Authority – McLeod
Lake
Northern Health Authority – Prince
George
Prince George Airport Authority
Prince George – Nechako Aborigi-
nal Employment Training Associa-
tion
School District #57 (Prince George)
School District #91 (Nechako
Lakes)
Land and Resource Users (non First
Nations)
Apollo Forest
Association for Mineral Exploration
BC
BC Trappers Association Mackenzie
Green Energy / Balanced Power
Engineering
Omineca Mine Development Review
Committee
Rancher's Association – Fort St.
James
Teck Cominco
Western Canadian Coal
Wolfden Resources

Tenure Holders

Canadian Forest Products Ltd.
Pope & Talbot, Ltd.
Provincial Emergency Program
Stuart Lake Lumber Co. Ltd.
Woodlot 1514

Research and Academic Groups

British Columbia Institute of Tech-
nology
College of New Caledonia
Malaspina College
University of Northern British Co-
lumbia

Others

Silverlake Outfitters

Terrane held an initial CSC meeting on May 23 2008. The list below indicates the representatives invited:

- City of Prince George
- College of New Caledonia
– Fort St. James
- College of New Caledonia
– Mackenzie
- District of Vanderhoof
- District of Fort St. James
- District of Mackenzie
- Halfway River First Nation
- McLeod Lake Indian Band
- Nak'azdli First Nation
- West Moberly First Nations

Not all invited communities attended. Below is a table showing the values discussed and the associated communities during the CSC meeting. (**Note:** the community values for the College of New Caledonia (Mackenzie) and College of New Caledonia (Fort St James) were expressed by the representatives from those two towns)

Preliminary Community Values Discussed at the Inaugural Community Sustainable Committee Meeting					
	Community				
	District of Mackenzie	McLeod Lake Indian Band	West Moberly First Nations	District of Fort St. James	District of Vanderhoof
Values	<ul style="list-style-type: none"> • Outdoor adventure / recreation • Safe place for families/Family foundation • Clean air/ clean water • Resource Dependency, Forestry • Focus on outdoors 	<ul style="list-style-type: none"> • Value infrastructure • Resource development in their territory • Family • Outdoor recreation 	<ul style="list-style-type: none"> • Relations with others • Friendship / living together • External / internal relations • Wildlife • Responsible/ respectful development for themselves and their neighbours 	<ul style="list-style-type: none"> • Safe place for families/family foundation • Central point for all surrounding communities • Historical background • Entrepreneurial (able to fill a niche where there are business opportunities) • Generous town • Forest Industry 	<ul style="list-style-type: none"> • Safe place for families/family foundation • Central point for all surrounding communities • Historical background • Entrepreneurial (able to fill a niche where there are business opportunities) • Generous town • Forest Industry

(British Columbia: Environmental Assessment Office, 2010)

For the agenda of the May 23, 2008 Community Sustainability Committee agenda, please refer to Appendix 1.

For the minutes of the May 23, 2008 Community Sustainability Committee agenda, please refer to Appendix 2.

The Film

Pre-Filming Background

Meeting the Company

In the summer of 2009, I was introduced to Terrane Metals Corp, by the Mining Association of BC. This introduction with Terrane occurred because of my interest in community participation and involvement in the resource extracting sector. My interest lies in how companies like Terrane engage communities and the roles communities play when mining projects are proposed to be developed in their area. These proposed projects often bring potential economic opportunities with them, as well as environmental challenges. The recent attention given to social and corporate responsibility and sustainability issues has encouraged communities and companies to recognize the value of engagement within the mining sector. I was interested to see how effective public engagement contributed to the creation of a more livable and sustainable community. I wanted to understand how the integration of public engagement, participatory planning and good governance among the communities could play a role in mitigating impacts, as well as maximizing potential benefits brought in by the mine.

Meeting the Community Sustainability Committee

Terrane informed me of, their mining project in Northern British Columbia. Although, Terrane was in the midst of getting the approvals, paper work and finances secured before construction of the mine could begin, they had already established the Committee for their Mt. Milligan mining project. This Committee was to work on developing a shared sustainability vision for the mine, through effective public engagement. The Committee functioned through collective, collaborative dialogues and discussed how they could improve the liveability and vibrancy of the stakeholder communities. The Committee included various leaders from the surrounding communities and while they spoke of the needs and the wants of their represented communities, these Committee members also recognized the value of understanding the project through a regional lens.

I was fortunate enough to be able to attend three of these Community Sustainability Committee meetings, which took place quarterly. All three meetings took place in three separate locations in Northern British Columbia. Each community was recognized as important and the change in location for each meeting served to reinforce this. The decision to have each community host a meeting was instrumental in establishing respect for the process within the CSC and also allowed the CSC to establish credibility and increase awareness and acceptance of the process

for Terrance, the CSC and the communities. I was welcomed into the Committee by both community members and company members. Everyone was very supportive and happy to participate in my project. Several members even hosted me at their home. It was evident that I was going to showcase their committee, something they felt very proud of and supported tremendously.

Discussions were often vibrant and it was clear that these Committee members felt validated and heard. Committee members knew the Terrane staff, including senior management on a “first name basis”. At these meetings, everyone was encouraged to speak and bring up concerns and ideas. Discussion included a wide range of topics, such as legacy projects, the environmental assessment report, managing economic impact, improving resource management understandings, increasing environmental awareness and reassessing values for sustainable development. Even the lunch menu was discussed and agreed upon which served to demonstrate an awareness of group dynamics and an appreciation of the importance of attaining consensus (even on a small matter) for team-building and validation of the capacity of the group.

The members of the Committee saw the value and potential of the group sitting around the table, their excitement was clear. The enthusiasm of the company representatives demonstrated their commitment and belief in the value of insuring accurate, useful and relevant information was being brought to the community– a task in which they entrusted their committee members. Also, they found that having a committee in which everyone could understand the needs and wants of their neighbouring communities, made their job much easier. Terrane avoided having to play the middleman between communities and to leverage benefits and developments. Instead the Committee was forced to work together and decide on the best solution that pleased all. Although, there was no mine in place yet, the members appreciated being a part of an opportunity to incorporate collaborative dialogues into a shared vision for the Mt. Milligan project. At times, community members struggled to balance acknowledging the positive impact to the region as whole with the costs and benefits to their particular community. These challenges included how to support the needs of all the communities without neglecting any specific community. An example includes a discussion on which road should service the mine. The various choices in roads affected different communities. Whichever road was chosen would bring an immediate upgrade, thus bringing road repairs to a specific single community - something much needed in several of these small communities. The Committee members (composed of community members and the company) recognized that there were many challenges that were multifaceted and complex that took the cooperation of everyone on the committee to be identified, analyzed and resolved.

The Process of Making a Documentary Film

Methods

Developing the Story

My understanding of the Community Sustainably Committee was stronger after my first visit to Prince George to attend their quarterly meeting, in September 2009. The trip up to Prince George was supported and funded by the mining company. At the meeting, I spoke to a number of community members about my ideas on the film. Everyone was very supportive and happy to host me if I wanted to film the members in their own communities. I found this trip to be especially valuable as it allowed me to gain more insight into the dynamics of the committee and its various members; this allowed me to start envisioning my story for the film.

Pre-Filming

Prior to my next visit to Northern British Columbia, I worked on getting the paperwork and information in place before any filming could be started. I developed a rough shot list, storyline and script for the film. It included the development of the background, purpose, audience, argument, support and tone. I developed a brief synopsis and had sent it to Terrane to inform them of my intentions with the film (please refer to appendix 3). During this time, I also worked on developing interview questions, as well as ensuring ethics approval from the University of British Columbia. To ensure ethical responsibility, my initial contact with the committee members had to be through a formal contact letter to committee members on the purpose of the film, and the importance of their participation though email (please refer to Appendix 6 for the contact letter). Prior to the filmed interview, all participants had to sign a consent form (please refer to Appendix 7 for the consent form). Refer to Appendix 5 for the Certificate of Ethics Approval

During the planning of the interview script, I had to keep in mind how I would approach each question to have the committee member speak candidly and avidly about their experiences and thoughts on the CSC. The interview questions were semi-structured questions to help guide the interview process. They were aimed at understanding the operations of the CSC through the voices of its members. The committee members were asked about the value of the CSC and what they expected to achieve by sitting at the table. The interview questions also explored the hopes and goals for the Mt. Milligan project. Interview questions were meant to prompt storytelling rather than brief, closed answers. For sample interview questions, please refer to appendix 8.

Filming in January

In late January 2010, Terrane sponsored me to spend six days in northern BC to conduct my filming. The support included accommodation, food, transportation and a colleague for technical support in filming. The beginning of our trip started in Prince George, where we interviewed several committee members based out of Prince George. Filming of the CSC meeting also occurred. During the six days in northern BC, we visited three other communities: Vanderhoof, Mackenzie and Fort. St. James. Within these four communities, filming was conducted in three areas: the filming of the CSC meetings, the filming of semi-structured interviews of committee members, and the filming of b-roll.

Once I returned to Vancouver, I conducted two more interviews. One was with a Terrane staff member who was very active with the CSC, and another was with a committee member associated with the Association of Mining of Mineral in BC, who was significant in the early development stages of the committee.

Post Filming I

Once the initial filming was done, I had compiled approximately 7 hours of film. With the tapes collected from the filming in northern BC and in Vancouver, I had enough film to start assembling a short film. Terrane had requested a 5 minute version of the film for the committee to present at the Minerals North Conference that took place in April 2010. Assembly and editing was done using the Apple software, Final Cut Pro.

Viewing and Feedback

The 5 minute film was played at the Minerals North Conference, accompanied by a presentation on the Community Sustainability Committee. Both community and Terrane representatives from the committee delivered the presentation. I received very good feedback from the committee members on the film. Some members said that people from other communities facing potential mining project developments had inquired about the CSC on various issues presented in the film. The film also recruited other committee members to be interviewed and speak in the longer version of the 5 minute film.

Filming in May

More filming was conducted in the beginning of May 2010. The filming was once again sponsored by Terrane. I had support to bring technical help with me to northern BC again. Filming was shorter this time around. In this second trip, I did not have to travel to the various commu-

nities. The CSC was meeting this time to view the Mt. Milligan Project mine site. Although there was no construction at the site, Terrane wanted to provide more information on the project to the committee. This time, filming was strongly focused on collecting b-roll of the site visit; however, interviews were still conducted with several new interviewees from the committee and a few interviews with committee members from the previous filming session in January. Filming was conducted at two sites, the Mt. Milligan Project site and Prince George.

Post Filming II

After my second trip to northern BC, I came back with approximately 5 more hours of film. With ample footage to review, I decided to build on the 5 minute film that I had developed for the Minerals North Conference. I had several viewings of the 5 minute film with colleagues. With their suggestions, along with comments from the Minerals North presentation, my objective was to fill the gaps of information and explain more of the context in the longer film. My goal in for the second film was 14 to 17 minutes in length. The film ended up being 16 minutes.

Developing the Concept

Why Film

As a social and community planner, I questioned whether I could effectively portray the emotions and passion of these committee members through academic text. To be present during the Committee meetings and to talk to the member individually, it was clear that the Committee members wholeheartedly cared for their communities. Their hopes and aspirations for their communities were evident not only in their language and speech, but also in their mannerism, tone and face. I could not do justice to how the members felt, their excitement and enthusiasm for both the CSC and their communities by representing these in text alone would be lost in an academic report, therefore, I started to look at other potential media. Film has an ability to capture emotion that text cannot. Film is able to capture the emotions and expression experienced through the power of visuals and sound. Imagery is very powerful and exhibits the unspoken. I felt that developing a film was the best option to explore the value of the CSC through the imagery and sounds of faces and voices of the members. Film also provides a more resilient message, one that offers a more tangible 'take-away' for the viewer; an image, an impression, an experience.

Film Overview

Northern British Columbia has always been a resource dependent region. Since the decline of the forestry industry, which began in the early 2000s due to the mountain pine beetle infestation, communities from the North have struggled to find ways to revive both their economy and their communities with other industries. Some communities have worked on promoting heritage and recreational opportunities, in hopes of attracting tourism dollars. Others have worked on developing educational opportunities in hopes of keeping youth in the region. All resource based communities are searching for ways to maintain revive their economies for a more sustainable future, in not only the economic sense, but in the social sense as well. There are many people in the North without employment. Families and youth are moving elsewhere in search of opportunities. Social sustainability for these communities' includes finding a way to sustain and advance their population. Without a healthy economy the communities in Northern British Columbia are faced with the continuous decline of their population. Infrastructure in Northern BC is deteriorating, often considered a generation behind the rest of British Columbia. These communities are working hard to find ways to avoid extinction.

Although, resource based communities in Northern BC are hoping to attract industry, they will not simply accept anything that comes their way. Communities affected by mining projects want to be heard and validated. Not only has Terrane recognized the desires of communities to be involved, but they also understand the value of bring communities together in an ongoing, collaborative forum. Even before the development of a mine, Terrane has had the foresight to cultivate a Committee that will address the needs of the communities, relay information to the communities and participate in the development of legacy projects. Together they can work on developing a collective voice representing the region to tackle the hopes, concerns and wishes with the mining project. They call themselves the Community Sustainability Committee.

This Community Sustainability Committee is an example of a stakeholder engagement model that encourages the social learning process for both the communities and the company. The Committee is a place where stakeholders and communities are encouraged to discuss and explore issues of sustainability that face the region with the implementation of the mining project.

Objective/Purpose

The objective of the film is to use film documentation to responsibly communicate the views and beliefs of the stakeholder communities represented in the Community Sustainability Committee (CSC) developed by Terrane Metals Corp.'s Mt. Milligan mining site. Perspectives outside

of the Committee are not explored; instead the film only focuses on the thoughts and feelings of those that sit on the committee. The film attempts to understand the process from the perspectives by those participating and experiencing it. The Committee members were questioned on their experience on the Committee, their opinion on purpose and value of the Committee, their views on how Terrane has conducted themselves throughout the life of the Committee thus far and the hopes and expectation for the future of the Mt. Milligan mining project.

The young mining project, in its early stages of development, is an ideal candidate for a project such as this. As resource dependent communities, it is essential that these communities realize the significance of the impact that this mining site will pose in their individual lives and collective lives of their communities.

It is important to note that this film is not going to explore the question of whether or not the Mt. Milligan project should exist. Instead the film will investigate how the project and Committee has shaped the lives of this community and their feeling towards it. This film will focus on the importance of relationships.

Target Audience and Usage

The immediate audiences are the members of the Community Sustainability Committee and the mining company, Terrane Metals. The Committee will use the film as a form of records, a way for the Committee to document their efforts thus far. It is a form of validation, recognition of the time and efforts and responsibilities of the committee. Another intention of the film is for it to be used as a dialogue piece that can be shown in various settings. Terrane can use the film as an opportunity to build partnerships with potential communities that are facing mining projects from Terrane. The film can show other communities the model of the CSC and encourage them to start a committee of their own. The film may also be shown at mining conferences and events. Therefore, potential audiences include other communities facing mining development, companies that want to implement a similar model to the CSC and people in the mining industry.

Argument/Message

There is value in the Committee. Although, there is no mine presently in place, and the operations of the mine are not predicted to start until 2013, there is immense value in the Community Sustainability Committee. Without a mine currently in place, there are no simple variable in

which the success of the CSC could be measured or based upon. For example, if the Committee explicitly said, they wanted 30% of the labour to be local, if there was an operating Mt. Milligan mine project, that variable could be measured. Based on how well the actual number of local hire matched the number insisted, the effectiveness and significance of the Committee could be judged. Since there is no actual mine in place yet, and the Committee is in their early stages of preparation and planning for what the Mt. Milligan mine project will bring them, the question of value is a difficult one to measure.

The value of this Committee and its early implementation is deeply important to the people that sit on the Committee and the communities they represent. In the film the Committee members speak about trust, partnerships, connections and collaborations. This stage of group dynamics and development is an essential step for long-term viability and effectiveness of the CSC. They feel secure about always being well informed, collaborated with and involved. This film will provide a tool for community members to speak about how they see themselves as part of the planning process of the mining site. This acknowledgment on their local involvement will help communities feel more respected, validated and empowered. The value of the committee is evident, and in the early stages of mine planning, the CSC is intrinsic in the confidence and faith that the communities have on both the mining project and the company.

Film Relevance

Supporting the Message

A committee similar to the Community Sustainability Committee would have been rare five years ago and unheard of ten years ago. However, today, a committee like the CSC is not only valuable, it's necessary. No longer can a proponent come in and operate without the engagement of the community. Community support is extremely valuable in the development of the mining project. Not only is it legislated in the environmental assessment approvals, but companies are now beginning to understand that strong community support and backing is vital in the successful development of a mining project.

Citizens want to take control of their communities' future. They are educated and well versed in sustainability issues, corporate responsibility, social licensing to operate and community engagement. Resource dependent communities understand the significance of the effects of a mining project will have on their communities. It is critical for these stakeholders to understand early on how their communities could potentially change with the development of the mine.

People are now having a better understanding of the potential impacts of current choices and decisions, and how they may affect future generations to come. The early dialogue will allow communities to be better prepared and accepting of potential changes through discussion, as they occur with the development of the mine, thus improving the understanding of both present and future impacts. This will improve the relationships of the communities with the company and the communities' perspective on the mine.

Corporate Social Responsibility

Corporate social responsibility focuses on preventing both negative environmental and social impacts through meaningful engagement with stakeholders. It seeks to find solutions that benefit both the corporation and society in general (Cragg 1996). Undertaking this participatory planning process will prove beneficial to Terrane Metals Corp. in many ways. Beyond providing positive public relations for the company for actively engaging stakeholder communities, this process will also increase communication between all parties. This will help ease any future issues or tensions that may arise as stronger lines of communication will have already been established. Moreover, this process will ensure that Terrane Metals Corp. will be able to leave the stakeholder communities healthier and cohesively stronger. Furthermore, companies that engage in various forms of corporate social responsibility are more attractive to resourceful and motivated employees and may lead to higher levels of company morale (Willard 2003). Establishing a track record of good policy will most certainly be a measurable asset for the company and its history of successful sustainable development a valuable metric for future projects, acquisitions and negotiations.

Sustainability

It is perceived by many that within mining community that the term sustainability is often seen as a burden, a troublesome notion for miners that forces them to change their tried and trusted ways. Although this may be true for a few individuals and even companies in the mining community, sustainability is fast becoming the theme to which companies are claiming to plan for and act upon. On paper, planning and operating under sustainable standard sounds reasonable. However, it is important to fully understand what sustainability means to the mining community and what they are doing to implement sustainable procedures and measures.

Mining companies today see the value of adopting sustainability development principles. Some companies are even early in their uptake on these principles. There are now also higher levels

of reporting, when it comes to achieving sustainability-oriented standards. The mining industry is actively participating in ongoing discussion and discourse about mining and sustainable development. The development of business cases and best practices models is becoming very important for mining companies when it comes to sustainable development. These business cases have become a major motivation item for mining companies and can be context-specific according to the mining project.

As recognized, sustainability is a difficult concept to nail down. However, the mining industry has worked on breaking down the term into simpler notions. Eggert (2009) discusses four possible principles where the mining industry can impact the social goals of a mine. They are: (1) assist in the development and creation of mineral assets; (2) ensure mining developments are economically efficient, without compromising social goals; (3) ensure that mining surplus is fairly distributed; and (4) maintain the benefits of the mine long after the closure of the mine (Eggert 2009). These four principles are concepts that appear simpler on paper than they are in practice. They involve a lot of interaction with government, the local community and the mining company. Discussion on these four principles is ample, especially on the last principle, i.e., maintaining the benefits of the mine long after its closure. Even with much dialogue around this principle, the actual application and implementation has not lived up to the expectation.

Sustainability is an inconsistent and dynamic concept. Due to global pressures and increased public awareness, the mining industry, with much hesitation and resistance, has taken its time in embracing the concept and integrating it into their policies, plans and application. However, change within the industry is occurring. Sustainability is becoming the theme in which companies are claiming to adhere to, plan for and act upon. On paper, planning and operating under sustainable standard sounds reasonable; however, fully understanding what sustainability means to the mining industry, company or even mine project is difficult, especially when it comes to the implementation of sustainable procedures and measures. The mining industry is starting to recognize both the intrinsic and monetary value of planning to mitigate and prevent impacts to the environmental and communities. Engagement and has been central to the development of more sustainable practices within mining projects. There are still legacy issues that the mining industry has to presently recognize, especially when dealing with matters as how to interface with the public, government and communities. It will take time for the mining industry to develop trust; unfortunately they are still judged by the actions of their worst performers.

For more information on mining and the concept of sustainability, please refer to Appendix 9.

Stakeholder Engagement

Stakeholders are an important part of developing more sustainable actions within mining. It is crucial that all stakeholders be identified and engaged from the beginning of mine planning. There are often several terms that are used to describe them. Stakeholders include communities of interest, affected communities and actors, to name a few. The procedure can include informal and/or formal processes. Informal processes may include visiting a town and identifying the leaders and important people in the community. Formal stakeholder identifying procedure can include a more analytical mapping approach.

Multi-stakeholders processes are very valuable as they provide a forum for the exchange of information and ideas. It is vital to the establishment of relationships among the stakeholders, as well as the support for ongoing discussion and dialogue. Multi-stakeholders process helps the stakeholders understand the goals and expectations of each of those sitting at the table. It creates a space for governments, NGOs, communities and companies to address important issues, which will allow the building of relationships and a foundation for future activities.

Conclusions: Post-Film Reflections

In this concluding section, I reflect on what I consider to be the most challenging aspects in the film production part of my project. These are the challenges of representation, technical difficulties, and the absence of critical voices. I elaborate on these in the following paragraphs.

Challenges of Representation

The film represents fifteen different voices, all members of the Community Sustainability Committee; this is very rare for a documentary film. Often a film portrays three to four main voices that carry out the story telling, followed by several secondary voices that support the story told by the main characters. The characters represent the fifteen people I interviewed from the Committee. I struggled with the decision on whether I wanted to incorporate all of the voices into the film, or only have several main characters tell the story with supported sound bites from the other members were interviewed.

I had toiled with having four community members representing the main characters of the film. However, after looking at all of the footage I collected and re-analyzing the interviews, the four Committee members chosen, based on their ability to speak concisely and coherently, the context they spoke to and good external factors (such as, good lighting, little background noise and good camera work), represented a single community. Unfortunately, the clips chosen strongly favoured Committee members that represented the town of Fort. St. James. I wanted to avoid favoring a particular group, since one of the struggles within the CSC is to place more focus on regional benefits versus concentrating and favouring any particular community.

All communities sitting around the CSC table have equal voice and influence on various aspects on the Mt. Milligan project; this is a strong mantra for the Committee. Due to the Committee's belief and already present struggle with decentralizing the focus away from individual communities, I felt having a film where the representation were four Committee members from the same community would place unintentional, perceived favoring towards Fort St. James, even though the context of what these five members were speaking to were about collaboration, trust, shared interests and partnerships. Since the objective was to develop a film about the CSC, I felt that representing the voices of four CSC members that happen to represent the single community would not please the large majority of the Committee and could potentially fuel the already existing struggles among the communities.

Another potential adjustment to the film was to have Terrane employees as the main voices of the film. The only two Terrane employee committee members would tell the story and the rest of the Committee members would be secondary. These secondary characters and voices would be brought to screen to support the words of the characters that represented company. The positive aspect in having a strong representation of Terrane is that this choice would most likely please many of the Committee members as the company within the Committee is seen as a neutral player, where as, communities versus communities have more territorial issues. Although, developing the film to have a strong depiction of company represented members, may actually please the committee more, it would weaken the films argument that state the Committee is a collaboration of equal partnership. The merit of the film would be questioned, even if the Terrane representatives on the Committee members discussed issues of collaborative learning, shared efforts and community engagement within the film. The audience without extensive knowledge on the CSC would assume that the perspectives from the company on collaboration and participation were fictitious. The perception would be that of powerful executives using catch phrases to imply that they cared about the community. Having only Terrane employees as the main characters and voices telling the story would have the audience question the argument of the film. If the Committee truly added value to the communities impacted by the future development of the mining project, why are the community represented members not discussing the value of it in the film. Not having a community representative as a main voice within the film will have the audience potentially place judgment on the authenticity of the committee. It would fuel skeptics and critics of the mining industry and the Mt. Milligan Project

Having a film that makes an effort to incorporate fifteen voices concisely and coherently is a difficult task. The problems associated with too many character includes the length of the film, often increasing substantially with every main character added, due to the necessary time needed adequately present the character with a significant point or thought. To the audience, having too many characters makes the film confusing and hard to follow; often the images of all the characters get overwhelming for the audience. The use of film as a media limits the allotted time for explanation. The images shown need to tell a succinct story. With too many characters, the audience is unable to connect with these characters: the images of faces jump on and off the screen, not allowing enough time for the audience to fully connect with the images and the audio of the characters. The potential disconnection between the audience and the characters made up of committee members creates the possibility of the audience not being able to sympathize with the characters, which may affect the overall impact of the film on the audience.

As a filmmaker, I had great difficulty deciding how many people I would incorporate in the final film. I recognized the potential impact of this decision on the strength of the story. However, I needed to consider the use of the film and for whom the film was produced. Since the film is for the Committee and it was up to them how they would want to use it, I decided on representing everyone who was interviewed. The film is a reflection of this Committee's hard work and efforts in working in a collaborative manner. I felt it was important for me to honour the members that so graciously offered their time to be in the film. Their commitment to helping me in my project is their dedication to the belief that the committee is in fact a good endeavor for the communities they represented, and I was developing a film that was going to showcase that. For these reasons and the reasons above I decided I was able to include all fifteen voice in the film without compromising the integrity of the film.

Technical Difficulties

Within the methods portion of this report I explained why I chose film to address the project objectives. As a social planner, I felt that film was able to capture the passion and hopes of a community far better than academic text. I have now completed the film, and I still believe that film was the best product I could produce in terms of responsibly communicating the passion and beliefs of the CSC members, as well as developing a tool that can be used by the committee as a form of dialogue development, recruitment and documentation. Even with achieving all of the goals I set out to do, those achievements and successful goals did not come without a enormous technical struggle.

I ran into major technical roadblocks during my project. Even though I was able to overcome all of them and produce a film I am very proud of, I had a great deal of trouble with the production of the film. I had taken the Multimedia and Planning class offered at SCARP to better prepare myself for the production of film, and it was that class that pushed me to understanding the potential in film with in the planning realm. Although, it was an incredible class that was filled with technical support and learning opportunities, I found that fundamentally, I was not technically well equipped to develop a film project solely on my own. The technical challenges associated with film were immense for me. Not only did I lack the technical preparation needed during filming production and interviews, I also lacked the technical skills in the editing process. Everything simply took longer for me to do than someone familiar with film development.

Along with my technical inabilities, another barrier was the hardware. During filming, all equipment was borrowed from SCARP. The process to access the filming equipment was very simple. I could borrow the camera, tripod, etc. for weeks at a time to film off campus. As for the editing equipment, most of my time was spent in the COSMO lab that housed apple computers that ran the FinalCut Pro program. Those computers and program was a necessary component in the production of the film. During the process of finishing my first film, I spent long hours at the lab, often leaving the campus quite late. For my safety and convenience, I decided to invest in an Apple computer and have the program installed. Even with having more access to the program and the proper equipment and necessary programs installed, I was still very weak technically.

I struggled constantly with the technical aspect of editing my film. I recognized my inabilities and placed ample amounts of effort in recruiting technical help and receiving technical tutoring sessions. The stress due to my lack of technical skills with film work was extremely high. During the process of making the film, I often questioned if I had made the right decision choosing film as a media, considering the amount of extra work and trouble it was giving me. Developing a written report would have been far simpler, but perhaps far less rewarding.

Absence of Critical Voice(s)

The lack of a critical voice or voices within the film is evident. I struggled with finding one during the interviewing and filming process. I feared I would create a film that had all the characters in the film cheering for the development of the mine. It would be deemed as “soft” and “a fluff piece”. The problem with developing a film that only showed a single perspective, in this case, the support of the mining development, is that it does not strengthen the argument that the film is trying to make. It leads the audience to believe that not all aspects of the film were thoroughly considered. Without a counter argument presented and the lack of suspicion or critical comments on the proposed mining project, the film ends up looking promotional. The argument of the film states the CSC is a valuable endeavor for all parties associated, is deemed as weak without counter arguments. Within any media, counter arguments are presented, considered and ultimately rejected by the main argument presented in the report, film or project; this process ultimately supports and solidifies my main argument. It demonstrates that the author has reviewed and considered other possible arguments and ideas and had come to the conclusion that their idea is the best option.

After the first set of interviews and filming, I recognized that I did not have any footage of the interviewees that discuss or displayed suspicion or critical commentary on the CSC nor on the mining company. I was distressed about this lack of critical commentary and decided to change a few of my interview questions to ask the next set of CSC members what their thought were on the authenticity of both the CSC and the participatory process. Even with the changes to the interview questions, the interviewees still only touched on the concept of trust gaining; they never spoke on the issues regarding the mining industry historically negligent and reckless behaviours. I could not let go of the need to find a critical voice in my film. I had approached Andrew Thrift, my supervisor at Terrane, on finding someone to interview that would provide the film with the critical voice that I was so desperate to find. Andrew informed me that the Committee members comprised of those communities that in one way or another supported the CSC. The members on the Committee worked on issues that fundamentally supported the mining project, such as commenting on the environmental assessment report, developing the terms of reference for the Committee and discussing potential future changes brought forth from the mining project. Without the mining project, these people would have little to discuss and the CSC would not exist. The CSC is not a place in which communities could discuss whether or not this mining project should be developed, instead all these members had already come to the decision that they supported the mine and wanted to work together to plan the future effects the mining project had on their communities. Although, Andrew noted that the support from the members for the mining project and the CSC was not unconditional, it would still be very difficult to find a voice opposing the Mt. Milligan project, especially for a group of people that were working together to ensure that the social, environmental and economical success of the mining project.

Essentially, I let go of my need to incorporate a critical voice within the film. I attempted to strengthen the merit of the argument that the CSC is a valuable endeavor through the hopes and optimism of the CSC members. By focusing on the passions of the committee members had on both the CSC and the mining project, it strengthens the argument, since it is difficult to argue that the emotions of these people are invalid and unimportant.

Lessons Learned

Looking back at this project, I would have developed a stronger script and shot list for filming. Since, 95% of filming took place in the communities in Northern British Columbia, I only had a single opportunity to collect the images and interviews I needed. Therefore, having a stronger script and shot list, would ensure that I would have filmed everything that was required. Another lesson learned was the importance of technical help and knowledge. If I could do this project again, I would place more time on the technical aspect of film and editing. This was a very stressful part of the process and should have been better planned to allocate more time in the comprehension of the technical aspects.

Despite these challenges, the Mt. Milligan Project film was able to investigate the relationship of the Committee members. As well as responsibility communicate the views, beliefs and hopes for what the mining project will bring to the represented communities and the region as a whole. Ultimately, the film was able to convey the corporate-community relationship within the Community Sustainability Committee and portray its value to its members.

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Appendix

Appendix 1



Community Sustainability Committee Kick-off Session

May 23, 2008 10:00 a.m. to 2:00 p.m.
Prince George Civic Centre

Agenda

- 10:00 a.m. Welcome/Introductions
Objectives for today's meeting
- 10:15 Overview of Terrane Metals and Mt. Milligan project (video and description)
- 10:45 Definitions of sustainable development and community capacity
Terrane Metal's commitment and key objectives
- 11:00 The Community
1. defining characteristics
 2. priorities, assets, challenges
 3. what resources currently exist to create/maximize community assets or address issues?
 4. what information about Mt. Milligan and Terrane Metals is relevant to this community?
- 12:00 Lunch

12:30 Sustainability Committee

1. Key components of a community sustainability strategy
2. Guiding principles for the committee
3. Objectives

1:45 Next steps

Sample objectives:

Increase the number of housing units by XX

Coordinate educational offerings of XX

Samples elements of strategy:

Community mobilization and partnerships: mobilize the community

Maximize and leverage benefits

Create long-term value (sustainable)

Sample guiding principles:

Community driven through partnerships

Collaborative and inclusive

Innovative

Flexible

Relevant



COMMUNITY SUSTAINABILITY PLANNING MEETING

MAY 23, 2008

(Developed by Laureen Whyte, Arbutus Consulting)

Introductions/Project Overview and Update (Video)

Objectives

- Information input/contact between Terrane and local communities.
- Maximize benefits to local communities/ Create meaningful benefits.
- Head off negative impacts by keeping information flow transparent.
- Input in creating policy- current sustainability planning is based on concepts that Terrane would like to build upon with community input over time.
- Identify community values.
- Identify priorities and challenges.
- Identify people/organizations within local region that could benefit committee further.
- Explanation of “design for closure” concept - get as much input on the ground as possible.

HEALTH AND SAFETY

- Bulkley-Nechako (BN) hired a consultant (Crissy Isabel- Fort St. James, Ph: 250-996-8107) do a health and safety study within the BN region.
- She would likely be happy to sit on this committee.
- Combination of above study mixed with Terrane’s presence would put some of these towns on the map for further healthcare assistance.
- Hospital in Mackenzie and Fort St. James are not equipped to handle major trauma- acute care only. There is a new hospital being built in Fort St. James; follow up with Northern Health so they are aware of mine development.
- Ensure safety of shift workers.

TRAINING AND EDUCATION

- Would like to see training programs (or direction) for those individuals who will change from forestry to mining. They are attempting to mobilize now.
- A lot of these programs are available and College of New Caledonia (CNC) doesn't think Terrane needs to reinvent the wheel in each town when there are programs available.
- Strong ties between colleges in Mackenzie, FSJ - mention of working together on training initiatives for the mining sector.
- Asked for a mining education center when Terrane establishes an office in FSJ - information on what mining is and how it works, rolling video, show core, drills, pictures, human resource information, etc.
- **Explanation of Human Resource Document:** jobs that the mine will offer, specific requirements, education, experience, etc. Committee is waiting the arrival of this document. (Career Wheel)
- **List of contracting/procurement** that will be sourced locally will be provided to the committee to assist with identifying opportunities among local suppliers.

COMMUNITY VALUES DISCUSSION

MACKENZIE

- Outdoor adventure/recreation
- Safe place for families/Family foundation
- Clean air/ clean water
- Resource Dependency: Forestry
- Focus on outdoors

McLEOD LAKE INDIAN BAND

- Value infrastructure
- Resource development in their territory
- Family
- Outdoor recreation

WEST MOBERLY

- Relations with others
- Friendship / living together
External / internal relations
- Wildlife
- Responsible/respectful development for themselves and their neighbors.

FORT ST. JAMES/Vanderhoof

- Safe place for families/family foundation
- Central point for all surrounding communities
- Historical background
- Entrepreneurial (able to fill a niche where there are business opportunities)
- Generous town

-
- Forest Industry was valued.
 - **Note:** Agreed that the region needs to come together:
 - Create a list of businesses and trades people- reduce autonomous feeling by introducing the concept of unity within the communities. Less competition, more co-operation
 - Are all key players at the table? (Keith Playfair/Chrissie Isabel?). Address at next meeting.

Community Challenges

- Substance abuse with teens and adults caused by boredom/not a lot to do in small towns. Concern about the increase in money coming into the town with Mt. Milligan.
- Mediocre healthcare (both mental and physical) - under capacity.
- Need to review zoning for housing and commercial property needs arising from the mine project.
- Often the central interior is overlooked when it comes to funding for “anything” (education, health, recreation centers, playgrounds, etc).
- Pine Beetle and the loss of the forest industry - government is not “stepping up to the plate” to the degree they should be.
- Telecommunication is not good.
- No airport/ limited transportation services.
- Lack of daycare services/adult health services.
- No Northern living allowance.

Community Benefits

- Skilled local workforce
- Strong Regional District (RD) offices and strong relationships between RD and First Nations in both Mackenzie and Fort St. James.
- First Nations land development opportunities.
- Mackenzie and Fort St. James have railway access and road networks (good infrastructure).
- Vanderhoof has a functional hospital close to Fort St. James that can handle trauma as well as an airport that they are hoping to reopen.
- Retail and service industry is present in all communities (even if not huge).

WRAP UP:

Next Steps:

- Terms of Reference for committee.
- Objectives for next meeting (everyone bring some thoughts to the table).
- Press Release about committee coming from local communities.
- Terrane to provide details on employment and contracting/procurement opportunities.
- AME BC to fund local services brochure – follow up with Ann McCormick (CNC)

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Appendix 3

Film Synopsis for Terrane

Background/Overview:

Communities affected by mining projects want to be heard and validated. Not only has Terrane recognized the desires of communities to be involved, but they also understand the value of bringing communities together in an ongoing, collaborative forum. Together they can work on developing a collective voice that will see the mining project through. They call themselves the Community Sustainability Committee.

Objective/Purpose:

The objective of the film is to responsibly communicate the views and beliefs of the CSC members. They will be interviewed about the purpose and value of the committee, their views on how Terrane has conducted themselves throughout the life of the committee thus far and the hopes and expectation for the future of the Mt. Milligan mining project.

Target Audience:

The immediate audience is the members from the Community Sustainability Committee and the mining company, Terrane. Other potential audiences included, other communities facing mining development, companies that want to implement a similar model to the CSC and people in the mining industry.

Argument/Message:

There is value in the Committee.

Supporting the message:

Citizens want to take control of their communities' future; they are educated and well versed in sustainability issues, corporate responsibility, social licensing to operate and community engagement.

Tone:

Innovate. Optimistic. Hopeful.

Appendix 4

Seven Questions to Sustainability

Seven Questions to Sustainability was developed as part of the North American process of the Mining, Minerals and Sustainable Development. It is seen as a significant application of sustainability. The objectives of this document is to develop a set of principles, criteria and/or indicators that will assist in the development of various actions and process throughout mine life cycle to test their compatibility with concepts of sustainability (Mining, Minerals and Sustainable Development North America, 2002). Potential applications that this toolkit can assist in include planning, appraisals, financial insuring, licensing, internal reviews, external reviews and corporate reporting. In the document, there are suggested approaches for the implementation of model test and guidelines (Mining, Minerals and Sustainable Development North America, 2002). This toolkit is also very valuable to the mining industry because it supports the case for sustainability, by looking at sustainability through various lenses and cases, such for business, environmental, indigenous people, community and government. This tool can be used in a very broad, look at mining stages and their developments. Also the toolkit suggests what sustainability in practice may mean and promotes consistency across applications.

The Seven Steps Toolkit describes various issues that come into play when applying sustainability principles. These issues relate from the problem of turning theory into practice. The Toolkit recognizes them as adaptability, preventative measure, leveraging and trade-offs, equity, holistic system planning and perspectives, working with cumulative impacts, integration, amalgamation, mining language/discourse and need versus alternatives.

The actual seven questions presented goes through the process in which it could be applied. The questions can be viewed as topics that take a more comprehensive approach to its applications. The questions are:

1. Engagement: Are engagement processes in place and working effectively?
2. People (Human Wellbeing): Will people's wellbeing be maintained or improved during and after the project or operations?
3. Environment (Ecological Wellbeing): Will the integrity of the environment be taken care of in the long term?
4. Economy (Market Economy): Is the economic viability of the company assured; is the community and regional economy better off not only during operation but into post-closure?
5. Traditional and Non-Market Activities (Non-Market Economy). Is the viability of traditional

and non-market activities in the community and surrounding area maintained or improved with the project or operation?

6. Institutional Arrangements and Governance: Are the rules, incentives, and capacities in place now and as long as required to address project or operational consequences?
7. Synthesis and Continuous Learning (Continuous Learning and Adaptive Management): Does a synthesis show the project to be net positive or negative for people and ecosystems; is the system in place to repeat the assessment from time to time?

The first question on engagement is probably one of the most difficult questions to answer or test. It is also very central to the success of the next six questions. The toolkit discusses several ways to test engagement. However, its methods are ambiguous. The second question asks of people's wellbeing. This is interesting because of the language used. It asks of people's wellbeing, versus questioning whether or not the impacts will be mitigated. The third question on environment and ecological wellbeing takes on a similar approach to the second question. It questions whether the ecological wellbeing of the mine site be maintained or improved during and after the mine operation. Question two and three are examples of higher standards being set through the sustainability concept. It is looking beyond the mitigation of impacts. The fourth question looks at market economy. This is an extremely important concept as it defines the ability to have the resources to apply sustainability concepts properly. A large part of question four is also about sharing resources. This can be done in many ways, including buying locally. The fifth question on traditional and non-market activities/economy goes back to supporting indigenous communities. Some examples of this include providing access for aboriginals to access their spiritual lands or supporting traditional activities such as basket weaving. Question six focuses on institutions and governance. When first reviewing this question, it appears to focus on government regulations and regulating approaches. However, with more in depth analysis, the question asks how the company is governed and what are their standards and approaches that the company has set up to address the issues of sustainability. Question six has a broader governance scope than simply looking at regulatory frameworks for the answer. Question seven, the final question discusses the integration of all of the results, both quantitative and qualitative and works towards understanding the cumulative effects of the project. This question goes beyond the simple analysis of the (positive and negative) effects of the project, it also questions how often this is done and what process is used to collect the information.

Implementation of the Seven Questions

Implementation of the questions as represented in the toolkit is as follows: There is a question that represents the purpose and goal of the situation. Next follows the ideal answer. This is a positive outcome and thus becomes the objective of the situation. Indicators are used to measure the results in a broad level. Finally metrics are developed to measure more details within the indicators.

Work Cited

Mining, Minerals and Sustainable Development North America. (2002). Seven Questions to Sustainability: How to Assess the Contribution of Mining and Minerals Activities. Winnipeg: International Institute for Sustainable Development.

Appendix 5

Certificate of Ethics Approval



The University of British Columbia
Office of Research Services
Behavioural Research Ethics Board
Suite 102, 6190 Agronomy Road, Vancouver, B.C. V6T 1Z3

CERTIFICATE OF APPROVAL - MINIMAL RISK

PRINCIPAL INVESTIGATOR: Leonora Angeles		INSTITUTION / DEPARTMENT: UBC/College for Interdisciplinary Studies/Community & Regional Planning		UBC BREB NUMBER: H10-00104	
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:					
Institution		Vancouver (excludes UBC Hospital)		Site	
Other locations where the research will be conducted: Research will be completed in: Offices of Terrane Metals Corp. (Vancouver) Offices of Terrane Metals Corp. (Prince George) At the homes of interviewees in Northern British Columbia					
CO-INVESTIGATOR(S): An Minh Vu					
SPONSORING AGENCIES: N/A					
PROJECT TITLE: Mt. Miligan Community Sustainability Committee					
CERTIFICATE EXPIRY DATE: February 23, 2011					
DOCUMENTS INCLUDED IN THIS APPROVAL:				DATE APPROVED: February 23, 2010	
Document Name		Version		Date	
Protocol:					
Research Proposal		N/A		January 1, 2010	
Consent Forms:					
Consent Form		1		February 9, 2010	
Assent Forms:					
Agency Approval - Terrane		N/A		January 21, 2010	
Questionnaire, Questionnaire Cover Letter, Tests		N/A		January 15, 2010	
Sample interview questions		1		February 9, 2010	
Letter of Initial Contact:					
Contact Letter		1		February 9, 2010	
The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.					
Approval is issued on behalf of the Behavioural Research Ethics Board and signed electronically by one of the following:					
Dr. M. Judith Lynam, Chair Dr. Ken Craig, Chair Dr. Jim Rupert, Associate Chair Dr. Laurie Ford, Associate Chair Dr. Anita Ho, Associate Chair					



CENTRE FOR HUMAN SETTLEMENTS
1933 West Mall, 2nd Floor, Rm 242
Vancouver, BC, Canada V6T 1Z2
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www.chs.ubc.ca

Contact Letter (Interview Participants)

University of British Columbia
College of Interdisciplinary Studies
School of Community and Regional Planning
Master's Professional Project

Dear Sir / Madam,

I am writing to invite you to participate in a research and documentary film project “**Mt. Milligan’s Community Sustainability Committee**”. As you are involved directly or indirectly in the Mt. Milligan mining project I am interested in conducting a filmed interview of you for approximately 30 minutes to learn about your views and experiences with the Community Sustainability Committee.

To provide you with some background information, my name is An Minh Vu, I am a second year Master’s student studying at the University of British Columbia in Vancouver, Canada. I am enrolled in the School of Community and Regional Planning. I am conducting this research under the supervision of Professor Leonora Angeles, a faculty member at the UBC Women's Studies Program and School of Community and Regional Planning. This film is a part of my research towards my Master’s Professional Project.

My research will seek to understand the current use of, as well as the value of Mt. Milligan’s Community Sustainability Committee. I would also like to gain a grasp of the various stakeholders’ views on the roles of the Committee. The overall objective of the research film is to understand the perceptions held by both the stakeholders and the company and how this may create the making of better-informed decisions about the mining project and the region, as well as strengthening community-company relations and further improve the quality of social corporate engagement.



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The results of the research will be used in my Masters' project presentation and may be used as data for journal articles, conference papers or poster presentations. They may also be disseminated by Ter-rane Metals Corp.. A summary of the research results will be distributed to any participant who wishes to have a copy. The identities of people interviewed for this research study will be kept strictly confidential unless they consent in writing to be identified.

Thank you very much for considering this invitation. If you have any questions or concerns about this study, please do not hesitate to call me at Tel: 604-551-6796 Email: anminhvu@gmail.com. I will contact you by phone or email to confirm whether or not you are interested in participating in this research, and to arrange a mutually agreeable time and place for us to meet.

Warm Regards,

An Minh Vu

M.A. Planning Candidate
University of British Columbia
Phone Number: 604-551-6797 Email: v_annie15@hotmail.com



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64
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SUBJECT CONSENT FOR PARTICIPATION IN A RESEARCH PROJECT AND DOCUMENTARY SUBJECT RELEASE

The Value of the Community Sustainability Committee for the Mt. Milligan Mining Project

Principal Investigator:

Leonora Angeles, Associate Professor
School of Community and Regional Planning, University of British Columbia
Tel: 1-604-822-9312, Fax: 1-604-822-6164; Email: angeles@interchange.ubc.ca

Co-Investigator:

An Minh Vu, M.A. Candidate
School of Community and Regional Planning, University of British Columbia
Tel: 1-604-551-6797; Email: anminhvu@gmail.com

This research is being conducted as a Professional Project for the student's Master's degree.

Purpose:

The purpose of this research is to understand the value of Mt. Milligan's Community Sustainability Committee. It seeks to understand the perceptions held by both the stakeholders and the company, and how this may be affecting the planning of the mine and the future of the region. You are being invited to take part in this research because you are involved directly or indirectly in the Mt. Milligan mining project.

Study Procedures:

The study will involve a filmed interview of up to 30 minutes in length. The interview can take place prior to or after a scheduled Community Sustainability Committee meeting, or the participant's place of work, home, or other location where he or she will be comfortable. With the consent of the participant, the interview will be filmed. If the filming causes any discomfort to the respondent, the interviewer will only type notes on a laptop computer instead.

Consent to Use

I hereby consent that **An Minh Vu** may use all or part of videotaped interviews and/or other film, video or photography taken of me and any visuals (photographs, clippings) of me provided by me or others for your documentary film with the working title “Mt. Milligan’s Community Sustainability Committee”. I consent to use any picture, silhouette and other reproductions of my likeness and voice in connection with any Film in which this material may be incorporated, and in advertising material promoting it. She may edit my appearance as she sees fit. The rights granted her are worldwide in perpetuity and include the use of this material in any medium in which all or part of the program may be shown, including broadcast and cable television and videocassettes/dvds and the internet. She is not obliged to make any use of this interview or exercise any of the rights granted by this release.

Confidentiality:

All print and electronic data will be kept securely in the Principal Investigator's locked and non-shared office. Hard copy records (documents, interview notes, the researchers' field notes) will be kept in a locked filing cabinet to which only research team has access. You are welcome to view a draft of the film, prior to the final completion of the film.

Contact for information about the study:

If I have any questions or would like further information about this study, I may contact any of the principal or co-investigators using the contact numbers or email addresses above.

Contact for concerns about the rights of research subjects:

If I have any concerns about your treatment or rights as a research subject, please contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598 or e-mail to ORSIL@ors.ubc.ca.

Consent:

I understand that my participation in this study is entirely voluntary and that I may refuse to participate or withdraw from the study at any time without jeopardy. I also understand that I do not waive any of my legal rights by signing this consent form.

I have received a copy of this consent form for my own records.

My signature indicates that I consent to participate in this study.

Participant Signature

Date

Printed Name of Participant

Thank you

Appendix 8

Interview Questions for Mt. Milligan Project Film - January 2010 (Interviewer An Minh Vu)

- Who are you? Who do you represent?
- How did you come to join CSC?
- Can you give me an overview of the region or your community?
 - The economy?
 - The diversification?
 - Other significant information?
- What is your role & involvement?
 - Why are you participating?
- How does the CSC work?
 - How did it start?
 - How has the committee changed?
 - What might the CSC look like in the future?
 - How might it evolve?
- What are the limitations and challenges of the CSC?
- What would make it stronger?
- What do you recognize are the commitments for Terrane to the CSC and community?
- How authentic is the form of public participation?
 - Difficulties of measuring?
 - Outsider-mandate?
 - Terrane's intent?
 - Social licensing?
 - Window dressing?
- How would CSC be different if it was not sponsored by Terrane?
 - Through community rather than company
- What might the mining project look like if there was no CSC?
- What are the needs and interests of the communities?
- How is the CSC affecting the planning of the mine?
- Your vision of sustainability?
 - How does the CSC feed into that vision?
- What are the anticipated impacts of the mining project?
 - How is the CSC going to tackle this?
- What kinds of things are community members asking for from Terrane?
- Last comments? Speak to value/importance of the CSC

Appendix 9

Mining and the Concept of Sustainability

Mining legacy has been developed over many centuries. Historically, Romans mined what is present day Spain with the labour of slaves and prisoners. Over the years, large parts of Europe suffered extensive environmental damage due to mining. Since the start of mining, it has been viewed as a dirty activity. The actual action of mining is dirty, since mining is essentially the digging of the earth. To access and extract raw minerals and metals, the earth surrounding these precious commodities goes through a long and extensive process that includes tunneling, excavating, crushing, leaching and pulverizing, to mention a few. What is left is often a disturbed, degraded, polluted environment. This pollution radiates further than the confines of the mine. It is carried along waterways; leaching often seeps deep underground, thus not only affecting the environment, but also risking the health of humans and animals that will encounter the polluted water.

Mining is also a high hazard activity and occupation thus risk management is a major part of mine planning. Mining related illnesses and injuries due to reckless behaviour from mining companies are not uncommon. Along with the concrete activities associated with mining, the industry has also had a history of being a “dirty” business. The mining industry has a history of negligent and careless practices. The abandonment of mines without rehabilitation is historically a common practice for mining companies. Some would argue that this archaic and cavalier practice still occurs today. The general perception is that mining is focused on monetary value rather than the environment and communities. There are few people that would describe mining as a responsible endeavor. The mining industry itself has never been trusted, is not yet trusted and, unfortunately, is judged by its worst performers.

Mining's past

There are countless stories of mining projects that have left the environment in a devastating state, leaving local governments and the community to fend for themselves and clean up the mess left behind. An infamous Canadian example of inferior mining management and planning is Giant Mine. Located in the Northwest Territories, near the City of Yellowknife and bordering the Great Slave Lake, the shut-down of this mine created a domino effect of harmful impacts on the economics, environmental and social situation of not only the region, but to the entire country as well. Giant Mine opened in the 1940s and eventually closed in 1999, after the license holder of the time filed for bankruptcy (Indian and Northern Affairs Canada, 2010).

Throughout the mine's lifetime, it was owned by multiple mining companies, which as argued by many was one of the many reasons for the social and environmental damage and destruction and eventual failure of Giant Mine. The changing of hands with the mine over the years created an inability for comprehensive, enforceable policies that protected the area and its people. In 1992, a labour dispute escalated in the death of nine replacement workers, after a bomb set by striking workers exploded at the entrance of the mine (Gatehouse, 2002). The former mayor of Yellowknife commented on the tragedy, "This kind of strike with the violence, and the pitting of family against family, neighbour against neighbour, it impacts a community for a long time"(Gatehouse, 2002). The mismanagement and elimination of employment opportunities, without an adequate redeployment strategy greatly burden the region's people.

After the closure of Giant Mine, with no one taking responsibility for reclamation, and due to poor regulation, the region could not hold anyone accountable. This resulted in the responsibility of reclaiming the mine site falling on the shoulders of the Canadian federal government and ultimately, its tax payers. Since the closure of the mine, reclamation has been costly. During mine operation, processing of the ore produced highly toxic airborne arsenic trioxide dust (Indian and Northern Affairs Canada, 2010). Although some of this emission was controlled, the captured particles created a problem for disposal. 237 000 tons of dust were stored in large underground chambers, covered by permafrost (Indian and Northern Affairs Canada, 2009). As the climate condition changed, the large containers started to degenerate, thus releasing these toxins into groundwater. In addition to monitoring the toxic dust, other areas requiring environmental monitoring and reclamation included open pits, tailing ponds and site buildings.

Over the lifetime of the mine, Giant Mine produced approximately 7.6 million ounces of gold; however, the social, environmental and economic costs that have developed as a result of Giant Mine's poorly planned, poorly managed and poorly regulated production and closure outweigh any monetary positives. Complete reclamation costs have been estimated as high as 900 million CAD (Mining Watch Canada, 2003).

Sustainability

It is perceived by many that within the mining community, the term sustainability is often seen as a burden. A troublesome notion for miners that forces them to change their tried and trusted ways. Although this may be true for a few individuals and even companies in the mining community, sustainability is fast becoming the theme to which companies are claiming to plan for and act upon. On paper, planning and operating under sustainable standard sounds reasonable. However, it is important to fully understand what sustainability means to the mining

community and what they are doing to implement sustainable procedures and measures. How can we differentiate between “green washing” and other sustainable buzzwords that often yield false promises?

History

Prior to the 1990s, the mining industry had little dialogue and communication with the public and the communities they affected. Although, some companies, prior to the 1990s, operating near communities may have had some kind of engagement strategy, they often did not reach outside of community boundaries and unfortunately, had very little impact.

In 1987, a vision for sustainability had been identified, and is perhaps the most common and popular definition used by the mining industry to define sustainability. The definition offered by the World Commission on Environment and Development, Oxford University Press states, “Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (1987). This remains the starting point for many mining companies when it comes to the development of their definition and principles surrounding sustainable development. Even though many companies use this concept often to describe their mission and work, its application varies greatly within the industry and many, arguably, misunderstand the concept.

The concept of sustainability continued to gain a hold and attract more global attention in 1992 at the United Nations Conference on Environment and Development in Rio de Janeiro. This conference sparked global interest, which resulted in increased awareness in the general public and within governments, specifically with concerns surrounding government response to environmental damage (The Mining Association of Canada, 2010). The conference also sparked the creation and development of many non-profit and non-governmental groups, such as Mining Watch. With increased awareness and understanding, there was growing pressure on both government and industry to change their ways. In 2002, in Johannesburg, South Africa, the mining industry saw the opportunity to put some of their own suggestions on to the table at the UN World Summit on Sustainable Development. It was one of the first times that the mining industry was a part of the dialogue that was based on looking for solutions and strategies.

The US federal and state levels of government started to draft and enact mining related regulation in the 1970s. The Office of Surface Mining was established in 1977 and is the main regulator of coal mining in the US.

In the 1990’s, one of the first international initiatives took place in Canada. It was called the

Whitehorse Mining Initiative. The Canadian mining industry was dealing with significant changes entering the millennium. These changes brought challenges that included economic, environmental and social concerns and complexities. The Ministers responsible for mining throughout the provinces and territories began to meet annually with the federal minister responsible for mining. In 1993, the meeting took place in Whitehorse. Also attending along with the Ministries was the Mining Association of Canada that initiated the discussion of the new initiatives. As a group, they looked at issues relating to the image of the industry and looked at ways in which industry could interact with communities and other stakeholders (Natural Resources Canada, 2009). It was understood that the mining industry needed to work with the various sectors in Canada and Canada had the opportunity to become a global leader in this initiative for the mining industry. With this objective in mind, it was necessary to craft a new strategic vision that included practical undertakings and develop a more unified approach was developed. The process finished in 1994, through a series of multi stakeholder meetings (Indian and Northern Affairs Canada, 2010). Five sectors of society were represented in the meetings. They included the mining industry, governments, Aboriginal groups, environmental organizations and labour unions (Natural Resources Canada, 2009). This was the first effort in Canada to get people around the same table for discussion.

In 1998, Placer Dome Inc, a Canadian mining company, developed a Sustainability Development Policy and shortly after issued its first Sustainability Report, called "It's About Our Future." This was the first time anyone in the mining industry had stepped forward and published a report in sustainable development (International Institute of Sustainable Development, 1999). Both industry and government were beginning to recognize the value of incorporating sustainability into their agendas.

In February 1999, nine of the largest mining and metal company met in Davos, Switzerland at the World Economic Forum to discuss the initiation and implementation of a process to improve the image of mining and how they could help shape the industry and the industry's response to sustainable development on a international basis (Labonne, 1999). What came out of this meeting was the launching of the Global Mining Initiative that was developed to help prepare the mining sector for the World Summit on Sustainable Development 2002. There are three significant parts to the Global Mining Initiative; they were developed in 2000, 2001 and 2002.

In 2000 came the Mining, Minerals and Sustainable Development Project, which further defined what sustainability meant in mining and the mining industries roles. Richard Sandbrook of the

International Institute for Environment and Development led this project (International Council on Mining and Metals, 2010). The Project had a set of principles, they included principles for four spheres: environment, economic, social and governance (International Council on Mining and Metals, 2010). The principles in the environmental spheres include responsible stewardship, minimizing waste and damage on the environment and understanding ecological boundaries. The principles in the economic sphere included notions on human well being, efficient usage of resources, identifying of costs (such as environmental and social expenses) and develop enterprise. The social sphere principles discuss the fair distribution of the costs and benefits, fundamental rights of people, and the development and sustaining of improvements to the livelihoods of everyone. The final sphere, governance, has the largest set of principles. They include supporting democratic decision-making, encouragement of free enterprises, transparency, accountability for decision and actions, trust building and cooperation and ensure that appropriate decision making should take place at the lowest level of government possible.

In 2001 the International Council on Mining and Metals was created, after the merging of several groups that recognized similar mandates on the metals industry and environment. The group was based out of London, thus helping its international profile. In 2002, Members of the International Council on Mining and Metals signed the Toronto Declaration at the international conference called Resourcing the Future (International Council on Mining and Metals, 2010). The document, the result of the Global Mining Initiative, showcased the commitment of the members to continue to work on more sustainable systems and processes. Due to these great initiatives, International Council on Mining and Metals has become the industry standard bearer for implementing sustainable development concepts.

Today's Developments

Due to events in the past and the complexities of the sector, the mining industry has always resisted change and has always used the legal process to do so. Change often creates uncertainty and therefore it is easier to continue with systems and processes one is accustomed to using. Mining companies do not usually step forward and take responsibility for past impacts and to do so would be difficult due to regulatory issues, especially in the US. For example, if a company voluntarily cleans up a mine site and does not clean it to the standards of the Clean Water Act, then the company can be held liable for the entire mine site. Therefore many mining companies will not take the initiative, as none are prepared to be exposed to the potential legal actions against them.

Mining companies today see the value of adopting sustainability development principles. Some

companies are even early in their uptake on these principles. There are now also higher levels of reporting, when it comes to achieving sustainability-oriented standards. The mining industry is actively participating in ongoing discussion and discourse about mining and sustainable development. The development of business cases and best practices models is becoming very important for mining companies when it comes to sustainable development. These business cases have become a major motivation item for mining companies and can be context-specific according to the mining project.

Understanding the Term

The terms sustainability and sustainable development had become more prevalent in the vocabulary of many mining companies. However, the understanding of these words is still ambiguous and the implementation of them is even more difficult to comprehend.

Since the term sustainable development is such an undefined and nebulous concept, especially when it comes to implementation, the discussion of this concept is impeded by the inability to have a typical straightforward, mathematically precise answer. Sustainability and sustainable development requires unconventional thinking and planning, especially in an industry where mining and sustainability is considered an oxymoron. This can be seen as a reach for the conventional systems and minds that lead the mining industry. Engineers especially, often want to define sustainability into a rigid classification, before they choose to implement it. Confining sustainability in a box, necessarily neglects recognizing its full scope and dimensions.

Sustainability is moving away from its traditional one dimensional concept. In itself, sustainability elements include environmental, economic and social sustainability. Eggert (2009) states that sustainable development is a multi-dimensional notion, which integrates various concepts; thus sustainable development is a more dynamic and incorporated action than simply striving to sustain. Mining is working on a more sustainable practice that integrates economical, environmental and social elements and attempts to maintain or even enhance all these dimensions (Eggert, 2009). A more sustainable mining practice is simple enough when it is a statement of promises. However, fulfilling these promises is much more difficult and complex.

Mining's Understanding of Sustainability

Although, the mining industry's understanding of sustainability is moving away from a one dimensional concept, there still is an order of goals. As an industry and company, the highest order goal is economical viability and achievement. Since it is ultimately a business, the mining company and industry recognizes that economics is a high order goal. In the 80s and 90s

there was a shift in environmental influences and mining projects were becoming more environmentally cognizant. In the 2000s, issues that included communities and society were finding their way into mining projects, further challenging conventional thinking of sustainability and mining. As the understanding and importance of sustainable development becomes more prevalent in the industry's mind, economic goals start to see financial benefits that come with environmental and social benefits as well (Eggert, 2009). Mining with more sustainable practices looks at both long and short-term needs and well being. It includes assessing the entire life cycle of a mine and not just during the operational time period. Comprehension of core issues during decision-making are vital. It is also equally important to understand the consequences of all decisions made (Gibson, 2005). Links and interdependencies, such as human and the biophysical, need to be understood and strategically planned for, rather than a linear approach that is not flexible and forgiving to a world full of complexity and surprises (Gibson, 2005). Thus a precautionary approach is necessary in mining.

Failure of planning for surprises is the failure of engineered mining systems. More sustainable changes in the mining industry means having the industry look at underlying issues and understanding limits that need to be respected. It also includes having the mining industry broaden its view of innovation. Sustainable mining practices include looking at creative solutions. That includes an open-ended process and the ability to adapt to changing expectations.

The development of an open-ended process that allows dynamic, moving expectations is a very difficult concept for mining companies that are accustomed to having well defined goals. Typical algorithmic approaches common to how the mining industry conducts and governs its actions will not fully satisfy sustainability principles. Thus incorporating changes in expectations is especially difficult for the mining companies. The mining industry needs to understand the value of processes and recognize that the means is as important as the ends. The means and ends are intertwined; they include culture, governance, ecology, society and the economy. All these issues are involved in the lifecycle of a mine in a complex fashion. Often mining companies simplify both the issues and processes in order to be able to grapple with its understanding. The problem with that common practice is important concerns often get overlooked and not properly handled.

Traditionally, the mining perspective often consists of a mining company having a set of sustainable principles that they would like to apply universally. What the mining company lacks is an understanding that the principles need to be flexible and context-specific to each mine site.

Due to the nature of mining, ore bodies in the earth will continue to get depleted; therefore the word sustainable cannot be placed in front of the word mining. It is not possible considering the

nature of mining and the principles that govern sustainability. Since sustainability is a constantly dynamic concept, the mining industry needs to recognize that sustainability cannot be applied directly to the industry, but instead to the actions of the industry. The act of mining itself does not conventionally fit into the definition of sustainability; instead it should be viewed as a culture, a way of conducting in a responsible manner with accountability. Calling the industry, an organization or mining project sustainable is simply a false statement. Instead of trying to create sustainable mining, the culture of mining and sustainability needs to be developed. The industry and public need to ask how mining can contribute to sustainable development. This will enable them to better understand the needs and limitations of those concepts in order to address comprehensible and practical actions. Furthermore, these ideas need to be continuously assessed and flexible to be able to adapt to a specific context.

It has been argued that the sustaining of material supply (metals and minerals) for human usage is the true nature and importance for sustainability and mining. Maintaining sustainable materials supply for continual consumption is the issue, not the development of creating a sustainable mine, company or industry.

Scale

Sustainable development within mining varies among various scales. At the local level, sustainable development with mining deals with issues such as health and safety, labour, the environment, aboriginal land, etc. On the global level, major sustainable development issues consist of poverty, clean water, environment and urban growth. Scale is also seen in levels of the mining industry. Within a company, broad principles are developed in high-level corporate offices, but implementation is often adjusted for the unique challenges of every mining site and project.

Social Sustainability

As recognized, sustainability is a difficult concept to nail down. However, the mining industry has worked on breaking down the term into simpler notions. Eggert (2009) discusses four possible principles where the mining industry can impact the social goals of a mine. They are: assist in the development and creation of mineral assets; ensure mining developments are economically efficient, without compromising social goals; ensure that mining surplus is fairly distributed; and maintain the benefits of the mine long after the closure of the mine (Eggert 2009). These four principles are concepts that appear simpler on paper than they are in practice. They involve a lot of interaction with government, the local community and the mining company.

Discussion on these four principles is ample, especially on the last principle, maintaining the benefits of the mine long after the closure of that mine. Even with much dialogue around this principle, the actual application and implementation has not lived up to the expectation.

Multi-stakeholders processes are very valuable as they provide a forum for the exchange of information and ideas. It is vital to the establishment of relationships among the stakeholders, as well as the support for ongoing discussion and dialogue. Multi-stakeholders process helps the stakeholders understand the goals and expectations of each of those sitting at the table. It creates a space for governments, NGOs, communities and companies to address important issues, which will allow the building of relationships and a foundation for future activities.

Mine Life Cycle

The mine life cycle is an important model to keep in mind when discussing sustainability issues. Companies need to rethink their roles and responsibility during all parts of what is recognized as the mine life cycle. In the past, mining companies were only interested in the early stages of the mine life. That included the exploration, detailed site investigation (that included design), construction of the mine and operation. During any part of that mine life, suspension and termination were also possibilities, often leaving behind abandoned mines. Mining companies only focused on those areas, especially when it came to sustainability issues. Not until the 1970s did the mining industry start to recognize that their responsibility continued on after operations. The period in the mine life cycle was called final closure and decommissioning and is expected to continue from one to five years (Hodge, 2004). The mining industry is starting to understand that the affects and impacts continue long after a company left the mine site. More careful planning and strategic approaches are needed to recognize and mitigate the continuous effects of mining.

Conclusion

Sustainability is an inconsistent and dynamic concept. Due to global pressures and increased public awareness, the mining industry, with much hesitation and resistance, has taken its time in embracing the concept into their policies, plans and application. However, change within the industry is occurring. Sustainability is becoming the theme in which companies are claiming to adhere to, plan for and act upon. On paper, planning and operating under sustainable standard sounds reasonable, however, fully understand what sustainability means to the mining industry, company or even mine project is difficult, especially when it comes to the implementa-

tion of sustainable procedures and measures. The mining industry is starting to recognize both the intrinsic and monetary value of planning to mitigate and prevent impacts to the environmental and communities. Engagement and has been central to the development of more sustainable practices within mining projects. There are still legacy issues that the mining industry has to presently recognize, especially when dealing with matters as how to interface with the public, government and communities. It will take time for the mining industry to develop trust; unfortunately they are still judged by the actions of their worst performers.

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