Transnational Law and Resource Management: The role of a private legal system in the promotion of sustainable development in the mining industry

by

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Bachelor of Arts, Simon Fraser University, 2001
Juris Doctorate, University of Ottawa, 2004

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Abstract

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Within the transnational legal sphere, internal and external private legal systems regulate alongside a pluralism of national and international legal systems. This thesis explores the elements of transnational private legal systems that are external to a single organization or company and whether they can elevate the higher-order principle of sustainability within the mining sector. A private legal system would broadly incorporate legal rules and obligations for corporate governance, and specifically for integrating sustainable development into the mining industry. Using the lens of reflexive law, this thesis explores five observable trends of a private legal system: interorganizational network; regulatory hybridization; private juridification; civic constitutionalism; and international judicialisation. A variety of methodological tools are used to determine if the first three trends, which are linked to the emergence of private legal obligations, exist. Through qualitative content analysis this thesis adds to the empirical literature supporting reflexive law and provides insights into the ability of private legal systems to govern resource issues. The evidence of any private juridification and civic constitutionalism occurring within the mining sector is detailed, and the consequences for the regulation and development of a sustainable mining industry that result from that juridification is discussed.

Keywords: transnational law, reflexive law, mining, sustainable development

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Dedication

To Angela, Cameron and Dorian: thank you for your patience and support.

Chapter 1: Fostering sustainable development through mining projects

Mining for metals has occurred for at least 8,000 years, and mining for stone and flint extends back 300,000 years.[1] The 21st century mining industry still has artisanal mines, but is dominated by multinational corporations that operate through a network of subsidiaries in multiple countries. The breadth of operations, combined with the large scale of many mining projects has created an activity that has a significant local impact. The type of impact, allocation of costs and benefits of the project, and the governance associated with decision making throughout the life cycle of the project are shaped by the choices and decisions made by a variety of stakeholders. Mining corporations, governments controlling access to the minerals and looking to monetize their exploitation, and the communities in which the operations occur, all have an interest in how the mine is developed, operated and maintained after closure. These stakeholders however all operate at different scales, and within a variety of legal jurisdictions. As a result, the governance of mining does not fall under the legal jurisdiction of any one nation.

The mining sector is directly and indirectly responsible for 45% of global GDP, is the source of the raw materials for almost everything used in daily life and is a key piece of many regional and national economies.[2] Although it uses less than 1% of the Earth's surface area, produces less than 3% of anthropogenic greenhouse gases and creates an estimated two and half million jobs in the mining and metals sector alone, the mining industry is not without problems.[3] Mining monetizes minerals locked in the earth, but the process creates social and environmental impacts and raises questions of how to

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[1] H. Hartman (ed), *SME Mining Engineering Handbook. Volume 1* (2e edn Society for Mining and Metallurgy and Exploration, Inc., USA 1992) at 5 (hereinafter *Hartman 1992*).

[2] M. Creamer. 'Global mining drives 45%-plus of world GDP – Cutifani' (2012) Mining Weekly (hereinafter *Creamer 2012*).

[3] ibid; International Council on Mining and Metals. 'ICMM: Member Companies' (ICMM: Member Companies) <http://www.icmm.com/members> accessed July 20, 2012.

determine the allocation of the economic benefits from the mine.[4] Ultimately, these are questions that are addressed through the governance structures of governments, communities and the mining corporations themselves. Addressing these issues is important for all stakeholders. Questions of fairness and environmental justice, the allocation of benefits that justifies the costs, revenue certainty for the mineral owners, and a continued social license for the industry all require a response to the questions and concerns raised by mining.

The environmental issues that arise include local water and soil pollution, loss in biodiversity, and disturbance of environmentally important spaces.[5] Issues common to industrial processes also arise in the mining sector. These include reducing energy and resource use, appropriate disposal of facility wastes, and the impacts of industrial activities on climate change. Social impacts are experienced through the loss of culturally significant places, relocation of communities, the exacerbation of regional wealth disparities – especially with regards to the allocation of the monetization of minerals – and the impacts on communities as they are transformed through the emergence, sustained presence, and eventual loss of a major economic engine within the

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[4] J. Williams, 'Legal reform in Mining: Past, Present and Future' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy: Trends and Prospects* (Kluwer Law, The Hague 2004) 37 (hereinafter *Williams 2004*) at 69.

[5] These issues are raised throughout the literature and are reflected in E. Bastida, 'Integrating Sustainability into Mining Law: The Experience of Some Latin American Countries' in N. Schrijver and F. Weiss (eds), *International Law and Sustainable Development: Principles and Practice* (Martinus Nijhoff Publishers, Boston 2004) 575 (hereinafter *Bastida 2004b*) at 582-583; M. McAllister and P. Fitzpatrick, 'Canadian Mineral Resource Development: A Sustainable Enterprise?' in B. Mitchell (ed), *Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty* (4th edn Oxford University Press, Don Mills 2010) 356 (hereinafter *McAllister and Fitzpatrick 2010*); T. Wälde, 'Natural Resources and Sustainable Development: From 'Good Intentions' to 'Good Consequences'' in N. Schrijver and F. Weiss (eds), *International Law and Sustainable Development: Principles and Practice* (Martinus Nijhoff Publishers, Boston 2004) 119 (hereinafter *Wälde 2004a*); A. Watson. 'Incorporating Sustainability into Mining Services' (2008) E&MJ 106.

community.[6] Individuals are impacted by the above issues, but also through worker health and safety issues at and around the mine, through the adherence to or violation of principles of human rights, and the types of employee and community support programs established in association with the mine.[7] In the face of these issues and the negative consequences that arise from mining, even where practices improve it can be difficult to highlight positive outcomes and innovative approaches. Presenting new solutions and highlighting successes is often met with valid critiques of the industry based on the varied experiences therein. A continued focus by media, citizens groups and non-governmental organizations on the negative impacts has resulted in "the more visionary exploration and mining companies" preparing for and attempting to begin a shift in the industry's governance.[8]

The vision that is embraced by those companies is one where companies address the environmental, economic and social impacts of mining through the rubric of sustainable development.[9] With sustainability representing a "higher-order social goal" and sustainable development as the variable or practical application of that goal,[10] an understanding of what sustainable development is in the mining context is required for any company that purports to be striving for sustainability. If mining activities can become a driver of sustainable development rather than a quagmire of social, environmental and economic issues, mining may be able to offer the resources demanded by society, revenues for governments, and lasting stable communities that can meet the needs of its members now and in the future. Already many of the issues above are the

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[6] *Wälde 2004a* at 129 where the author notes that sudden obsolescence of a mine or particular product, and the resulting impact on the dependent community has been a larger problem on the sustained contribution of mines to local economies than the actual occurrence of mineral bodies being mined to the point of not supporting a local economy.
[7] See above.
[8] *Williams 2004* at 62, suggests that the three main issues for law reform in mining are how to optimize environmental and social accountability of private resource development; balancing the interests of various levels of government; and encouraging the transformation of revenues from minerals into assets for public goods.
[9] *Williams 2004* at 62.
[10] B. Richardson and S. Wood, *Environmental Law for Sustainability* (Hart Publishing, Toronto 2006) (hereinafter *Richardson and Wood 2006*) at 13.

subject of national and international laws, which have helped reduce some of the impacts of mining. Voluntary codes and industrial standards have also provided guidance on how to address these issues.[11] The question is, with a multitude of legal jurisdictions governing the actions of the stakeholders involved in a mining project, what is the role of private parties acting in this transnational space in governing the sector and encouraging the vision of a sustainable mining industry?

This thesis explores the shift towards sustainable development in the global mining industry, and specifically whether a private legal system that is external to individual companies is emerging in a transnational space that governs both within and beyond national boundaries. The main research question explored is whether a private legal system exists and if so whether it provides any assistance in addressing the sustainability of mining.

To answer these questions this project adopts a theory that has previously been applied to private legal systems. A theoretical lens of reflexive law was chosen as it has been used to explore national environmental law systems, private legal systems and private dispute resolution systems.[12] In addition, this legal framework has been used to

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[11]International Cyanide Management Institute. 'The Cyanide Code - International Cyanide Management Code' <http://www.cyanidecode.org/about-cyanide-code/cyanide-code> accessed May 15, 2013; British Standards Institute. 'BS OHSAS 18001 Occupational Health and Safety Management' <http://www.bsigroup.com/en-GB/ohsas-18001-occupational-health-and-safety/> accessed May 3, 2013; World Gold Council, 'Conflict-Free Gold Standard' (2012) 40 (hereinafter *WGC 2012*); Global Reporting Initiative, *Sustainability Reporting Guidelines & Mining and Metals Sector Supplement* (Sustainability Reporting Guidelines, 3.0th edn Global Reporting Initiative, 2011) 183 (hereinafter *GRI 2011*); Prospectors and Developers Association of Canada. 'e3 Plus' <http://www.pdac.ca/programs/e3-plus> accessed May 17, 2013 (hereinafter *PDAC 2013*).

[12] See E. Orts. 'The Complexity and Legitimacy of Corporate Law' (1993) 50 Wash & Lee L Rev 1565 (hereinafter *Orts 1993*) for the use of reflexive law to analyze a national environmental legal system; and A. Fischer-Lescano and G. Teubner. 'Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law ' (2004) 25 Michigan Journal of International Law 999 (hereinafter *Fischer-Lescano and Teubner 2004*) and G. Teubner. 'Breaking Frames: Economic Globalisation and the Emergence of *lex mercatoria* ' (1997) 5 European Journal of Social Theory 199 (hereinafter *Teubner 1997*) for the use of reflexive law in studying private legal regimes in commercial law.

identify five observable trends of a private legal system.[13] Several of those trends, which are explored in detail in Chapter 2, are used herein to answer the question of whether a transnational private legal regime focused on sustainable mining has developed, and if so, how these laws assist in regulating the industry. In particular, this thesis argues that emergent private legal systems move beyond industry self-regulation and provide a legal framework that can address the sustainability of global industries, in this case the mining industry.

The balance of this chapter sets out a description of the global metals and mining sector, including some of the environmental, social and economic challenges of the industry and the national and international legal responses, and defines sustainability in the mining sector for the purpose of this thesis. Chapter 2 provides a justification of the choice of reflexive legal theory and the observable trends of a private legal system as the theoretical framework for understanding how private actions can assist in making mining sustainable. An explanation of the datasets, documents and coding scheme used to undertake qualitative content analysis are explained in Chapter 3. In turn, these datasets are used to determine if the trends of a private legal system regarding the development of private laws have emerged in the context of sustainable mining. The analysis is presented throughout Chapter 4 with the question of whether a private legal system of mining that has the potential to foster sustainable development within the mining industry is emerging is addressed in Chapter 5.

The scope of this project required the five trends to be split into two groups. Three of the five 'observable trends' of a private legal system: interorganizational network; private juridification; civic constitutionalism focus on the creation of new laws within private systems. The other two trends, regulatory hybridization and international judicialisation, focus on the recognition of private legal systems by other legal systems, namely national legal systems. The first three trends are explored with empirical data collected from mining companies, associations and non-governmental organizations. Through an

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[13] G. Teubner, 'The Corporate Codes of Multinationals: Company Constitutions Beyond Corporate Governance and Co-Determination' in R. Nickel (ed), *Conflict of Laws and Laws of Conflict in Europe and Beyond: Patterns of Supranational and Transnational Juridification* (Hart, Oxford 2009) 203 (hereinafter *Teubner 2009*).

analysis of these three trends, the question of whether there is a private legal system can be answered – although it does not provide an answer to how it interacts with other legal systems.

The second group of trends was not analyzed. The trends of international judicialisation and regulatory hybridization are important for the operation of a legal system as they provide recognition of private laws in a pluralism of legal systems, their existence is not required to demonstrate the existence or content of private laws governing sustainability. They are however of key importance to determining effectiveness of a private legal system. A legal system is more than the sum of its parts. In particular, the mere existence of private laws says little about how the private legal system governs. Thus, Chapter 5 will discuss the implications of using Teubner's trends as a theoretical basis for empirical research on private legal systems, specifically what it can tell us about the content of laws, and how the variety of trends interact to form a legal system.

To provide an understanding of the challenges that national and international legal systems have with addressing sustainable development of the mining sector, a description of the global mining industry and a definition of sustainability in the mining context are set out below. This chapter will also discuss the implications of studying only several of the trends at one time.

1.1. The global mining sector

The geographic distribution of mining projects and the organizational structure of the companies involved impacts the functioning of private legal systems. The mining industry is composed of operating companies, investors and financiers, suppliers and consultants, and purchasers and consumers. Most owners operate their own mines and are traditionally divided into three categories: juniors, intermediates and majors. Although there is no universal definition of these levels of business development, the companies are often categorized based upon revenue with majors having multiple operations and refining facilities and an annual revenue in excess of $500 million. Intermediaries have several mines and annual revenue between $500 million and $50 million. Juniors are companies that operate on equity financings and have no or minimal

operational mining activity.[14] There are 165 major mining companies, compared to approximately 4,600 juniors and intermediates.[15] Due to industry consolidation, only a small fraction of all companies are responsible for the majority of the mining based on production value of the mines. Table 1 provides further detail on the industry consolidation.[16]

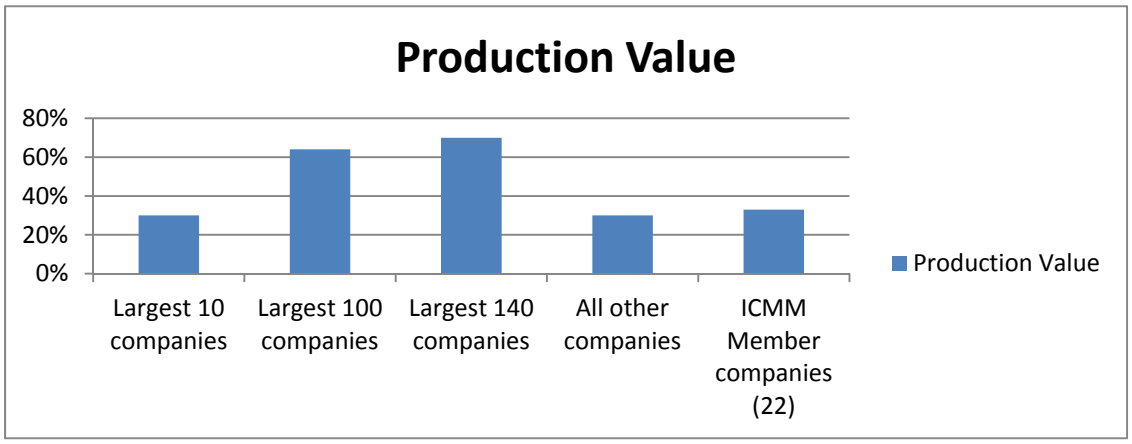

Table 1: Consolidation of the mining industry[17]

Aside from being a consolidated industry, mining companies and their suppliers share a number of connections that facilitate the transfer of new ideas and problem solving within the industry. Suppliers of goods and services provide service to multiple companies and multiple mines. As a result they have the ability to adapt their practices and learning experiences from one mine into other operations. This occurs for example where service providers draw on their experience addressing issues of sustainability for one mine project and adapt such knowledge and methods for the next project. Given the high cost of new mining projects, lending syndications are formed that pool the experience of the financing industry when reviewing proposed projects. The past decade

[14] Metal Economics Group, 'World Exploration Trends 2010', Metal Economics Group (2011) (hereinafter *MEG 2011*) at 2.
[15] Data from Raw Materials Data, accessed August 12, 2012. Of the junior and intermediary companies, the database shows over 6000 companies, with roughly 1/3 being operational subsidiaries or holding companies. In addition to the rough estimate of 4,600 distinct mining companies, there are likely as many holding companies and subsidiary companies established to operate and hold mining projects.
[16] Data from Raw Materials Data, accessed August 12, 2012. The estimate of 4,600 companies is based on an aggregate industry estimate of roughly 4,800 companies.
[17] A description of the ICMM and its history is provided below at page 17.

has seen the emergence of an increasing number of mega-projects, which require multiple corporate owners to spread the risk associated with the projects.[18] In addition, as the amounts of financing have increased, syndications of lenders are now common place for the funding of any mining project. Sustainablity due diligence and adherence to third party standards are now a normal step in the process of mine funding.[19] Linkages, learning experiences and advocacy that bind the industry are seen in the activities of investors and purchasers.[20]

These efforts of consolidating information and positions is enhanced through a number of industry associations based on geographic location and resource speciality. The former includes groups like the Mining Association of Canada, the Japan Mining Industry Association, and the Mining Industry Associations of Southern Africa, while the latter include the World Coal Association, the World Gold Council, and the International Zinc Association. International organizations that are not necessarily mining focused, including the International Monetary Fund, provide specific guidance for the mining industry, which draws the industry closer through a shared need to have a common understanding of the application of those standards.[21] New initatives started by associations, such as the The Resource Revenue Transparency Working Group established by the Mining Association of Canada, the Prospectors and Developers Association of Canada, Publish What you Pay Canada, and the Revenue Watch Institute, bring together views from within the industry and from non-governmental organizations

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[18] See for example Antamina Mine in Peru, which cost $2.3 billion to construct and is owned by four major mining companies.

[19] M. Torrance. 'Canada: Equator Principles III is Approved and Launched - New Trends and a Strategy Rethink' <www.mondaq.com/> accessed June 11, 2013

[20] A. Davy, C. White and R. Sullivan, 'Engaging with investors in the mining and metals sector: Research Findings' International Council on Mining and Metals (December 13, 2012); *WGC 2012* at 40.

[21] See for example the IMF's guidance and advisory services for the sustainable development of mining projects International Finance Corporation. 'Oil, Gas and Mining' (IFC sustainability guidelines) <http://www1.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Oil%2C+Gas+and+Mining/Sectors/Mining/> accessed March 21, 2013.

focused on improving the accountability and governance of the mining sector.[22] The importance of these organizational connections to the establishment of a private legal system, and to the promotion of sustainability, are discussed in Chapters 2 and 4.

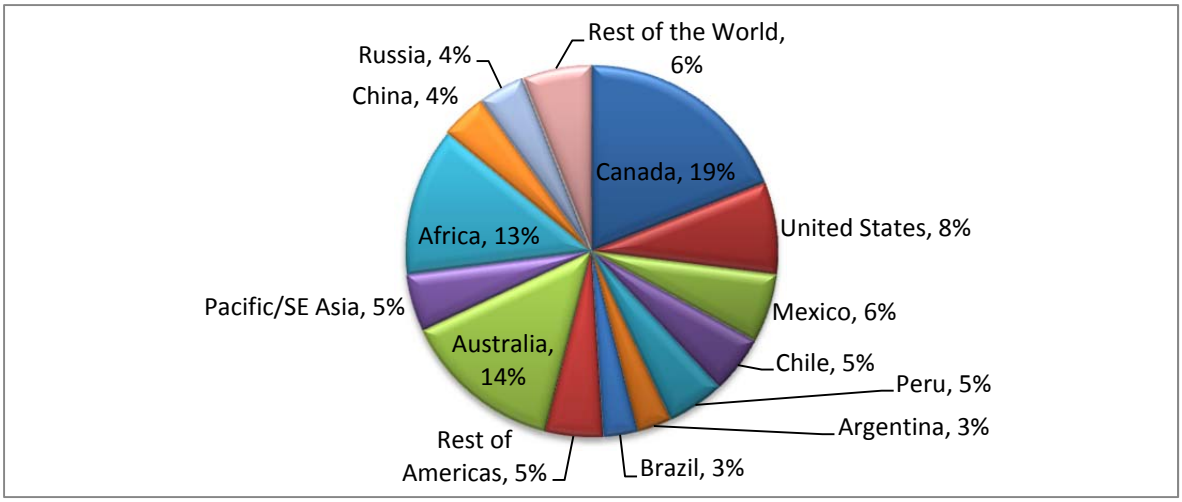

Table 2: Location of Mining Exploration, 2010

The industry may be consolidated and integrated, but its activities are not limited in territory. Mining occurs on all continents, other than Antarctica, with most exploration and active mining occuring in Canada, the United States, Australia and Latin America. Historically, companies headquartered and operating in Canada, the United States, the United Kingdom and Australia have dominated the mining industry.[23] The mining industry has begun to expand into new areas as historical mine sites have been mined down. New areas have opened for exploration and other areas have seen a decrease in the political, economic and legal risk associated with mining activity. Most notably, mining exploration is increasing in Latin America as a result of legal and market reforms,

[22] Revenue Watch. 'Canada's Mining Industry Joins Forces with NGOs to Improve Transparency' <http://www.revenuewatch.org/news/press_releases/canada%E2%80%99s-mining-industry-joins-forces-ngos-improve-transparency> accessed January 27, 2013

[23] As a corporate headquarters for mining companies, the United Kingdom plays an important role in the mining sector. It is the home jurisdiction of several transnationals who are responsible for a significant percentage of the mining sector by production. This is due mainly to the fact that both Rio Tinto and Anglo American Plc are based out of the United Kingdom and together are responsible for 8% of the world's mine production.

continued decrease in political risk for large projects, and numerous mineral discoveries.[24] Currently, 54% of mining exploration is focused on North and South America. Table 2 shows where the balance of exploration activities is located.[25] Australia and Africa are the two largest regions outside of the Americas with 14% and 13% respectively.

It has been noted that, "regionally, Latin America (led by Mexico, Peru, Chile, Brazil, and Argentina) was the top exploration destination in 2010—a position it has held for the better part of two decades— while Canada was the top country overall."[26] In addition, 7 of the top 10 exploration countries are in the Americas.[27] The majority of exploration activity and production is occurring in North and South America.

Reference to the "mining industry" in academic literature, news and other sources is used in a manner that incorporates a variety of mining activities while excluding others. The term can refer strictly to one method of mining (open pit or underground mining), a specific mineral or group of minerals (gold or precious metals) or to the practices of a subset of the companies (majors, juniors, those headquartered in a single nation, etc.). This thesis uses the term mining to refer to the metals and industrial minerals industry, a definition that reflects the one used by the United Nations, the International Institute for Environment and Development (IIED), and the Mining, Minerals, and Sustainable Development (MMSD) project in earlier works on sustainable development in mining.[28]

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[24] M. McAllister, 'Shifting Foundations in a Mature Staples Industry: A History of Canadian Mining Policy' in M. Howlett and K. Brownsey (eds), *Canada's Resource Economy in Transition: The Past, Present, and Future of Canadian Staples Industries.*(Emond Montgomery, Toronto 2008) 145 at 145.

[25] Metal Economics Group, 'Worldwide Exploration Trends 2011' Metal Economics Group (2012) (hereinafter *MEG 2012*) at 4.

[26] *MEG 2012* at 2.

[27] These include Canada, the United States, Mexico, Peru, Chile, Argentina and Brazil. The three non-Americas countries are Australia, Russia and China.

[28] International Institute for Environment and Development, *Breaking New Ground: Mining, Minerals and Sustainable Development* (Earthscan Publications, London 2002) (hereinafter *IIED 2002*); United Nations Council on Trade and Development, UNCTAD ' *World Investment Report 2007: Transnational Corporations, Extractive Industries and Development, United Nations Conference on Trade and Development*'. See page 17 for a review of the MMSD project.

This definition covers most mining, including fuel stocks such as uranium and coal, but it excludes rock, gravel and other conglomerates, as well as small scale and artisan operations.[29] Within the industry, there are an estimated 2,500 to 4,000 industrial scale mines.[30] Mining activities occur through surface or sub-surface techniques. Most surface mining is through open pit mining, with strip mining mostly associated with coal mining. The average size of an open pit mine in North America is 120 to 150 metres in depth, an oval shape of 670 metres by 1,430 metres.[31] A mine of this size will result in the removal of 39,000 tons of material per day.[32] By contrast, subsurface mines follow veins of minerals or metals and the disturbed surface area is much smaller. Both types of mining are associated with the social, economic and environmental impacts set out above. Each project will need to address these issues to differing degrees.

The challenges of mining have been addressed by a pluralism of legal systems including national laws (regional/provincial/state and national laws), international laws and now potentially by private legal systems.[33] Each of these legal systems has its own challenges when regulating mining, most of which result from the mining industry's

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[29] Artisan mining refers to the mining activities of individuals for raw materials, most of which makes its way into local handy crafts or is sold wholesale in informal markets. Artisan mining can be an important source of income to individuals and families in parts of the world, but is also wrought with health and safety issues, child labour and environmental justice concerns (see *IIED 2002*). These matters are beyond the scope of this thesis, and this informal sector of the mining economy has been left out of the definition of the mining industry.

[30] These estimates are based upon the number of operating mines listed by Raw Materials Data, and as set out in Mining Journal. 'Mining Explained' (2012) Mining Journal Online accessed August 12, 2012.

[31] *Hartman 1992* at 412.

[32] *Hartman 1992* at 412.

[33] The term national legal system is used throughout this thesis. Often, constitutional law of a country will divide the responsibility for matters between the jurisdiction of the nation state and a sub-regional entity such as a province, state, territory or even a municipal region or special economic zone. Where the term national law is used in this paper, it refers to all levels of government, and the pluralism of legal systems within one nation that may govern the system. This allows for a consistent terminology for discussions of the interactions of the different types of legal systems (national, international and transnational private legal systems). It is not meant to suggest that regional government do not play an important role in governing the monetization and governance of mineral extraction.

transnational structure and the constitutional and jurisdictional restraints of the legal systems. With multiple legal jurisdictions governing the activities of each company in the mining industry, a number of regimes govern each project, with the potential for inconsistent practices, regulatory gaps and variations in the strength of the governance of the mining process.[34] In Latin America for example, there is variation in the environmental regulation of mining, with requirements for environmental impact assessments and closure plans only existing in some countries.[35] The nation-based model of international law focuses on nations, with the assumption that nations bind individuals and businesses within their jurisdiction through domestic legislation. International law simply does not apply to corporations created under domestic legislation.[36] The result is a patch work of legal systems divided by boundaries and subject matter (e.g. the employment law of Ontario, Canada, or the corporate law of England and Wales). Take

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[34] In Canada for example, legislation governing mining appears at both the Federal and Provincial levels, and depending on the scope separate environmental assessments at each level of government may be required (*McAllister and Fitzpatrick 2010*). In Columbia regional governments also play an important role, with certain federal responsibilities under the Civil Code being delegated to regional governors A. Yupari, 'Decentralisation and Mining: Colombia and Peru' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy* (Kluwer Law, The Hague 2004) 783. Finally, through treaty a mining project in one country can be impacted by the laws of another country. Argentina and Chile for example have entered into a bilateral treaty to generate new strategies regarding the social and economic impacts and sustainability of mines along their shared border S. Bauni, 'The Mining Integration Treaty Between Argentina and Chile: Sharing Experiences' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy* (Kluwer Law, The Hague 2004) 769.

[35] For a discussion of the variance in legal regulations across a number of countries in the Americas, Africa and Europe see D. Garcia. 'Overview of International Mine Closure Guidelines' (3rd International Professional Geology Conference American Institute of Professional Geographers, Flagstaff, Arizona September 20-24, 2008 2008) <http:// www.srk.com/files/File/papers/Mine-Closure-Guidelines.pdf>.

[36] In H. Kindred and et al., *International Law: Chiefly as Interpreted and Applied in Canada* (6th edn Emond Montgomery Publications Limited, Toronto 2000) at 50 – 52 it is noted that corporations are treated as legal persons under international law, and thus are not governed directly by international legal treaties nor customary law. However, at page 52 the authors do note a growing realm of "mixed arrangements" between states and corporations that "trample the traditional boundaries of subject status at international law."

the example of a mining company headquartered in British Columbia, Canada, and listed on the Toronto Stock Exchange, which has a mine in Columbia that is held through a subsidiary company. The labour practices in Canada and Columbia are governed by different national legal systems. The extent to which the national legal systems integrate international law regarding employment and human rights will differ as a result of whether the country has signed on to international laws. Whether international customary laws are observed within a country and other legal hurdles, such as the constitutional divide of powers within the nation and the strength of governance, also impact a country's ability to internalize international legal obligations.

Due to their presence in multiple jurisdictions and as non-legal actors in the international law system, companies find themselves governed by different laws and legal systems depending on where an act occurs, where a decision is made, and through which corporate entity the decision was made and implemented. This can lead to situations where local laws are more lax than the obligation on the company in another jurisdiction. Although this provides a rationale for activities or behaviour that may not meet the legal requirements elsewhere, it is often noted that mining companies cannot simply rely on weak laws or a weak legal system and fail to observe standards that would be enforced at home or internationally.[37] Weak legal systems and weak local governance often result in unsustainable development, especially in the context of the monetization of non-renewable resources.[38] This is true whether that weakness results from within the national system, the international system or a transnational system of private entities. Indeed, weak corporate governance or an attempt to rely on weak national legal systems undermines the mining industries license to operate.[39]

This legal and social void in governance that results from transnational operations is opened even further in complex sectors that require a high degree of technical specialization, such as mining. Reliance solely on a national legal system creates a schism in mining governance, especially where there is foreign direct investment in the

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[37] *Wälde 2004a* at 147.
[38] *Wälde 2004a* at 131-133.
[39] See chapter 3 and footnote 251 for a further discussion on the importance of sustainability to the license to operate.

mine. The national law where the project is sited governs the activities associated with specific mines, while a separate national legal system often governs the corporate financing and corporate governance. This regulation in turn impacts how the mine is designed and operated, albeit in conjunction with local laws, if any exist. International legal systems in contrast, do not create any legal obligations for transnational corporations acting in a specific domestic context. Instead, nation states agree to regulate the corporations through domestic legislation. A pluralism of legal systems exists, and each has rules and laws that govern the mining sector. Without integration through any particular legal system however, the pluralism still leaves regulatory holes in the global operations of the mining industry and inconsistencies in how mining activity is to be governed based on its unique geography of location and ownership.[40] Despite these problems, both national and international legal systems can continue to be improved to help ensure the sustainable development of mining. As a result of its transnational reach, private laws and governance is as important as national legislation for obtaining sustainability in the mining sector.

The differences between national legal systems, the continued growth of activity across multiple legal jurisdictions, and the search for solutions that work across a pluralism of legal systems has led to the development of a third type of law over the last half of the 20th century, transnational private law.[41] Transnational law refers to those legal systems that originate neither from any individual state, nor from the treaty making or customary practice of states.[42] It includes private contractual regimes, arbitration rules and a large body of *lex mercatoria*, the transnational law of commercial transactions. By

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[40] The above observations are based on anecdotal evidence and the author's experience working within the industry from 2007-2013.

[41] See for example L. Backer. 'Private Actors and Public Governance Beyond the State: The Multinational Corporation, the Financial Stability Board, and the Global Governance Order' (2011) 18 Ind J Global Legal Stud 751 (hereinafter *Backer 2011*) at 759, where the author concludes "even law has… moved to recognize the 'transnational' in law."

[42] See G. Calliess. 'The Making of Transnational Contract Law' (2007) 14:2 Ind J Global Legal Stud 469 (hereinafter *Calliess 2007*) at 475-476 for Philip Jessup's definition of transnational law as "all law which regulates actions or events that transcend national frontiers."

focusing on regulating and governing the conduct of private parties, transnational law has the potential to fill the legal void between domestic and international law.

In conjunction with national and international legal systems, transnational private legal systems have the potential to provide novel tools for governing, monitoring and adjudicating mining. Indeed, it has been observed that "sustainable development requires new integrated systems of governance… [as] most countries still lack the framework for turning mineral investment into sustainable development."[43]

The empirical literature on transnational private legal systems is small, and the sustainability of mining has proven difficult for national systems to govern. The research in this thesis expands the empirical literature and provides useful insights into how private legal systems can help govern sustainable mining. In particular, the research confronts the questions of whether private laws exist, and if so, how their emergence can strengthen governance both within and beyond national boundaries. If laws exist, do they exist within a transnational private legal system? How does such a system operate and what do its laws and interactions mean for the integration of sustainability into mining practices? If there is no private legal system, or if it is still a weak and developing system, what is required to strengthen it? What new methods for governance of the industry could a private legal system offer that differs from those that are offered by national systems?

There is extensive theoretical writing on the emergence of private legal systems, mostly in the commercial and arbitration spheres.[44] The limited amount of empirical work has been highlighted by Paterson and Teubner, while the broad influence of reflexive law on transnational legal theory has been noted by Michaels.[45] To assist with

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[43] *IIED 2002* at xviii.

[44] See for example *Fischer-Lescano and Teubner 2004* at 999; G. Teubner, 'Global Bukowina: Legal Pluralism in the World-Society ' in G. Teubner (ed), *Global Law Without A State* (Dartsmouth, London 1996) 3; *Teubner 1997*; G. Teubner. 'Contracting Worlds: The Many Autonomies of Private Law' (2000) 9 Social and Legal Studies 399 (hereinafter *Teubner 2000*).

[45] J. Paterson and G. Teubner. 'Changing Maps: Empirical Legal Autopoiesis' (1998) 7 Social and Legal Studies 451 (hereinafter *Paterson and Teubner 1998*); R. Michaels. 'The

identifying private legal systems and to explain the interactions therein, Teubner has proposed five trends that are observed in an emerging private legal system. Chapter 2 will explore reflexive legal theory and the five trends of a private legal system. They are:

- interorganizational network;
- private juridification;
- civic constitutionalism;
- regulatory hybridization; and
- international judicialisation.[46]

The analysis in Chapter 4 has been designed to determine whether laws within a new private legal system are developing. Chapter 5 explores whether such laws can work in conjunction with national and international legal systems to address the sustainability concerns of the global mining industry. Chapter 2 discusses the reflexive theory and all five trends, and an important distinction is made. The first trend, an interorganizational network, provides the lifeworld that is juridified. It is the community of entities and relationships governed by a private legal system. The trends of private juridification and civic constitutionalism are evident as procedural, substantial and constitutional private laws emerge to govern the interorganizational network. These trends provide evidence of private laws. Finally, the last two trends exist where the private laws are recognized by other legal systems, and demonstrate the ways in which the pluralism of legal systems interact. Although these last two trends are important evidence of the interaction between systems, and are a key method private laws have an impact on stakeholders, they are not trends that are required to be evidenced for private laws to exist. Thus, this thesis will examine the first three trends to determine if private laws exist that address sustainable mining, but it will only provide limited commentary on how those laws interact with other legal systems. Before such analysis can be conducted, a discussion of how sustainable development is used in the mining context is required.

True Lex Mercatoria: Law Beyond the State' (2007) 14 Ind J Global Legal Stud 447 (hereinafter *Michaels 2007*).

[46] *Teubner 2009*. See also chapter 2 for an in-depth discussion of the five trends and chapter 3 for a discussion of the methods used for analysing the existence and content of such trends.

1.2. Mining and sustainable development

1.2.a. Sustainable development and non-renewable resources

The concept of sustainable development arose in response to the tension between economic, social and environmental goals. Although the concept was first used at the Stockholm Conference in 1972,[47] it received widespread recognition with the publication of the 1987 Brundtland Report. The report observes that the protection of the environment requires policies that address social and economic issues contemporaneously.[48] Such a process ensures development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."[49] The concept of sustainable development has since been debated and used in a variety of contexts.[50] It has been criticized as being overly flexible and meaningful only with contextual detail.[51] The flexibility is required however to allow for the creation of methods and governance of development that meets the specific situation. A fishery may be designed and governed to allow for a catch that sustains the fishery's ability to reproduce, for an economic return that ensures a fleet of fisherman exist to harvest those fish, and for allocations that protect and foster cultural groups associated with the industry. Such a model could never be applied to mining simply because minerals are replaced on a geological timeframe rather than a biological timeframe. Because of the consumptive nature of mineral use, finding a useable definition for the mining sector is difficult. Much of the literature regarding sustainable development and resource management focuses on renewable resources, partly because industries involving non-

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[47] United Nations Environment Programme, Stockholm Conference ' Report of the United Nations Conference on the Human Environment'.
[48] World Commission on the Environment and Development, WCED 'Report of the World Commission on Environment and Development: Our Common Future ' Annex to UN Doc. A/42/427.
[49] ibid
[50] B. Hopwood, M. Mellor and G. O'Brien. 'Sustainable development: mapping different approaches' (2005) 13(1) Sustainable Development 38;SM Lele. 'Sustainable development: a critical review' (1991) 19(6) World Development 607
[51] W. Bradnee Chambers and J. Green, *Reforming international environmental governance: From institutional limits to innovative reforms* (United Nations Press, New York 2005) at 1.

renewable resources are often thought to be unsustainable because they are extractive. As a result, mining is vilified as a damaging activity with finite limits.[52] This stance restricts discussion on how sustainability can and does apply to these industries. The efforts in defining the term in the mining context have focused on addressing the issues that stem from mining. Once defined, ways to create an industry that meets the needs of the present and future through development that occurs alongside the extraction of minerals can begin.

Despite the importance of introducing a framework for sustainable development to the management of natural resources, mineral resources have largely avoided regulation in international law, unlike biodiversity and climate change.[53] Deere notes that international resource management law, unlike other environmental issues, is dominated by the role of private networks.[54] These include governance networks for forests,[55] mining,[56] and various fisheries.[57] These governance networks include corporations as members or advisors, and their influence has been noted. The response of the global mining community is shaped by the fact that "large corporations form incredibly powerful and influential forces," and that "in many areas of natural resource exploitation and management, they are the only lawmakers, and enforcers, operating in ways that enable them to control resource sectors and dominate markets."[58] Deere's observance of a lack of international laws aimed at the sustainable development of global resources is

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[52] See *Wälde 2004a* at 126 for a discussion of the common view that mining is unsustainable because minerals are not a renewable resource, as well as counter points.
[53] C. Deere, 'Sustainable International Natural Resource Law' in MCC Segger and A. Khalfan (eds), *Sustainable Development Law: Principles, Practices, & Prospects* (Oxford University Press, Oxford 2004) 295 (hereinafter *Deere 2004*) at 295.
[54] *Deere 2004.*
[55] 'Forest Stewardship Council ' (FSC) <http://www.fsccanada.org/> accessed 29 May 2012.
[56] International Council on Mining and Metals. 'ICMM' (ICMM) <http:// www.icmm.com/> accessed May 12, 2012
[57] T. Hartley. 'Fishery management as a governance network: Examples from the Gulf of Maine and the potential for communication network analysis research in fisheries ' (2010) 34 Marine Policy 1060
[58] *Deere 2004* at 300-301.

most notable with respect to the allocation and use of minerals.[59] Rather than trying to sustain the extraction rate of minerals, the literature that explores sustainable development and mining focuses on how resource extraction can sustain the communities that depend on them.[60] In this way, sustainable development becomes a goal of developing mines that minimize social and environmental costs, while maximizing and equitably distributing the social, economic and environmental benefits to the stakeholders, now and in the future. This requires a shift in focus from how to monetize minerals with minimal impact, to how to spend the income generated in a manner that promotes economically and socially sustainable communities.[61] To achieve this shift, development of mining projects should begin with an economic analysis of minerals, take into account social and environmental goals, and emphasize issues facing developing countries.[62] A "foremost conclusion is that sustainable development must be based on a dynamic, not a static view of human needs for natural resources."[63] Given the infinite variety in mining projects, sustainable mining requires a flexible set of principles that are integrated into effective governance structures for corporations and governments.[64] Sustainable development as applied to mining activities is focused on a balanced approach to development that attempts to integrate economic, environmental and social requirements of impacted parties. These governance structures are important for ensuring the necessary examination of activities from the exploration stage through to mine closure and rehabilitation with a view to ensuring the balancing of social, economic and environmental requirements for all stakeholders.[65] Effective governance and a view to a

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[59] The one exception is the use of deep sea minerals, which are governed by the United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3, 397; 21 I.L.M. 1261 (1982)

[60] *Wälde 2004a*; E. Bastida, T. Wälde and J. Warden-Fernandez, 'Introduction and Overview International and Comparative Perspectives of Mineral Law and Policy' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy: Trends and Prospects* (Kluwer Law, The Hague 2004) 1.

[61] *Wälde 2004a* at 131.

[62] *Wälde 2004a* at 131.

[63] *Wälde 2004a* at 148.

[64] *Wälde 2004a* at 131.

[65] *Bastida 2004b* at 583.

holistic integration of values requires a guiding set of principles for sustainability within the mining sector.

1.2.b. **Sustainability in mining: The work of the MMSD and the ICMM**

A first attempt at defining sustainability in the mining sector was undertaken at the turn of the century when the Mining, Minerals and Sustainable Development project was completed and *Breaking New Ground* was published by the International Institute for Environment and Development (IIED).[66] Sponsored by over forty NGOs, major mining companies, international agencies and suppliers to the mining industry, the IIED's 2002 report represented two years of dialogue and study on economic, environmental, social and governance issues in the sector. The project was only a starting point, with the clear conclusion that there was much work still to be done on what is a "complex subject."[67] The project was split into four sub-projects - each focused on a separate region.[68] Separate reports for action were delivered for each region before being integrated into the final report. The report encouraged the use of existing associations and networks, but also the creation of new networks to create new opportunities for the sustainable development of mining.[69]

Ultimately the collaboration behind *Breaking New Ground* led to the formation of the International Council on Mining and Metals (ICMM) in 2001. That group formulated ten principles of sustainability within the mining sector based upon the recommendations of *Breaking New Ground,* several international legal documents, and guidance from declarations or documents from several other private organizations. These additional references include the Rio Declaration, the Global Reporting Initiative, the United Nations Global Compact, OECD Guidelines on Multinational Enterprises, World Bank Operational Guidelines, OECD Convention on Combating Bribery, International Labour

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[66] *IIED 2002.*
[67] *IIED 2002* at 410.
[68] The four regions were Australia, North America, South America and Southern Africa, (*IIED 2002* at xv).
[69] *IIED 2002* at xxvi

Organization Conventions 98, 169, 176, and the Voluntary Principles on Security and Human Rights.[70] The ICMM's ten principles of sustainability are:

1. Implement and maintain ethical business practices and sound systems of corporate governance.
2. Integrate sustainable development considerations within the corporate decision-making process.
3. Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
4. Implement risk management strategies based on valid data and sound science.
5. Seek continual improvement of our health and safety performance.
6. Seek continual improvement of our environmental performance.
7. Contribute to conservation of biodiversity and integrated approaches to land use planning.
8. Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
9. Contribute to the social, economic and institutional development of the communities in which we operate.
10. Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders. [71]

These principles are further explained and detailed through the development of position statements to assist mining companies in implementing the principles. Although additional positions that provide a growing framework for the above principles continue to be developed, at this time the ICMM has issued the following position statements:

- Principles for climate change policy design (complementing principles 4 and 6), June 2011;
- Mining: Partnerships for Development (complementing principle 9), October 2009;
- Transparency of Mineral Revenues (complementing principle 1), May 2009;
- Mercury Risk Management (complementing principles 4, 6 and 8), February 2009;
- Mining and Indigenous Peoples issues (complementing principle 3), May 2008; and

[70] International Council on Minerals and Metals. ' 10 Principles' (ICMM 10 Principles) <http://www.icmm.com/our-work/sustainable-development-framework/10-principles> accessed 8 March 2012) (hereinafter *ICMM 2012a*).
[71] ibid

- Mining and Protected Areas (complementing principles 6 and 7), August 2003.[72]

Finally, the ICMM requires all members to undertake annual performance audits to track the progress of their implementation of the ten principles, and to publicly report those findings.[73]

In addition to discussing the concept of sustainability within mining, and its importance to all stakeholders, the MMSD report called for companies to take on initiatives focused on improving consultation with governments and local communities, capacity building within the industry and even the development of a private dispute resolution mechanism at a global level.[74] The work highlights the importance of governance as a principle of sustainability. The need for strong corporate governance is reiterated in the ICMM's first two principles of sustainability. The attention to governance draws to the forefront the distinction between sustainability and corporate social responsibility. This thesis differentiates the two, suggesting that sustainable development is aimed at integrating the principle of sustainability into the mining sector, through the adaptation of a number of defining principles and expressed through governance and operations. This is contrasted with corporate social responsibility, the adaptation of corporate governance procedures that can assist in the development and adoption of principles that may encourage sustainability and other social goals. Dashwood's 2012 publication *The Rise of Global Corporate Social Responsibility: Mining and the Spread of Global Norms* provides an in-depth review of corporate social responsibility in mining, which helps illuminate some of the corporate decision making occurring in the sector.[75] For the purposes of this thesis, corporate social responsibility policies and initiatives are used as evidence of one of the principles of sustainable development in mining, but not as evidence of sustainable development itself.

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[72] International Council on Mining and Metals. 'Position Statements' <http://www.icmm.com/our-work/sustainable-development-framework/position-statements> accessed February 1, 2013 (hereinafter *ICMM 2013a*).
[73] *ICMM 2013a*
[74] *IIED 2002* at xxix and xxx and 405-406.
[75] H. Dashwood, *The Rise of Global Corporate Social Responsibility: Mining and the Spread of Global Norms* (Business and Public Policy, Cambridge University Press, New York, USA 2012) 336.

As a private organization focused on the development of a framework of rules for sustainability within mining, the role of the ICMM as a potential central node in an interorganizational network of mining is examined in Chapter 4. In particular, the influence of these principles and position statements on mining companies both directly and through indirect network relationships is examined. The influence has spread to more than just the 22 corporate member. This is achieved through the implementation of similar sustainability programs that are required of the members of other associations. The Mining Association of Canada for example has established a program, *Towards Sustainable Mining*, and requires its members to adopt principles of sustainable mining, even if they are not members of the ICMM.[76] In his review of the industry ten years after *Breaking New Ground* was published, Buxton noted that there is an understanding about the need for and definition of sustainability within the mining sector.[77] There are a number of outstanding issues that need to be addressed; many of which stem from the need to build governance capacity in companies, networks and governments.[78]

Given the infinite variety in mining projects, sustainable mining requires a flexible set of principles that are integrated into effective corporate governance structures. Sustainable development as applied to mining activities is focused on a balanced approach to development that attempts to integrate economic, environmental and social requirements of impacted parties. In Wälde's review of mining and sustainable development it is observed that sustainable development begins with an economic analysis of minerals, takes into account social and environmental laws, and emphasises issues facing developing countries. A "foremost conclusion is that sustainable development must be based on a dynamic, not a static view of human needs for natural resources."[79]

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[76] 'Mining Association of Canada – Performance Measures and Protocols' (MAC - Performance Measures) <http://www.mining.ca/site/index.php/en/towards-sustainable-mining/performance-measures-a-protocols.html> accessed 29 May 2012 (hereinafter *MAC 2012*).

[77] Buxton, A. *Reflecting on a Decade. Sustainable Markets Discussion Paper: June 2012* (International Institute for Environment and Development, London 2012) (hereinafter *Buxton 2012*) at 2.

[78] Ibid at 12.

[79] *Wälde 2004a* at 131.

1.2.c. **A definition of sustainable development**

The principles of sustainable development in mining set out below are based upon principles drawn from discussions of sustainable development in general, as well as from literature on the law of sustainable development. Finding a useable definition for the mining sector is difficult because of the consumptive nature of the activity. Much of the literature regarding sustainable development and resource management focuses on renewable resources, partly because industries involving non-renewable resources are often thought to be unsustainable because they are extractive. A review of the ICMM current literature on sustainable mining, *Breaking New Ground* and a literature review previously conducted by the author, six principles of sustainable development in the mining context are used to encapsulate the required elements of a sustainable mining industry.

These principles are compared to the ten used by the ICMM when discussing the implications for transforming the mining industry into one that achieves the higher-order goal of sustainability.[80] In particular, policies designed to bring sustainability to mining and any private legal system governing the implementation of these policies should address the following issues of sustainability: (1) Life Cycle Planning; (2) Community Development; (3) Governance; (4) Environmental Management; (5) Human Rights and (6) Health and Safety.

Principle 1 - Life Cycle Planning

The importance of implementing sustainable practices at all stages of the life cycle of mining. This includes all stages of mining operations, including exploration, development, operation and closure and maintenance.

Principle 2 - Community Development

Methods for addressing the differentiated responsibilities of developing and developed nations, governments and corporations and local communities versus state

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[80] These principles are set out on page 19, and further detailed in a series of policy statement reports published by ICMM on core issues such as social, economic and institutional development of communities, climate change, transparency on mineral revenues, and protected areas. For more details, see bibliography and materials reviewed.

governments, specifically through contributions to the communities in which mining occurs and to the strengthening of institutions. One of the tenets of sustainability is that the cost of adaptation may need to be disproportionately borne by those who are better off economically at that beginning of the transition to a more sustainable pathway. This results from the prioritization of primary needs (e.g. food, shelter and basic human development) for all members of society over the secondary expectations (e.g. material growth and luxury goods) for a portion thereof.[81] Referred to as the concept of differentiated responsibility, those whose primary needs are already met are required to carry a larger portion of any economic burden that results from undertaking sustainable development.[82] The concept acknowledges that developing and developed countries have different requirements and objectives from the mining sector.

As a "western" idea, the use of sustainability as a guiding principle in projects in the developing world can be challenging due to an imbalance of power between foreign investors, the government holders of mineral title, and the local community.[83] The principle can be seen as a form of economic imperialism that creates a tension in project development between the mining company and the host country, a tension which is echoed between the local and state governments as a result of the allocation and impact of revenues from mining.[84] While state governments collect rents from the extraction of mineral resources as a key revenue stream, local communities rarely see long term benefits. The benefits that do flow to the community are usually prone to sudden

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[81] *Wälde 2004a* at 125.

[82] The principle of differentiated responsibility stems from a general principle of equity in international law, and an "evolved notion" of the "common heritage of mankind." Centre for International Sustainable Development Law, 'The Principle of Common but Differentiated Responsibilities: Origins & Scope' in (McGill University Faculty of Law, 2002) (hereinafter *CISDL* 2002) at 1.

[83] T. Wälde, 'International Standards: A professional challenge for natural resources and energy lawyers ' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy: Trends and Prospects* (Kluwer Law, The Hague 2004) 219 (hereinafter *Wälde 2004b*) at 135.

[84] *Williams 2004* at 63.

obsolescence as a result of an abrupt closure or decreased production at a particular mine site.[85]

This manifests in the interaction between mine developers, host communities and host nations. The manner in which differentiated responsibility is meted out is determined through the interaction of the company, the regional and national governments, indigenous populations and local communities. It may be through national legislation as the Peruvian government used when it increased "mining royalties," "windfall profits taxes" and "special contributions" to fund infrastructure in poorer parts of the country to encourage "social inclusion."[86] Alternatively, it could come in the form of a negotiated agreement between a First Nation and mining company to create various rights, entitlements and obligations between the parties, separate of any federal or regional government. It has been estimated that there are over 120 such negotiated agreements in Canada alone, including one between the Tahltan First Nation and the proponents of the Galore Creek Mine in British Columbia. That agreement granted the Tahltan similar legal rights to those of the provincial government to ensure mine closure, as well as input into the design of the mine, the distribution of benefits and an enhanced role in the consultation process above and beyond that which is mandated by the environmental impact assessment process.[87]

In the mining industry, differential responsibility is managed in part through the tariffs and taxes charged by the owners of the mineral rights. Sustainable development requires a commitment to all stakeholders, not just the owner of the mineral rights. Social and economic redistribution efforts of mining companies are often focused on local communities. As the main focus of additional support in the mining industry, the coding theme of community development was used to capture the industry's efforts

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[85] *Wälde 2004a* at 129. See also *McAllister and Fitzpatrick 2010* at 362 where it is noted that the biggest social impacts from a mine come from the initial disruption and the eventual closing.

[86] T. Cespedes, P. Velez and C. Stauffer. 'Peru's Humala signs bills to raise mining taxes' *Reuters* (September 28, 2011 2011)

[87] For more details on the negotiated agreement between the Tahltan and the Galore Creek Mine proponents, see C. Fidler. 'Increasing the sustainability of a resource development: Aboriginal engagement and negotiated agreements' (2010) 12 Environ Dev Sustain 233.

towards integrating differentiated responsibility into the sector. Sustainable integration of economics thus refers to an equitable allocation of the economic costs and benefits within society. Project economics must shift focus from how to monetize minerals to how to distribute the economic gains in a manner that achieves local requirements.[88] This is largely a governmental decision making process, and companies must tread carefully when opining on how government revenues are to be spent. Despite this challenge, or perhaps because of it, the ICMM has developed guidance on how companies can encourage processes that strive for economic and social changes that promote sustainable development.[89] In particular, the first and ninth sustainable development principles of the ICMM obligate members, and instruct other industry participants, to implement "sound systems of governance" and "effective and transparent engagement … with stakeholders."[90] It has also published guidance papers on methods for implementing the *Resource Endowment Initiative*, a program developed with the World Bank and United Nations Conference on Trade and Development aimed at improving analytical tools for assessing the socio-economic impacts of mining on local, regional and national scales.[91]

Extending beyond economic equity amongst current stakeholders, it must be remembered that intergenerational equity is a core requirement of sustainability.[92] Although equity is often focused on economic balance, intergenerational equity brings the preservation of social balance to the forefront. When integrating social values into sustainable development, the underlying consideration is recognition of social and cultural differences, and equitable treatment between groups. Thus, the principle is focused on the equitable distribution of the wealth generated by a project, as well as highlighting the impact on cultures and communities. In essence it is the principal that moves the economic and environmental components of sustainable development beyond a mere cost benefit analysis and maximizing exercise, to one that includes elements of

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[88] *Wälde 2004b* at 131.
[89] *ICMM 2013a.*
[90] *ICMM 2012a.*
[91] International Council on Mining and Metals, 'Mining: Partnerships for Development' <http://www.icmm.com/document/782> as accessed April 12, 2012.
[92] S. Atapattu, *Principles of International Environmental Law* (Transnational Publishers, New York 2005) (hereinafter *Atapattu 2005)* at 126.

equitable distribution based upon the impacts borne by various groups now and over time.

Principle 3 - Governance

Governance and corporate social responsibility policies that encourage meaningful consultation and meaningful participation, a system of corporate governance to integrate principles of sustainability, and accountability and transparency of those processes.

The theme of governance is an important one for sustainability in mining. A private legal system governing sustainability is ineffective without adequate and meaningful procedures. Indeed, weak governance coupled with monetization of resources often leads to unsustainable development.[93] This is true whether the weak governance is within the national or private system. One of the key research goals of this thesis is to determine how a private legal system can help integrate sustainability into mining. To that end, corporate governance must be present to ensure sustainable development. Although a broader industry wide system for ensuring governance, transparency and adjudication would be beneficial, the principle of governance in this project is used to determine whether a company has strong or weak corporate governance. Without strong internal corporate governance, any other privately juridified system of laws becomes meaningless given the lack of a transnational dispute resolution system for the mining industry. Indeed, consultation and governance processes from bodies external to the government, including mining corporations can provide a potential solution to weak public governance.[94] Such governance has proven valuable in improving environmental and social performance in some circumstances, while it remains a major challenge for parts of the mining industry.[95] For this reason, the presence of appropriate governance systems related to corporate conduct that ensure consultation and transparency, and a mechanism for integrating non-company stakeholder input into company programs is necessary for the sustainability of the mining industry.

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[93] *Wälde 2004a* at 131-133.
[94] *Wälde 2004a* at 131-133.
[95] *Bastida 2004b* at 583.

So if "sustainable development is closely linked to good governance," what does good governance entail?[96] Good governance includes strong and inclusive institutions at the local and international level, a transparent process that promotes consultation with and participation by a variety of stakeholders, and access to information.[97] All of these procedural elements stress the need for accountability, either to ensure good governance, or as a by-product of good governance. Accountability to the process is essential to the integration and effectiveness of sustainable development.[98] A lack of accountability leaves consultation meaningless. Therefore, mining, as an industry, needs a procedure to assess and weigh the economic, social and environmental issues, and the interests of all stakeholders.[99] This may come in a variety of forms including independently developed corporate procedures and industry wide processes or venues that are accessible to both project proponents and stakeholders.

In many jurisdictions, these procedural rights stem from the environmental impact assessment process (EIA). As the main regulatory tool for implementing sustainable development in mining, an EIA offers project stakeholders a right to information and participation.[100] Unfortunately, the EIA process is designed to only highlight the costs and benefits of a project. It does not perform an analysis with regards to those costs and benefits or offer a valuation standard that determines if a project should go ahead.[101] In addition, not all jurisdictions require an EIA, and thus a sustainable development policy must ensure that one is being undertaken, either through an enhanced feasibility study or as a separate process. Indeed, both EIAs and social impact assessments are required by the ICMM of its members.[102] Although the EIA provides an opportunity for consultation and participation, the simple existence of a process does not mean the process is

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[96] *Wälde 2004a* at 148.
[97] *Wälde 2004a* at 148; *Atapattu 2005* at 11 and 127.
[98] *Deere 2004* at 304.
[99] *Atapattu 2005* at 135.
[100] *Bastida 2004b* at 585; *Atapattu 2005* at 15.
[101] *Wälde 2004a* at 133.
[102] International Council on Mining and Metals, 'Mining and Indigenous Peoples' <http://www.icmm.com/document/293> as accessed April 12, 2012 (hereinafter *ICMM 2012b*) at 3.

legitimate.[103] Participation is only meaningful if it is coupled with effective access to the process.[104] To ensure effective participation, companies must follow up on the findings of EIAs and social impact assessments, through implementation, or a detailed rationale on why additional measures were not required. Through a process of identifying issues, developing solutions through consultation and implementing new measures, governance can increase the sustainability of mining.

Principle 4 - Environmental Management

Sustainability in mining requires the continual improvement of mining methods to minimize the environmental impacts of mining. By its very nature, extraction of resources is disruptive, and often a large scale. However, sustainable mining will seek to manage those impacts through methods, measurements and goals to minimize and remediate the environmental issues faced by the stakeholders involved in and impacted by a mining project. In the mining context this requires a focus on environmental impacts of mining, the life-cycle of mined products and inputs, and the conservation of biodiversity.

Having established that sustainable development requires an appropriate temporal scope, good governance and sensitivity to the differentiated responsibilities of stakeholders in a project, it is important to remember sustainability is fundamentally about envisioning development in a manner that balances multiple values. It is a compromise between environmental, economic and social goals.[105] This process conventionally began with a call to integrate environmental and 'alternative' values into a decision making process that focuses on economic costs and benefits.[106] That position has changed over the past twenty years in part because of the observation that economic valuation methods can be insufficient in accounting for non-economic values. Rather

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[103] H. Dashwood. 'Canadian mining companies and the shaping of global norms of corporate social responsibility' (2004) 60(4) Int'l J 977 (hereinafter *Dashwood 2004*).
[104] *Atapattu 2005* at 13.
[105] *Atapattu 2005* at 127.
[106] *Richardson and Wood 2006* at 14, refer to this as the *integration principle* in sustainable development law. They suggest it is a principle of integrating values rather than attempting to perform a balancing and trade-off between environmental, social and economic goals.

than attempting to trade-off environmental, economic and social values, sustainable development processes focus on integrating all values in a holistic manner.

The integration of environmental values requires an acceptance of limits on exploitation and consumption of resources and a conscious effort to continuously reduce the environmental impact of mining.[107] This requires safeguarding the natural environment and stocks; protecting environmental life support functions, resilience and biodiversity.[108]

Principle 5 - Human Rights

The social elements of sustainable development risk being lost amongst the discussions of integrating environmental values and equitable economic transactions in an effort to resolve stakeholder tensions. The maintenance of human rights, including principles recognized in customary international, is important for ensuring the development of a mining project that is designed and operated to ensure benefits for all stakeholders now and in the future. If human rights are not respected and preserved, any benefits will not only be tarnished, but they will also clearly not be provided in a manner that takes into consideration the needs of all stakeholders. At its worst, subpar conditions and unaddressed stakeholder concerns can lead to violent protests, or alternatively incidents of human rights violations to silence these opinions. The latter have been alleged to occur too often.[109] Therefore it is crucial to fully integrate local and indigenous views and to respect human rights. The importance of integrating these values has been highlight by the ICMM through its principles of sustainability to be followed by its members, and through its position statements on sustainable mining.[110] For example, the ICMM's third principle of sustainability states that member companies

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[107] *Atapattu 2005* at 126-127.
[108] *Bastida 2004b* at 582-583; and ICMM Principle 8 as set out on page 19.
[109] B. Law. 'Goldcorp mining company accused over human rights' *BBC News* (21 May 2010) ;A. Sagan. 'Legal clash builds between Taseko, first nations over Prosperity mine' *The Globe and Mail* (14 November 2011) ;B. Shingler. ' Montreal-based mining company accused of human rights abuses in Congo; families take case to Supreme Court' *Global Montreal* (26 March 2012).
[110] See ICMM Sustainable Development Principles 3 and 9 as set out on page 19, and *ICMM 2012b*.

must "uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities."[111] Additional guidance continues to emerge from the ICMM and other organizations in the form of reports and policy direction for the formation of corporate policies that assist in integrating social values of stakeholders.[112]

Principle 6 - Health and Safety

The ICMM principles and *Breaking New Ground* clearly demonstrate the widely accepted principle that the preservation of employee health and safety is an important part of sustainability in mining. From a coding perspective, the analysis of health and safety focuses on specific *obligations* that are being noted and implemented with respect to obligations towards employees and their families. General health issues that result from the environmental impacts of the mine are discussed under principle 4 – environmental management. The area of health and safety is heavily legislated in national legal systems and it was thus important to note and analyze the additional steps being required by private systems as opposed to those textual references to existing national laws.

These six headings and proposed methods of addressing or incorporating sustainability into the mining sector are referred to as principles throughout this thesis. In the coding scheme and analysis the principles are enumerated as bolded above. More detail of the specifics of what is coded and what is not is set out in section 3.3.a of Chapter 3. Although the use of the above six principles reflects the work of the ICMM and a significant collection of stakeholders with varied view points, their application will vary between projects. This thesis looks to provide empirical evidence of how these principles are being juridified by the mining industry and the impact on achieving sustainable mining. The discussion of the coding scheme (see Chapter 3) used in this

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[111] *ICMM 2012a*.

[112] The ICMM benchmarks against standards from "the [United Nations] Global Compact, OECD Guidelines on Multinational Enterprises, World Bank Operational Guidelines, OECD Convention on Combating Bribery, ILO Conventions 98, 169, 176, and the Voluntary Principles on Security and Human Rights" in *ICMM 2012a*.

thesis will delve into those terms in greater detail, and provide reference to the literature and the ICMM documentation.

The ways that the six principles are expressed vary within the industry, a reflection of project specifics as well as cultural and regional practices. Life cycle planning for example is a temporal element of sustainable mining. It embodies the temporal element of sustainable development, and ensures that the principles are integrated during exploration, development, operation and post-closure of a facility. The principles of environmental management, preservation of human rights, and management of mine health and safety provide a set of substantive technical standards that need to be incorporated into mining for the practices to be sustainable. These are managed through a framework of corporate governance, a fifth principle of sustainability in mining. Finally, the above definition of sustainable development can be summarized as a moderation of negative impacts on the community, while providing for sustainable community development from the mine. How this manifests will depend on the size and lifespan of the mine. Graphically, these six principles can be displayed to show how the technical standards are integrated through a governance procedure to achieve an end goal of healthy communities over all phases of the development of a mining project (see Figure 1).

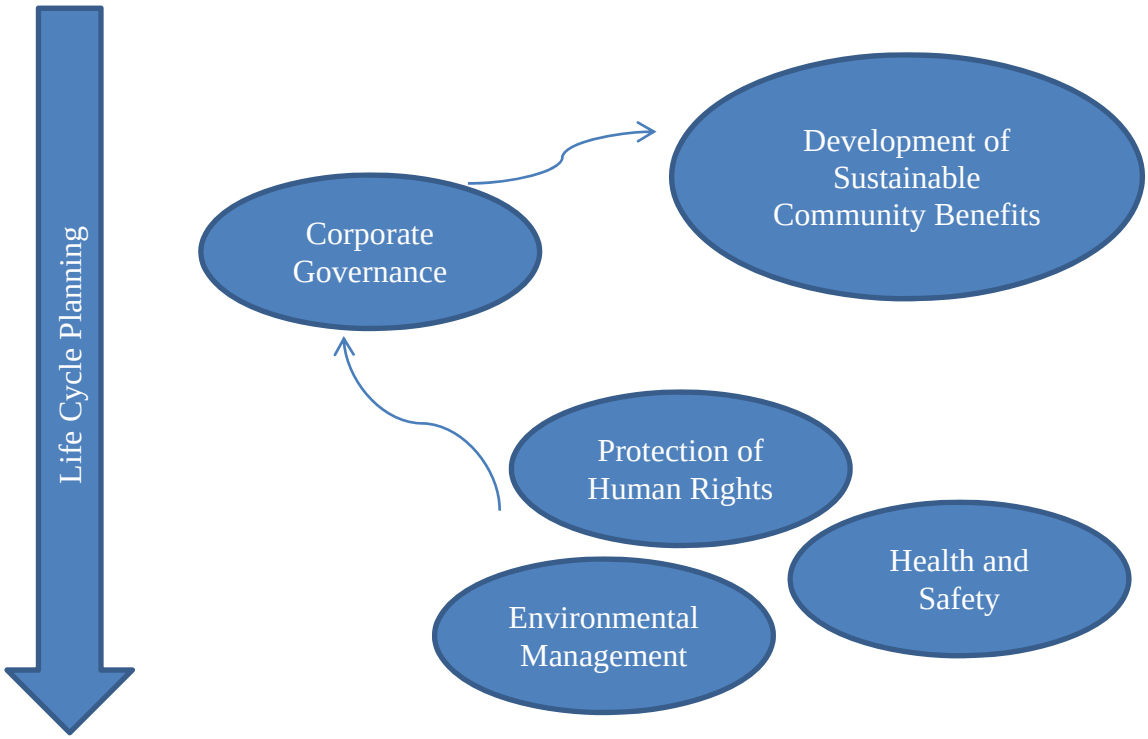

Figure 1: Sustainable Development Principles as applied to mining

In summary, sustainable mining requires the operation of a mining industry where projects are planned, operated and closed with a view to maximizing the benefits for all stakeholders, both during operation and after closure. The definition of sustainable mining in this thesis refers to the principles required for the development of mining projects, from exploration to closure, in a manner that minimizes the costs to all stakeholders, now and in the future, while maximizing the benefits the communities, government rent collectors and the mining corporation and its stakeholders. It does not provide formulas or strict targets for how to ensure sustainability nor determine if it has been achieved. Instead sustainability refers to the practices of adopting a framework of processes to attempt to shape an industry that has very real economic, social and environmental impacts on all of its stakeholders. Given that nearly half of the world's GDP, and millions of workers, and many more millions of individuals in communities around the globe are impacted by mining activities, the assumption is that these processes can transform the industry. Through the adoption of processes rather than strict targets, activities can be designed to continually improve performance and to incorporate new targets while phasing out redundant initiatives as goals are achieved. Chapter 2 will

explore reflexive legal theory and its application to the transnational industry of mining. Chapter 3 will provide an explanation of the methods used to empirically examine whether private laws that govern the mining sector exists. Chapter 4 will report on that analysis. Finally, Chapter 5 concludes with observations on the impact of private laws on the sustainability of mining, observations on the challenges of empirical research of reflexive law and the implications of both on future research and the practical application of this research.

Chapter 2: Reflexive law and the observable trends of a private legal system

National and international legal systems play an important role in governing mining, but they are not the only legal systems impacting activities globally.[113] Corporations with international operations are governed by a plurality of legal systems including sub-national, national and international legal systems. In addition to state sourced law, new emergent private legal systems are being created through the interactions amongst transnational networks of non-governmental organizations, industry associations and businesses.[114] Together they form a transnational legal system, which is an important part of the plurality of legal systems. These private legal systems can be evaluated in accordance with Teubner's reflexive legal theory, and in particular his proposed five observable trends of a private legal system.

Although it is debated whether these private legal systems are fully developed legal systems, Teubner offers five characteristics that can be observed in a private legal system.[115] These include interorganizational network, regulatory hybridization, private juridification, civic constitutionalism and international judicialisation. Reflexive legal theory is used to explain how new legal systems can emerge and how they interact with other systems (legal and non-legal). An evaluation of the standards, networks, contracts and policies in the mining sector through this lens demonstrates how a sector or industry can, with the assistance of an interorganizational network, be juridified and self-

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[113] D. French, 'The Role of the State and International Organizations in Reconciling Sustainable Development and Globalization' in N. Schrijver and F. Weiss (eds), *International Law and Sustainable Development: Principles and Practice* (Martinus Nijhoff Publishers, Boston 2004) 53 at 62.

[114] G. Teubner, 'Hybrid Laws: Constitutionalizing Private Governance Networks' in R. Kagan and K. Winston (eds), *Legality and Community* (Berkeley Public Policy Press, Berkley 2002) 311 (hereinafter *Teubner 2002*); G. Teubner. ' Self-Constitutionalizing TNCs? On the Linkage of "Private" and "Public" Corporate Codes of Conduct' (2011) 18(2) Ind J Global Legal Stud 17 (hereinafter *Teubner 2011a*).

[115] *Teubner 2011a.*

constitutionalized. [116] The trends also demonstrate how such private laws can be recognized through a hybrid of public and private activities and international judicialisation. Understanding each element will allow for an exploration of whether such a private legal system is emerging, and if it has a role in transitioning the mining sector to a position where it considers the higher order principal of sustainable development.

The idea of a private legal system, with no accountability to a state body, is not without its critics.[117] It is criticized as being inherently biased as a result of being designed by the actors whom it purports to govern,[118] as merely a system of unenforceable norms lacking in moral authority or the grassroots legitimacy of NGOs,[119] and as "fuzzy-wuzzy" soft law.[120] At the heart of these critiques is the issue that transnational governance lacks the legal nature of national or international law, and as a result, lacks the legitimacy associated with a conventional national legal system. Reflexive law addresses this criticism through the use of a series of 'observable trends' to demonstrate legal legitimacy.

Through a hybridization of regulation, transnational law arises from a mix of state and non-state law.[121] Transnational institutions and businesses derive some of their legal framework from the state in which they are formed, but there is still the question of the 'law' that forms beyond the state. The literature is divided into two frameworks, those who view private law as 'soft law' contrast to the hard law of nation states, and those

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[116] The social space, whether juridified or still governed by non-binding rules is often referred to as a 'lifeworld' in the literature discussing German legal theory and throughout this thesis, and this term is used throughout this thesis in this context.

[117] See generally A. McBeth. 'Crushed by an Anvil: A Case Study on Responsibility for Human Rights in the Extractive Sector' 11 Yale Hum Rts & Dev LJ 127; S. Seck. 'Home State Responsibility and Local Communities: The Case of Global Mining ' (2008) 11 Yale Hum Rts & Dev LJ 177; L. Tavis. 'Corporate Governance and the Global Social Void' (2002) 35 Vand J Transnat'l L 487 as authors who suggest that national regulation is required in lieu of transnational regulation.

[118] See for example P. Zumbansen. 'Piercing the Legal Veil: Commercial Arbitration and Transnational Law' (2002) 8 European Law Journal 400 as cited in G. Calliess. 'Transnational Corporations Revisited' (2011) 18 Ind J Global Legal Stud 601 at 476.

[119] *Dashwood 2004.*

[120] *Wälde 2004b* at 222.

[121] *Michaels 2007.*

who see these laws as part of a private legal system. This juridification of private arrangements includes corporate codes, standards, best practices and intra-company rules.[122] Although soft law is seen as a valid form of governing, and possibly even an alternative method of achieving the "unification of private law," framing it as a dichotomy of soft and hard law places soft law in a place of subordination and inferiority.[123] The trends of private juridification and civic constitutionalism suggest the form that new laws will take. An interorganizational network, regulatory hybridization and international judicialisation provide elements that define the boundaries of the legal system and how it interacts with other legal systems.

In contrast to the view of private laws as 'soft law' there is a substantive body of work on the governance of corporations within transnational law which,

> has made it possible to better understand these systems as self-referential, autonomous, closed systems with their own internal regulatory dynamic, fully constituted and able to communicate (interact) effectively with other governance systems within, above, and around the state.[124]

This understanding stems from the strong influence reflexive law has had on the literature of transnational law.[125] Adopting a reflexive law lens begins with the acceptance that some of transnational laws' content is law while the rest remains non-obligatory guidelines. This allows the question of whether corporate governance regimes are law, a part of a larger legal system, or purely non-legal guides. Although there is still debate on whether legal systems can function separate from a national legal system, this thesis accepts that private laws can exist as more than soft laws or mere guidelines, and indeed they may be subject to constitutional limits and legitimization. This is supported by reflexive legal theory, and is particularly relevant for the regulation of a highly consolidated and transnational industry such as mining. Reflexive legal theory also provides a mechanism for the creation of laws outside of a national legal system.

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[122] G. Pring and L. Siegele, 'International law and mineral resources development' in E. Bastida, T. Wälde and J. Warden-Fernandez (eds), *International and Comparative Mineral Law and Policy: Trends and Prospects* (Kluwer Law, The Hague 2004) 127 at 135.
[123] *Calliess 2007* at 474.
[124] *Backer 2011* at 760.
[125] *Michaels 2007.*

2.1. Reflexive legal theory

By applying systems theory to law, Teubner begins a process of "setting out the parameters, the epistemological and also perhaps less consistently the ontological limits of law."[126] These parameters and limits, as well as the epistemological framing of the theory, can best be understood by exploring in detail three elements of reflexive legal theory: binary codes; self-reference; and laws' role as resolver of conflicts and the producer of norms through the translation of external irritants. The binary code of a legal system divides all acts into legal or illegal acts. An external irritant is a query from outside the legal system as to whether an action is legal or illegal. Self-reference implies the use of internal processes to determine whether the act is legal/illegal before translating the answer back to the external stakeholder. The following discussion of reflexive law explores these concepts with specific reference to Teubner's own writings on these themes, and in reference to the five observable elements of a private legal system.

Teubner 's writing follows Luhmann's "in emphasizing the importance of the concept of 'socially adequate complexity' which describes the 'complex environment of functionally differentiated, semi-autonomous subsystems' and the interaction relations of law as one of these subsystems."[127] Autopoiesis explains social order based on the view of differentiated (specialized) systems of social communication. These systems communicate through "common reductive terms, self-referential communications and widely shared values."[128] Luhmann's rationale for why society has moved to a point of highly specialized systems is that it is functionally efficient to do so. Similarly law cannot be an expert in all social spheres, and thus new reflective systems emerge.[129] By fragmenting into a series of closed systems, society increases its adaptability, because

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[126] P. Goodrich. 'Anti-Teubner: autopoiesis, paradox, and the theory of law ' (1999) 13(2) Social Epistemology 197 at 207.
[127] *Orts 1993* at 246 (citing Teubner in G. Teubner. ' Substantive and Reflexive Elements in Modern Law' (1983) 17 Law & Society Review 239 (hereinafter *Teubner 1983*)).
[128] G. Teubner, R. Nobles and D. Schiff, 'The Autonomy of Law: Introduction to Legal Autopoiesis ' in R. Nobles and D. Schiff (eds), *Jurisprudence* (Butterworth, London 2003) chapter 19 (hereinafter *Teubner, Nobles and Schiff 2003*) at 2 of chapter 19.
[129] *Teubner 1983*.

each system is designed to deal with a specific problem, the binary code of its communication.[130] The system does not determine which of the two binaries a communication is; rather it creates a process for determining that question. An autopoietic legal system does not tell us what is legal or illegal; it is a self-referential system for determining whether something is legal or illegal.[131] It is through this mechanism that a space for a system of private laws autonomous from national and international laws is created. Governing actors in a highly technical and global sector is more efficient through a plurality of specialized systems. National systems can govern the specific requirements for operations within their borders, while private legal systems can provide laws for the industry to follow within and beyond any one specific national legal system.

Reflexive law concepts also draw upon Habermas's discourse theory.[132] Reflexive legal theory adopts the idea that regulation is shaped through an exchange of ideas and a creation of laws through dialogue. However, unlike Habermas's discourse theory, reflexive law does not see that discourse as a free interplay and exchange of ideas.[133] Instead all systems enslave their external rationalities for the purpose of the systems' self-reference. It is this process of enslavement that allows for translation as a process of reconstruction and deconstruction. The process occurs as the external environment influences the system, and again as the system influences the external environment. It is these translations that matter as the translation process creates and exports new legal norms.[134] What law, or more specifically an actor within the system, needs to remember is that legal norms are translated back into the system that created the irritant that spawned the self-referential search for the new norm. In the context of a private system this is seen through the systems' interactions with other legal systems and with stakeholders who raise the binary question of whether there is a legal obligation to be

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[130] *Teubner, Nobles and Schiff 2003* at 2 of chapter 19.
[131] Note that the binary of a legal system focuses on legality, not on what is just/unjust or fair/unfair. A legal system is one which determines whether or not an act is legal within the laws of the system.
[132] *Teubner 1983.*
[133] *Teubner 1983.*
[134] *Teubner, Nobles and Schiff 2003* at 36-39 of chapter 19.

sustainable. Through regulatory hybridization and international judicialisation the external environment shapes the autonomous private system. Boundaries of the system are measured, tested and reshaped by autonomous processes in other systems. How the system adapts is through reflexive internal dialogues that are particularly shaped by the realities of other legal systems.

The self-reflective legal process within the system can be summarized as a series of steps. First a dispute or difference of opinion as to how to resolve a matter (the external irritants) will arise. This issue will then be processed within the sector that is the source of the dispute, for example the lifeworld surrounding a mining project. If private juridification has occurred, the private legal system will produce an answer as to whether the act is legal/illegal. From there, the legal response must be integrated back into the system that created the irritant, often through a discourse between a private legal system and a national legal system.[135] This results in a discourse collision between legal pluralisms.[136] Where the discourse is between legal systems, it is evidenced through regulatory hybridization and international judicialisation. The final step of the self-referential process is the reaction of the original disputants to the laws' response. As the decision must be translated from a private legal system back to a non-legal system, possibly through a national legal system, the message may raise new questions or may resolve the dispute. The result is either a new dispute to be processed by the private legal system, or an adjustment that addresses the concern originally raised.

In the case of the sustainable development of a mining project, an irritant would include a concern over environmental and social impacts of a mine, or a dispute over the allocation of the economic benefits of the project. These 'irritants' would be translated by the legal system as a communication as to whether an act is legal or illegal. Some disputes are resolved within a national legal system, but others will have to be resolved by a private legal system; in particular, the laws of a private legal system governing the sustainable development of mining projects. Which system governs is determined through both legal systems' mechanisms for determining how to handle regulatory

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[135] *Teubner, Nobles and Schiff 2003* at 41 of chapter 19.
[136] *Teubner, Nobles and Schiff 2003*.

hybridization. If the private system is to adjudicate, the laws that are set down through private juridification and civic constitutionalism are used. Reference to corporate codes, interorganizational agreements, best practices and other sources of law would be made, and the legal system would produce a decision. Actors from within the legal system will translate this answer as a direction to those within the project system to take remedial action. This is "the search and find formula of a realistically defined consequentialist orientation."[137] Reflexive law 'alienates' conflicts and extracts legal norms before exporting legal norms back to the system from which the conflict originated.[138]

As other social systems (most notably private systems) begin to create their own legal processes, the question of the form of a constitutional framework and rights and obligations thereunder begin to emerge to address concerns as to the legitimacy of the system.[139] The legitimacy of a legal system is dependent on its source of law. Hart suggests this stems from the constitutional authority of a law maker recognized by those bound to the rules.[140] Although discussing the legitimacy of laws in a public legal system, his comments are equally applicable to private legal systems. Alternatively, Habermas points to the fact that constitutional laws provide for procedures and rules of governing the laws themselves, and that this fact is why a constitutional regime is required for a legal system to have legitimacy.[141] For a self-referential system, both likely hold true. The rules must emanate from within the system, and if they are not accepted by those bound to the system, they are rewritten in a reflexive process. To ensure a private legal system is legitimate, the observable trend of civic constitutionalism must be

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[137] *Teubner, Nobles and Schiff 2003* at 39 of chapter 19.
[138] *Teubner 2000*.
[139] G. Teubner, 'Alienating Justice: On the Social Surplus Value of the Twelfth Camel' in D. Nelken and J. Pribán (eds), *Law's New Boundaries: Consequences of Legal Autopoiesis* (Ashgate, Aldershot 2001) 21.
[140] HLA Hart, *The Concept of Law* (Oxford University Press, Oxford 1961) (hereinafter *Hart 1961*).
[141] J. Habermas, 'Law as a Medium and Law as an Institution ' in G. Teubner (ed), *Dilemmas of Law in the Welfare State* (Walter de Gruyter, New York 1986) 203 (hereinafter *Habermas 1986*); *Hart 1961*.

present or else the private juridification and the systems interactions with other legal systems operate without any legal legitimacy.[142]

In a global world with a plurality of legal systems, new legal systems are emerging within transnational law, including in the mining industry. It is important to determine whether a system has emerged, and whether or not it is a legal system, so as to gauge the influence of such obligations on the industry, and the extent to which a private legal system can be used to govern and regulate the global mining industry. While it is an entirely different question whether that system is effective in achieving its goals or in providing certain rights, the first step is to determine whether a system in which these rights can be asserted and enforced exists. One such method for determining whether a private legal system has emerged is by assessing transnational governance regimes in the mining sector through the lens of reflexive legal theory. A fully developed private legal system will have five observable trends, although not are all required for a private legal system to be in existence.[143] To ensure the method for analyzing private legal systems is appropriate, an understanding of the theoretical underpinnings of the trends and how they can be identified within a system is required.

The first trend is the presence of an interorganizational network. This specialized network provides a framework for the generation and transmission of ideas within the lifeworld, in which a new legal system emerges.[144] This emergence occurs through the trend of private juridification, specifically of new substantive and procedural laws. These newly juridified laws in turn are governed by a framework of constitutional laws, which are evidenced through the trend of civic constitutionalism. The second and third trend provide the laws of a private legal system. The fourth and fifth trend, regulatory hybridization and international judicialisation, do not mark the emergence of new laws. Instead they offer evidence of how other legal systems in a plurality of legal systems

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[142] *Teubner 2009.*
[143] Ibid
[144] The lifeworld is the social space that, through a process of growing complexity is eventually juridified as a need for the specialization of laws is identified through discourse. *Habermas 1986* for a discussion of the lifeworld and the historical process of juridification of social spaces.

acknowledge and interact with the private legal system. These last two trends are not qualitatively analyzed in this project, although they are important for the operation of a legal system. They provide recognition of private laws in a pluralism of legal systems existence is not required to demonstrate the existence or content of private laws governing sustainability. The goal of determining if such laws can aid the regulation of sustainable mining is done through a methodological review of the first three trends and a theoretical discussion of the latter. Together, both parts of the project lead to insights regarding the integration of private legal systems and other legal systems.

2.2. Interorganizational network

An interorganizational network can be defined as a series of networks that are parasitic of existing organizations and institutions.[145] In particular they: 1) exist by exploiting other institutions rather than existing on their own; 2) grow with the institutions to which they are attached; 3) are self-determining in that they resist control by the institutions upon which they are associated; 4) have a binary coding to determine the contents of the networks that is separate from the host institutions; and 5) gain influence by virtue of the institutions or organizations to which they attach.[146] As a result of the interlinkages that come from a structure composed of numerous networks, "networks are more 'strategically flexible' than hierarchies."[147] Networks coordinate the efforts of the institutions in a cross-institutional manner that would not be possible through a hierarchical structure.[148]

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[145] M. Hutter and G. Teubner. 'The Parasitic Role of Hybrids ' (1993) Journal of Institutional and Theoretical Economics 706 (hereinafter *Hutter and Teubner 1993*); E. Kämper and J. Schmidt, 'Netzwerk als strukturelle Kopplung: Systemtheoretische Überlegungen zum Netzwerkbegriff ' in J. Weyer (ed), *Soziale Netzwerke: Konzepte und Methoden der sozialwissenschaftlichen Netzwerkforschung* (Oldenbourg, München 1999) 211 (hereinafter *Kämper and Schmidt 1999)*;N. Luhmann, *Organisation und Entscheidung* (Suhrkamp, Frankfurt 2000) (hereinafter *Luhmann 2000*).

[146] *Teubner 2002*. In describing interorganizational networks Teubner draws on *Hutter and Teubner 1993*; *Kämper and Schmidt 1999*; *Luhmann 2000*.

[147] M. Fichter and J. Sydow. 'Using Networks Towards Global Labor Standards? Organizing Social Responsibility in Global Production Chains' (2002) 9(4) Industrielle Beziehungen 357 (hereinafter *Fichter and Sydow 2002*) at 359.

[148] *Fichter and Sydow 2002*at 362.

In a private legal system, the interorganizational network is coordinated through a multitude of methods and these interactions are what create the binding obligations in the form of binary legal/illegal distinctions that make a reflexive system a reflexive legal system. Where relationships are based on quasi-obligations, as Frenkel and Scott suggest the labour obligations within the global apparel industry were in 2002,[149] an interorganizational network may exist but a lack of other elements, either regulatory hybridization or international judicialisation, prevents the emergence of a reflexive legal system.

If interorganizational networks are not controlled by the institutions that they connect, nor are they controlled by external irritants, what drives change and the reflexivity upon which the system is based? It has been suggested that each network has a central node that is involved in guiding many decisions.[150] Within an interorganizational network, a reflexive legal system would have multiple such central nodes. Each central node corresponds to a network within the larger network. Whether the node is central to the overall interorganizational network or only a network therein, these nodes play an important organizational feature. This can be seen in Teubner's example of the influence of corporate codes of a central node that results from the linkages within interorganizational networks. "For corporate codes, it is important that the organisational features of the network offer certain advantages, making it possible to extend the reach of the code to several inter-linking companies." [151] This is achieved through "the over-reaching governance structures of the network facilitate – in spite of the independence of nodal companies – the centralising function of the codes as well as their unified validity in the total production chain." [152] The central node has considerable influence and "promotes the universal usage of the code." [153] The impact of an interorganizational network can be seen where corporations are adopting policies to improve their own performance and where they extend these internal policies to "suppliers, subcontractors

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[149] As cited in *Fichter and Sydow 2002* at 362.
[150] *Fichter and Sydow 2002* at 360.
[151] *Fichter and Sydow 2002* at 360.
[152] *Fichter and Sydow 2002* at 360.
[153] *Fichter and Sydow 2002* at 360.

and joint venture partners."[154] In addition, network structures coordinate, harmonize and promote new regulatory systems by supporting the development of shared rules within the network and permit resource relationships and pooling that would not occur within hierarchical structures.[155] In this manner the central node spreads the influence of its binary decision making criteria, facilitating both juridification and civic constitutionalism. In the context of a private legal system of mining the interorganizational network would include networks, corporate hierarchies and relationships with and through industry associations. The binary for inclusion within the interorganizational network is whether or not an entity states that it is attempting to address the sustainability of mining activities, or integrate sustainability into its operations. The central nodes of the interorganizational network are determined through the connections within the network as they relate to promoting or enforcing sustainability principles.

An interorganizational network is clearly important to establishing the boundaries of a reflexive legal system and facilitating its functioning. Some networks and nodes within the interorganizational network have more impact than others, while others may not impact the formation of an interorganizational network at all. So what determines whether a network can, or has the potential to, influence the larger network of networks? In Fichter and Sydow's review of a number of works the following characteristics that must exist for the network mode of coordination of an industry to be effective in governing behaviour were highlighted. These factors include the network size, the strength of the inter-organizational ties, and the ability to ease the regulation of social responsibility as a result of the network.[156] Size influences the complexity involved in formulating rules, but also the spread of such rules, while the strength of the ties impacts on the coordination within the network.[157] The third factor, the ease of regulation, is a signal of whether the network has sufficiently strong ties given the size of the network. The ease or lack thereof results from the exploitation of the networks on which the

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[154] *Fichter and Sydow 2002* at 360.
[155] *Fichter and Sydow 2002* at 363.
[156] *Fichter and Sydow 2002* at 364.
[157] *Fichter and Sydow 2002*.

interorganizational network rests. Rather than attempting to create new networks through which to communicate, enforce and review regulation, an interorganizational network can use already established links between organizations. This can be seen for example in the use of an interorganizational network's use of corporate hierarchies to communicate ideas from one operating company, through the existing corporate network to the ultimate parent company, across to another company in the industry, and then through a second corporate hierarchy to a series of operating companies that are not otherwise networked to the original company. Where both the parent company and the operating companies are active in the network hierarchies act as a set of relationships that facilitate and enforce adoption of new ideas within large interconnected groups, which in turn increases the number of nodes disseminating a new practice. Take for example the case of two major mining companies ParentCoCanada and ParentCoAustralia who are domiciled in Canada and Australia respectively. They will interact through a variety of mechanisms, including the personal relationships of senior staff, industry associations and research ventures. However they do not actively partake in mining. If both have four active operating companies, there are now 8 new nodes in the interorganizational network that have adopted policies generated by the parent companies. Those companies in turn will carry out specialized operations, and where new ideas are generated they will be transmitted back to the parent company and potentially out to the other operating company affiliates.

This use of existing networks for the transmission of values and practices was observed in Fichter and Sydow's 2002 study. They observe that the ability of corporate codes to transform labour conditions in the apparel industry demonstrates that private regulation has the ability to improve human rights in areas where public law systems are lacking, and that the effectiveness of the code is magnified by the "wider institutional context of organizing" provided by networks as their flexibility and strong interorganizational connections are more suited than hierarchical corporate structures or market forces in transforming the industry.[158] This magnification comes through the exploitation of existing networks, an organizational efficiency over having to recreate those networks. Finally, the authors conclude that the most important role for networks is

[158] *Fichter and Sydow 2002* at 369.

to spread the core concepts of a regime through the coordination and sharing of knowledge, as well as through advocacy and promotion of new knowledge, with the result that other linkages can create their own internal systems that address social issues.[159] This conclusion was reached by other researchers as well. For example, Kraatz's studies of interorganizational networks and private colleges found that strong ties within the network increases information sharing, and that networks promote adaptive learning rather than pure imitation of other groups in the network.[160] This supports the observation that strategic networks such as industry groups can be more efficient at minimizing the costs of adaptive strategies than corporate hierarchies through the use of a central node or hub.[161] These efficiencies arise because "knowledge creation occurs in the context of a community;" a community that would not exist but for the interorganizational network.[162]

The presence of an interorganizational network brings together a mix of actors and a variety of interests that mitigate the impression that corporate codes are public relations exercises or are otherwise unenforceable. A diversified network of participants assists in the formation and functioning of private juridification and civic constitutionalism. Interestingly for research into private legal systems, it has been noted that these networks are established through social contracts and not legally binding contracts.[163] It is for this reason that the presence of an interorganizational network is but one observable trend of private legal system. The interorganizational network sets the social framework for spreading and developing solutions in an efficient manner, and provides a lifeworld for the private juridification and civic constitutionalism of a developed private legal system.

Chapter 3 proposes a method for determining whether an organization is a member of the interorganizational network, and Chapter 4 will review that test to determine whether the interorganizational network of mining companies covers an extensive portion of the

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[159] *Fichter and Sydow 2002* at 376.
[160] M. Kraatz. 'Learning by Association? Interorganizational networks and adaption to environmental change' (1998) 41(6) Academy of Management Journal 621
[161] B. Barringer and J. Harrison. 'Walking a Tightrope: Creating Value Through Interorganizational Relationships' (2000) 26(3) Journal of Management 367 at 371
[162] Ibid at 378.
[163] Ibid at 387.

production value of mining, or only a small portion thereof. The more widespread the interorganizational network is, the greater the likelihood that private juridification will impact a particular mining operation.

2.3. Private juridification

Reflexive legal theory incorporates Habermas's observation that juridification of the lifeworld increases as the space increases in specialization and technical complexity.[164] Thus, mining law was once regulated only through laws on mineral tenure, and then only to secure rents for the sovereign owner of the minerals. Over time, as the impacts of mining became more apparent, and technical controls became more advanced and available, the regulation of the mining industry increased. This is observable through the creation of national laws regarding mine permitting and environmental permitting throughout the 20th century. With a globalization of the mining industry and the financing of mining projects, as well as further technical specialization within the field, and a growing need for specialized knowledge relating to sustainable development, a new thrust of juridification is occurring. Assuming a network of corporate hierarchies, industry associations and non-governmental organizations exists, the next question is how that transnational lifeworld is being privately juridified with respect to the integration of sustainability into the mining industry.

Teubner argues that private juridification will create substantive and procedural laws in a private legal system, while constitutional laws will appear as broad legal statements that evidence civic constitutionalism. Those constitutional laws will guide how the substantive and procedural rules are determined and validated as laws (as opposed to policy or rules) within the system.[165] Drawing a parallel to national legal systems, Teubner suggests that private legal systems can be divided into three types of law: constitutional rules for determining the ordering of legal system (rules about rules); substantive rules; and procedural rules.[166] Private juridification focuses on the creation of

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[164] *Habermas 1986.*
[165] *Teubner 2009*
[166] This framework is based upon Herberg's discussion of normative structures in M. Herberg, 'Private Authority, Global Governance, and the Law. The Case of

substantive and procedural rules that are created to regulate technically specialized areas within a sector or industry, in this case mining law and the promotion of the higher-order goal of sustainable development. To juridify is to transform a system of non-binding rules, policies and social expectations, into a space that is institutionalized and governed by laws, or in the case of reflexive law, by the binary of legal/illegal acts.[167]

The categories of substantive, procedural and constitutional laws, and the observable trends of private juridification and civic constitutionalism can be mapped over the elements of sustainable development. Figure 2 highlights the types of law, and the associated observable trend using the diagram of sustainable mining presented in Chapter 1.

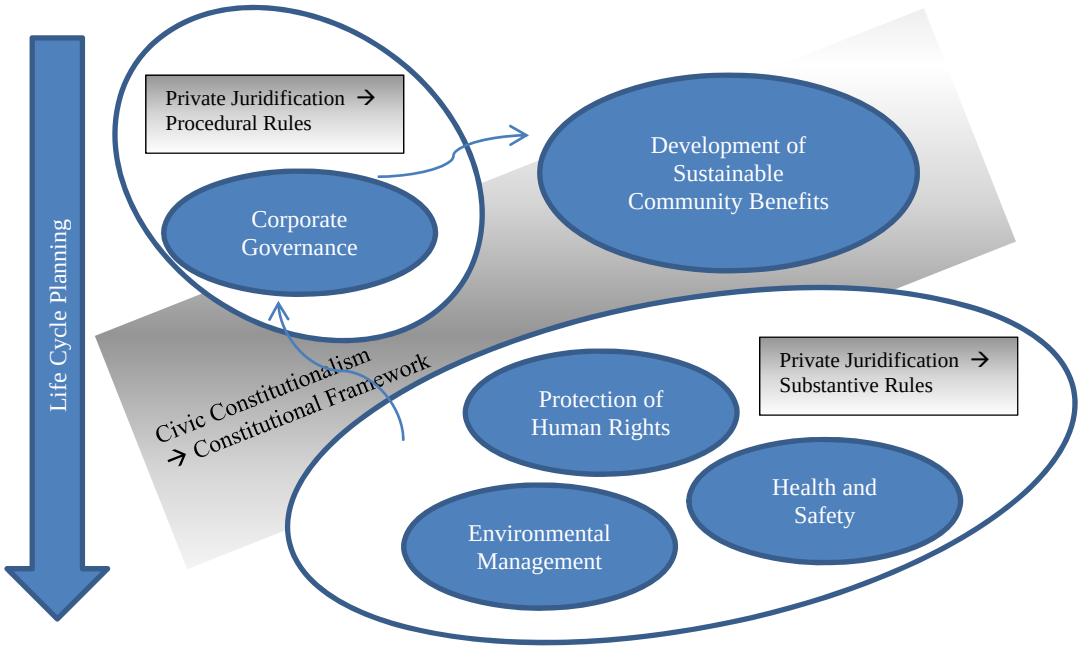

Figure 2: Integrating Sustainable Mining Principles and Trends of a Private Legal System

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Environmental Self-Regulation in Multinational Enterprises' in G. Winter (ed), *Multilevel Governance of Global Environmental Change. Perspectives from Science, Sociology and the Law* (Cambridge University Press, Cambridge 2006) as discussed in *Teubner 2009* (hereinafter *Herberg 2006*).

[167] Habermas (*Habermas 1986*) states at 204 that, "the expression 'juridification' (Verrechtlichung) refers quite generally to the tendency towards an increase of written law which can be observed in modern society."

Reflexive legal systems develop out of juridified spaces, as a response to the 'colonization' of the system by legal mechanisms and institutions.[168] In the case of transnational legal systems, they arise "from original needs for security of expectations and solution of conflicts."[169] In the case of mining, the unsustainability of some mining projects and practices as described in chapter one, has led to the need for new solutions. The enormous capital required for industrial mining also necessitates solutions that can provide security of expectations for the parties. This combination, and the growing complexity of transnational business, creates a need for a system of rules beyond the nation state. A growing collection of associations, corporations and their networks have been emerging in the extractive sectors, with a preliminary investigation of the interorganizational network explored in Chapter 4.[170] Alone associations can offer rules for institutions but they do not purport to form laws for a larger system. Through juridification – the wide spread adoption through the interorganizational network and the treatment of the rule as a legal/illegal binary - these rules can become private laws. A private legal system begins to emerge when this juridification is accompanied by a constitutional framework and recognition by other legal systems of the private laws.

These adopted principles become laws upon the use of binary statements that create positive obligations. This will not be seen as "it is illegal to do y" but rather as statements using language that obligates the party, such as "will", "shall" and "must". The strength of these laws is increased through the recognition by external systems. This occurs through regulatory hybridization and international judicialisation as discussed below. By constructing binaries that are enforced by the legal system, a private legal system can create law out of what are otherwise mere internal policies. Private juridification allows private rulemaking to transcend beyond self-regulation as rules become laws.

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[168] *Teubner 1983.*
[169] G. Teubner, 'Societal Constitutionalism: Alternatives to State-centred Constitutional theory?' in Joerges, C., Sand, I. and G. Teubner (eds), *Constitutionalism and Transnational Governance* (Storrs Lectures 2003/04, Hart, Oxford 2004) 3 (hereinafter *Teubner 2004*) at 4.
[170] *Wälde 2004b* at 222.

This can be seen for example in the context of corporate codes.[171] They consist of rules, some of which are recognized as binary legal/illegal statements. Which rules become laws depends on the interaction of the various networks within a transnational legal system. It is these interactions - the functional decision-making of whether an act by the company (or its representatives) is legal or illegal within the transnational governance system - that highlights the laws and their content. The difference between a rule and a law is whether non-compliance is an illegal act with agreed upon consequences, as opposed to a moral or ethical obligation not to breach an agreed upon principle. Laws require a system of rules for adjudicating whether there was non-compliance, and for establishing the consequences of non-compliance. For this reason, it may be hard to determine whether private juridification is resulting in rules or laws. Most notably, several legal theorists have argued that for rules to be laws there must be a civic constitutionalism of the private order that sets out the legal process for making such laws, and the legal bounds of the private system's actions and jurisdiction. The classic legal discussion between Hart and Fuller provides a discussion of 'what is law.' [172] While Fuller argues that law must have some minimum moral content, Hart argues that a law is law even if immoral. Both authors however agree that regardless of content, a law is not a law unless made in accordance within a constitutional framework. The content of that framework will vary from legal system to legal system and depending on the legal theory adopted, but requires a source of law that is recognized by the stakeholders, and acceptance of that party as an authority on the matter.[173] For the purpose of this thesis and based upon reflexive legal theory, the constitutional documentation are texts that set out prescriptive boundaries for the operation of private laws. Thus whether private laws are rules will in part depend on whether they the actors bound by those rules treat them as right/wrong distinctions or markers of conduct that is legal/illegal, with legal consequences and adjudication that can flow from illegal activities.

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[171] See *Teubner 2009* for an analysis of corporate codes as both privately juridified laws and civic constitutional texts.
[172] L. Fuller. 'Positivism and Fidelity to Law: A Reply to Professor Hart' (1958) 71(4) Harv LR 630 (hereinafter *Fuller 1958*); *Hart 1961*.
[173] *Hart 1961*.

Assuming the emergence of legal rules in an interorganizational network can be tracked, the task becomes determining when laws emerge. To determine when laws are emerging from norms, two factors must be present. First, the binary code of legal/illegal, which defines a reflexive legal framework, must be engaged. Second, the rule must extend throughout the entire system.[174] Thus, what may be law in one system may only be a norm in a larger system that includes the smaller system. This would occur when one company incorporates into all of its contracts with suppliers and producers a requirement for preferential hiring of local labour when working in the area of a new extractive project. The requirement has become legally binding throughout the business regime of that one corporation, but it has not become a law that is binding on all participants in the extractive industry.

The incorporation of such legal rules through several other corporate governance regimes begins the process of normalizing the practice, creating a norm that may eventually become part of the law of the transnational extractive industry.[175] The process of progressive corporations becoming the leaders and institutions that pressure other corporations has already been observed.[176] At this point, reflective and self-referential processes select what is law. Indeed, "in a world of law and globalization the mere speaking of legal norms may, over time, persuade others to enforce them."[177] Slowly, the elements and facets of the mining industry that are either not regulated by national or international spaces, or that do not provide solutions that quieten external irritants, become privately juridified. This juridification does not occur solely in the private space though, and the national and international spaces continue to juridify as well. Teubner has suggested that without an intertwining of private juridification and other legal systems, a private legal system cannot effectively regulate.[178] This statement overstates the importance of regulatory hybridization. Private laws can exist and regulate without

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[174] *Teubner 2009*.
[175] *Dashwood 2004* at 998.
[176] *Dashwood 2004* at 998.
[177] P. Berman. 'From International Law to Law and Globalization' (2004) 43 Colum J Transnat'l 485 at 534.
[178] *Teubner 2011a* at 620.

regulatory hybridization. For even without co-regulation the obligation still exists. They are more effective however, when they co-regulate with other legal systems.

In the third Chapter, details of the qualitative method used to determine whether a binary of legal/illegal is appearing with respect to any of the principles of sustainable mining. The discussion will provide a justification of the methodology, and to the extent private juridification is evidenced, it will be discussed in Chapter 4. Those findings, and their implication for a private legal system of sustainable mining is summarized and discussed in Chapter 5.

2.4. Civic constitutionalism

Private legal systems, as with any legal system, can have their internal laws divided into three types of law: constitutional rules for determining the ordering of legal system, substantive law, and procedural law.[179] The substantial law and procedural law in a private legal system are created through the process of private juridification. They respectively correspond to laws about what is legal/illegal and how those decisions are made. Private juridification provides these primary and secondary rules. This does not leave private legal systems safe from critique. Without the normative content found in a constitutional framework agreed to by those who are bound to laws, it can be argued that they are not democratically legitimate, and thus not a legal system.[180]

The constitutional laws form the legitimating basis for private legal systems, and set out the breadth of the system through constructive rules and the limits on the system through limitative rules.[181] Civic constitutionalism reflects the trend of texts maturing into "genuine civil constitutions – in the fashion of constitutional pluralism".[182] Such civic constitutionalism can be seen to exist in the transnational sphere with constitutive and limitative civic constitutionalism evident both for the institutions that arose out of the Havana Charter – GATT, Bretton Woods, and the Washington consensus – the IMF,

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[179] *Herberg 2006.*
[180] *Fuller 1958.*
[181] G. Teubner. 'Debate and Dialogue: Constitutionalizing Polycontexturality' (2011) 20 Social and Legal Studies 209 (hereinafter *Teubner 2011b*) at 214.
[182] *Teubner 2009* at 204.

WTO and World Bank.[183] Civic constitutionalism does not, however, require a governmental structure of institutionalized politics to govern a legal system. Instead it relies upon the specialists within the host institutions and organizations upon which an interorganizational network is nested.[184] It has been proposed that corporate codes are emergent legal phenomena that are providing civic constitutions.[185] Similarly, civic constitutionalism can occur in civil society.[186]

Empirical research has highlighted that the theoretical phenomenon of self-constitutionalisation without a state has begun in transnational law: "Sectors of world society have begun to create constitutional rules for their governance in response to social conflicts."[187] These processes are designed to address concerns of the legitimacy of the rules that such sectors purport to follow, and to provide limits within which those sectors need to operate. In an examination of the corporate codes of companies, Teubner suggests corporate codes may form the civil constitutions of corporations, while internal rules on governance and executive behaviour provide substantive law; and the "concrete technical and organizational rules" which outline duties and tasks of actors within the regime are the regulatory laws of the governance regime.[188] He suggests corporate codes are emerging as "contextual texts" that set out the rules for determining further substantive and procedural rules for corporations.[189]

A high-order goal such as sustainable development would appear as a constitutional law, as it sets limits and a framework for substantive and procedural rules by setting a framework of principles for a private legal system. Assuming Teubner's assertion is correct, this framework would be provided for through corporate codes and other 'constitutional' documents. Invoking the language of constitutionalism in the context of the reflexivity of corporate codes however raises the question of legitimacy of the

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[183] *Teubner 2011b* at 213.
[184] *Teubner 2011b* at 215.
[185] *Teubner 2009* at 204.
[186] *Teubner 2004* provides an extensive list of literature discussing the concept of societal constitutionalism.
[187] *Teubner 2011b* at 221-222.
[188] *Teubner 2009* at 223.
[189] *Teubner 2009* at 207.

constitutional regime.[190] The lack of participation in the self-referential process is a major concern for several authors, and Teubner himself has noted: "What is the value of constitutionalism without democracism? My answer is very little."[191] The process of legitimacy needs to be defined by the system, just as national legal systems have set their own legitimacy criteria. Thus, although some constitutional documents are internally generated, for example corporate codes, civic constitutionalism will also require constitutional texts from outside of the corporation. These will often come from non-governmental organizations and industry associations in the form of policies, procedures and guidelines that are referenced throughout the industry. In the mining sector, legitimacy is being addressed through an interorganizational push for the adoption of the higher order goal of sustainability. As constitutionalism extends from the conviction "that the exercise of power should be regulated, legitimized, and democratized by means of a constitution,"[192] civic constitutionalism provides a method for legitimizing a private legal system.

The qualitative content analysis of the data collected from the sampled companies and related organizations will evaluate whether there are codified texts that purport to set a framework for the procedural and substantive obligations regarding sustainable mining. Teubner cautions against looking for a constitutional document in civil society. Instead he points to the examples of the British unwritten constitution, and its "social institutionalism."[193] The chosen dataset and qualitative methodology for reviewing whether the principles of sustainable development in mining is constitutional in nature is detailed and defended in Chapter 3. The discussion will provide a justification of the methodology, and to the extent civic constitutionalism is evidenced, it will be discussed

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[190] See P. Dobner. 'On the Constitutionability of Global Public Policy Networks' (2009) 16 Ind J Global Legal Stud 605 (hereinafter *Dobner 2009*) for a critique of constitutionalism without democratic participation.
[191] G. Teubner. 'Workshop led by Antonio Negri and Gunther Teubner on Globalization, Property and Liberation: Introduction to Linguistics ' (International University College and UniNomade 2.0, Turin, Italy 11 March 2011 2011)
[192] *Dobner 2009* at 611.
[193] *Teubner 2004* at 15.

in Chapter 4. Those findings, and their implication for a private legal system of sustainable mining is summarized and discussed in Chapter 5.

2.5. Regulatory hybridization

The fourth trend, regulatory hybridization, refers to the observation that in a world with a pluralism of legal systems, many activities are regulated by more than one legal system. The study and practice of conflict of laws (both private and public) is designed to ensure a priority of legal ordering when multiple systems attempt to regulate the same activity. In contrast, reflexive legal theory recognizes that such systems overlap, and proposes that rather than agreeing to rules for resolving such conflicts, each system defines its own solution to the external irritant generated by the 'other' legal systems claiming jurisdiction.

In the case of a private legal system, the existence of a self-regulating network is only part of a fully private legal system. Teubner has noted that private regulation by itself is insufficient, and that private legal systems must intertwine with public legal systems to effectively regulate the private sphere.[194] Although this statement at first appears contrary to the observation of systems theory that independent systems are unable to directly interact with each other, Teubner is not suggesting that regulatory hybridization requires a private legal system to be integrated into the public legal system to be a valid and independent legal system. Rather, regulatory hybridization is the observable trend of private and other legal systems attempting to regulate the same activities. In doing so, each system defines the boundaries of the other legal system and provides recognition of the laws therein. Both systems require the existence of the other to effectively govern otherwise ungovernable issues, such as sustainability within mining or the elevation of human rights in areas beyond the reach of any one nation's jurisdiction. It is the combination of "governmental (public) and non-governmental (private) components", and it often refers to "oversight arrangements with multiple levels, joining centralized and regional or local features."[195]

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[194] *Teubner 2011a* at 620.

[195] S. Halpern. 'Hybrid design, systemic rigidity: Institutional dynamics in human research oversight' (2008) 2 Regulation & Governance 85 (hereinafter *Halpern 2008*).

Such regulatory hybridization occurs in a number of areas, including human research oversight, environmental standards and the control of media content.[196] When looking for evidence of regulatory hybridization, one must look for situations where both private and public obligations are used systematically and in tandem to regulate an activity. Where one system cedes jurisdiction to the other system is a recognition of the other systems' laws. Chapter 3 will explain the methodology used for extracting examples of regulatory hybridization and international judicialisation, and justify why examples and a theoretical discussion are used instead of qualitative methods for examining the these last two trends. As with the other trends, these two trends will be discussed in detail, albeit based on examples rather than qualitative analysis in Chapter 4, with the implications for a private legal system of sustainable mining, and the future research questions that arise from the examples detailed in Chapter 5.

2.6. International judicialisation

Judicialisation refers to the process of reviewing laws through a dispute resolution institution. The trend of international judicialisation however refers specifically to the review of, or reference to, privately juridified laws and civic constitutions by a judicial body in a public legal system.[197] The trend does not require that the public system incorporate the private laws, or even that they acknowledge a jurisdiction to review private laws. Instead, it is a trend that provides recognition of the private legal system by an external legal system. Although this trend it is not required for private laws to exist, this form of judicial action is a sign of an established private legal system. Much like regulatory hybridization, which provided recognition of laws through the ceding of jurisdiction to private legal systems, this trend recognizes laws through their use in judicial processes outside of the private legal system.

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[196] B. Dorbeck-Jung. 'Contested hybridization of regulation: Failure of the Dutch regulatory system to protect minors from harmful media' (2010) 4 Regulation & Governance 154; N. Gunningham. 'Environment, Self-regulation, and the Chemical Industry: Assessing Responsible Care' (1995) 17 Law & Policy 57; *Halpern 2008*.

[197] *Teubner 2009* references an empirical study of corporate codes in Salvador: R. Zimmer, "Menschenrechte der Arbeiterinnen werden häufig missachtet", Frankfurter Rundschau, 12 September 2006, available at: http://www.fr-online.de.

A reflexive legal system does not enforce laws; it merely determines whether an act is legal or illegal. This decision is then translated back to Teubner's "external irritants" that raised the question, and leaves it to other systems to determine the enforcement mechanism. Some consequences may occur automatically, such as the triggering of contractual dispute mechanisms upon the occurrence of a dispute governed by contract, while others may involve the discretion of actors within the system – such as the decision of an organization to revoke membership, or the members of the system to decide against doing future business with the transgressor. Occasionally, the decision will be translated into an external legal system, where further legal action will occur. For example, the international trade is now partially governed by a private legal system. The World Trade Organization involves a system of private laws, but the content of the private laws is often the subject of international judicialisation – that is judicial decisions from within a national legal system. This will occur both through hybrid regulation, which provides judiciaries the powers to consult those laws, as is done with the *Canadian International Trade Tribunal Act*, or through judicial incorporation of, or reference to, those private laws.[198] When external systems begin the process of referencing, co-opting or otherwise attempting to utilize private laws, they are providing recognition of the existence of those laws. This international judicialisation also provides additional methods beyond the private legal system for giving effect to those private laws. This mechanism provides a pathway for the translation of the normative content in the laws of private legal systems to be translated into other systems.

2.7. When private legal systems emerge

The trend of private juridification provides researchers with a method of identifying and describing a private legal system. The interorganizational network must be defined through a binary that establishes which networks and nodes fall within the larger

[198] See Canadian International Trade Tribunal Act cl RSC 1985, c 47 (4th Supp); 2004 CanLII 56401 (ON IPC) *Ontario (Finance) (Re)* 2004. In *Ontario (Finance) (re)*, the respondent plead that the domestic remedy sought had to be granted with a view to the impact it would have on private legal systems. In particular, it was argued that if the information sought was released it would have potential impacts on claims within the private legal system of the World Trade Organization (at page 10 of the decision).

network. Substantial and procedural private laws are then juridified in the informal sector occupied by those networks through the use of binary coding of an obligatory nature. These private laws are in turn governed by civic constitutions, which are established in the same manner as the procedural and substantive laws. In turn, all three types of laws are affirmed by other legal systems through regulatory hybridization. Finally, stakeholders external to the legal system yet impacted by its decisions, can also provide confirmation of the existence of private laws. This is done through an attempt to enforce, co-opt and otherwise utilize private laws in national or international legal systems via international judicialisation and regulatory hybridization.

To establish the existence of a private legal system is not an easy task. The fluid and flexible nature of an interorganizational network provides the platform upon which the system is based, and is the source of its ability to create legal solutions that have to date been left unaddressed by national legal systems. The flexibility is a double edged sword. It makes it equally hard to confirm the existence of such networks, the identity of the central nodes, and that such networks juridify, self-constitutionalize, regulate and judicialise private arrangements. It is a task worth undertaking however, as national systems and international frameworks continue to struggle to establish a legal system that govern the international use and exploitation of most resources, from fisheries to forests to mining. A private legal system exists wherever the binary of legal/illegal is enacted, and that binary is adopted throughout an interorganizational network.[199] Recognition of those laws is provided by regulatory hybridization and international judicialisation. Although the latter are not required for a legal system to exist, they are required if the system is to be effective in achieving its goal of adherence with the laws set out therein.

Given the immense capital investment in the mining sector and the geographic stability of the resource base, the mining sector offers an opportunity to explore the formation of a private legal system and its ability to respond to the challenges of managing the resource base in a sustainable manner. With future research the formation and functioning of a private legal system can be further detailed, which in turn allows for an understanding on how the system can be shaped to achieve regulatory goals within the

[199] *Teubner 2009.*

industry. Such a model also permits study into whether similar private legal systems exist to govern other international resource bases, and how they can be modified to regulate global resource bases. With the lens of reflexive law and the methodology outlined in Chapter 3 this thesis will set out the methodology by which to evaluate evidence of the first three observable trends of a private legal system within the global mining sector to determine if new laws are emerging. Whether new legal obligations to integrate the higher order goal of sustainable development have or are emerging is analyzed in Chapter 4 before turning to a discussion in Chapter 5 of the impact a private legal system could have on the sustainability of mining as well as future efforts that would assist in achieving that goal.

Chapter 3: Datasets and methods of analysis

Analysis of the role private transnational laws have in governing sustainable mining is shaped by the theoretical lens used, the structure of the industry, and the definition of sustainable mining used. In addition to those factors, the methodological choices, the datasets and documentation evaluated, the methods of analysis, and the coding scheme used therein. This chapter will detail those factors and set out the assumptions made in this thesis. The methodologies detailed below allow for a study of a large representative portion of the mining industry with the goal of determining if there is any evidence of emergent private laws, and if so the content of those new obligations and how they govern the mining sector so as to integrate sustainable development into mining operations. In particular, the methods highlight any evidence of private laws. Combining that analysis with reflexive law allows for a discussion of the questions posed at the start of this thesis: In a pluralistic legal system, what is the role of private parties in governing the sector and encouraging the vision of a sustainable mining industry? Can a transnational private legal system based on the private guidelines, practices and standards established by corporations, associations and non-governmental organizations regulate the mining industry? If so, how does such a system operate and what do its laws and interactions mean for the integration of sustainability into mining practices? If there is no private legal system, or if it is still a weak and developing system, what is required to strengthen it? What new methods for governance of the industry could a private legal system offer that differs from those that are offered by national systems?

Using a reflexive law lens, this thesis utilizes a critical realism approach to its methodology. The approach recognizes that there is a "natural order in social events and discourse, but claims that this order cannot be detected by merely observing a pattern of events."[200] This matches reflexive legal theory by moving beyond the correlative methods of positivism, and instead using methodological tools that attempt to explain and describe the world, while recognizing that the interpretation will change as understanding grows. Two research questions are posed in this thesis: does evidence of a private legal

[200] N. Walliman, *Social Research Methods* (First Edition edn Sage Publications, London, UK 2006) (hereinafter *Walliman 2006*) at 20.

system regarding sustainable mining exist; and if so do they provide a method for addressing sustainability concerns. The evidence of private laws is explored and described through a qualitative content analysis in Chapter 4. Chapter 5 will then tackle the second question herein – what does the existence of private laws, or the lack thereof, mean for the sustainable development of mining?

When a reflexive legal system faces a problem it is asked to resolve, the legal system must determine if the act is legal or illegal. It does so through reference to laws created by the same system that juridified the laws, the constitutional framework and the adjudicative process. In determining if the act is illegal, it is sending a feedback message to the rest of the system that how the system legislates, governs and adjudicates must be modified to avoid similar future illegal acts or to clarify why the act is legal. The continual modification, through an interference or change at any point within the system, prevents the use of causational research methods into the existence or nature of the legal system. No factor can be said to be causational since the relationships are non-linear. The very act of identifying a factor as causational leads the system to change in a manner that reflects such labelling.

Each sub-system within a broader private legal system, from the regulators, to the court rooms, to the corporations and states, operates within its own self-referential system. Research into a private system of law that operates in the same space as these systems requires multiple simultaneous inquiries.[201] Ultimately, the theoretical problem of determining the presence and/or extent of the private legal system of sustainable development in the mining sector, and how it couples with the systems of each corporation, state and project, can only be determined through observation of coupled systems.[202] In the case of the mining industry, this would include the national legal systems where projects occur and the potential sources of private laws, if a private legal system exists. Documenting this system involves the collection of policies, procedures, position statements, codes, standards and technical guides of mining corporations, organizations and associations. These may present evidence of private juridification and

[201] *Paterson and Teubner 1998* at 458.
[202] *Paterson and Teubner 1998* at 460.

civic constitutionalisation. In turn, the evidence of regulatory hybridization can be pulled from the interactions between national laws and privately juridified laws and civic constitutions. Similarly, to the extent such obligations are adjudicated in other legal systems, evidence will appear in records of a variety of judicial mechanisms, including court cases, arbitration awards, privately agreed to solutions and opinions from administrative bodies.

Although the comparison of several case studies, through in-depth interviews and analysis of how binary legal questions are resolved would provide insight into the workings of the reflexive legal system, such methods are beyond the scope and budget of this project. Instead, this project uses qualitative content analysis to examine the evidence of the several of the observable trends of a private legal system governing the sustainability of mining, which will occur in three phases. First, a sector or industry that is the subject of study needs to be identified. This is done through the presentation of an interorganizational network that facilitates information sharing and the creation of individual corporate policies and documentation. The interorganizational network is not fully analyzed as the required data for a proper analysis of linkages was not collected. However, a binary that is used to determine whether a company or organization should be considered as a member of the network is proposed and applied to the sampled companies, the ICMM, and other organizations that are either referenced by a sampled country, or which is a member of the ICMM. Whether the entity is a member of the network is determined by testing the binary through qualitative content analysis of the collected texts. The ICMM is used as a starting central node and its direct and indirect relationships with the sampled companies are explored. That organization's role as a central node and how it impacts the emergence of a transnational private legal system is analysed in further detail in Chapter 4.

Once an interorganizational network is described, a sampling of mining companies' public documentation, corporate policies and contracts is coded and analysed to determine whether private juridification and civic constitutionalism are occurring, and if so the content of those private laws. The balance of this chapter will set out the assumptions and methodological choices made, as well as, a description of the datasets, how they compare to the industry, and how and why the sample size varies for some

analyses. The chapter will then explore the impact of using content analysis, explain and defend the coding scheme used herein, and describe the way in which the trends are analysed with qualitative content analysis.

3.1. Assumptions and Methodological choices

There are over 4,800 mining companies operating globally and an estimated 2,500 to 4,000 mines that are currently active.[203] With mining occurring in most countries, and covering a variety of operational challenges including geography, metal/mineral type and extraction methods, the mines, companies and countries that are included in the mining set need to be representative. Based on the industry consolidation described in Chapter 1, the sample of mining companies was limited to the largest 140 companies, plus four other companies as explained below. This provides a sampling of 70% of the industry based on production value, while ensuring a diverse geographic and industry mix. The breadth ensures that regional or sub-industry specific issues do not distort the analysis. The focus on the larger mining companies in the industry is also justified by the fact that they are the most likely to be influenced or influencing a private legal system as opposed to small mining companies that often have little or no mining history, nor exposure to the challenges of developing or operating a mine and maintaining it after closure. Although 18 of the 22 corporate members of the ICMM fall within the largest 140 companies, four do not. Those four were added on the assumption that ICMM members were most likely to meet the criteria required to be a part of the international network being studied (see methodological tools below for more details on the network binary).

The sample size used also balances the need for a sufficient sample size with the time and funding constraints of this project. Surveying 144 companies provided a confidence interval of 8.87% and a confidence level of 99% that the results reflected the practices of the more than 450 major and intermediate mining companies. One important limit of the analysis that results from the choice of datasets is a bias away from junior firms. As the first point of contact for many communities potentially impacted by mining, a closer look

[203] The low ratio of operating mines to mining companies results from the fact that over 3000 of the world's mining companies are junior companies in the exploration and early development stage of projects.

at their junior mining company sustainability policies and practices would be valuable research to undertake in future studies. Juniors are focused on exploration and not development.[204] Their impact on the sustainability of the mining industry results from their implementation of the principles of human rights, governance and life cycle planning. The trust building and legacy issues their acts create for the local communities, national governments and the mining corporation who eventually develops the mine are not to be overlooked.

3.2. Data Compilation and Groupings

The data used to explore the extent to which a private legal system exists and whether it can foster sustainability consists of information linked to 144 mining companies, 1,005 operating mines and 39 non-governmental organizations and associations.[205] Each of these organizations, companies and mines is a node for the categorization of further data. The mining companies are divided into two groups, the 22 ICMM member mining companies (the "ICMM Group"); and a group consisting of all 144 mining companies - the largest 140 plus the 4 smallest members of the ICMM Group that were not otherwise captured (the "Industry Group"). The separation of the two sampled companies into two groups allows for comparison between the industry as a whole, as represented by the Industry Group, and a subgroup of companies with a strongly stated interest in sustainable mining, the ICMM Group, to determine if the ICMM, as a central node, has an influence on the emergence of private laws.

The cut-off point of 140 companies was chosen for the Industry Group sample size as the largest 140 mining companies represent a key concentration point in the industry. Industry consolidation rises quickly. The 144 sample companies are responsible for 70% of the value of global mining production. The fact that the ICMM contains nine of the ten

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[204] *MEG 2011* at 2.

[205] The Raw Materials Data (RMD) database compiled by the Raw Materials Group in Sweden was used to compile a list of the 140 largest mining companies based upon production value as of December 31, 2010 (the last year the dataset was compiled). The list of mines owned by those companies was based on ownership data as of mid-2012. The database is updated on a monthly basis, but not all mine ownership is accurately captured as the industry is in constant flux.

largest mining companies, and 9 more members who are from the largest 140 companies results in the ICMM Group being responsible for 31% of the industry production value. To have increased the Industry Group size to 240 or 480 companies would have expanded the coverage to 75% or 78% of the production value of the industry. Given the significant increase in time and resources required by the doubling or quadrupling the sample size and the limited gain in the proportion of coverage, the largest 140 companies are used. When looking at the broader influence these two sample groups have on production it was observed that the ICMM Group influenced 23% more of the production value (38% of the industry value) when its influence on mines that were jointly owned was taken into account. The influence of the Industry Group when including the full value of co-owned mines was only nominally increased. Most of the ICMM mines co-owned by members of ICMM Group and the Industry Group were already counted in the total as the other owners were Industry Group members. The remaining global production value (29%) comes from 1,500 to 3,000 mines that are solely owned by intermediary mining companies, and thus not connected through co-ownership to Industry Group members.[206] Use of these two groups provides an opportunity to explore the influence of the ICMM or its members in the development of an emerging legal system, as well as providing a larger sample set that accounts for most of the global industrial mining sector.

All of the active mines owned in whole or in part by the sampled companies were added to the dataset to fully map the operational integration between these companies. The organizations that were reviewed include the ICMM, its member organizations, the International Monetary Fund, the International Standards Organization, and the UN Global Compact.[207] These last three organizations were added as they meet the binary criteria established below for the interorganizational network and are all specifically mentioned by other companies in the herein proposed interorganizational network as a source of guidance on sustainability.

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[206] This number was based ownership data from the RMD database as accessed on November 12, 2012.

[207] Note all organizations were mapped or mapped fully. Instead, organizations other than the ICMM were partially mapped to explore some of the other network connections.

For each company and organization several sources of data was collected for the purposes of the research undertaken in this thesis. The first data source consists of documents including sustainability policies, sustainability reports, policy documents and corporate and mining association literature relating to sustainable development (herein referred to as the "Policy Dataset"). In addition, corporate governance, corporate social responsibility, environmental, health and safety, and other corporate policies were collected and added to the Policy Dataset. Finally, guidelines, standards and sustainability program requirements established by member organizations of the ICMM, the ISO and the IFO were added to the Policy Dataset. They were compiled from websites and annual reports of companies, and then merged into a single file for each company or organization. The data was collected during 2012, and early 2013. As a result the most recent corporate policies used are from either 2011 or 2012. Reports prior to the most recent report available were not referenced, although in some cases reports existed for spans of up to ten years.

Although all 144 companies were surveyed, policy data was collected from only 131. Sampling of the other 13 resulted in no data collected for the following reasons. Nine of the largest mining companies are wholly owned and operated by nation states.[208] One is a privately held company without any evidence of corporate documentation online – regarding sustainability or otherwise. The last three were companies that no longer exist, having been purchased by other members of the sampled companies. The nine States were not surveyed as any sustainability policy would correspond to laws on sustainability or government policies for incorporating sustainability into government agencies and policies. Those governance documents would fall within the scope of a study on national legal system responses, which is outside the scope of this thesis. The one privately held company may or may not have a policy, but the author was unable to find any publicly disclosed information on the governance or corporate policies of that company and it was therefore not included. As a result, the final group of studied companies consisted of 131 companies. Although referred to as a single company, each of the 131 companies are in

[208] The nine nation states who are included in the largest 140 mining companies include: Iran, Venezuela, Botswana, Morocco, Turkey, Cuba, Jordan, Congo (Dem Rep) and India.

fact a larger corporate group of affiliated and subsidiary companies. The distribution of the 144 companies is displayed in Figure 3 and summarized in Table 3.

	Number of Companies in Sample	Relevance to datasets and analysis
Largest 140 companies, plus four smaller companies which are major mining companies and members of the ICMM	144	Represents 70% of the industry by production value. Initial sample size to create Policy Dataset and Contract Dataset
Rejected for lack of data (nationally owned companies, privately held without data, or acquired by another company in the dataset	13	Reduces the above sample size of 144 to 131 companies with data in the Policy Dataset
Total number of companies in the dataset (Industry Group)	131	Policy Dataset and Contract Dataset analyzed to determine the interorganizational network and space that may be privately juridified
- Companies in the ICMM Group	22	Used at comparative groups to demonstrate impact of linkages to ICMM on five trends
- Companies that are not members of the ICMM	109	
Total number of companies and organizations in the interorganizational network (see Chapter 4 for analysis)	97 and 23 respectively[209]	Analyzed for evidence of private juridification (procedural and substantive laws) and civic constitutionalism (laws about laws)

Table 3: Distribution of Sampled Companies

[209] All ICMM member organizations were reviewed for data on sustainability programs or guidelines. Several member organizations were not included in the interorganizational network as no membership list was available, or none of the 131 sampled companies were members. Those organizations do not appear in Figure 4. Of the remaining 28 organizations (including the ICMM), data was available online and collected from 20 organizations. Data from the International Finance Corporation, the Global Reporting Initiative and the International Standards Organization was also analyzed as these three organizations were specifically referenced by members of the interorganizational network as providing guidance regarding sustainability initiatives.

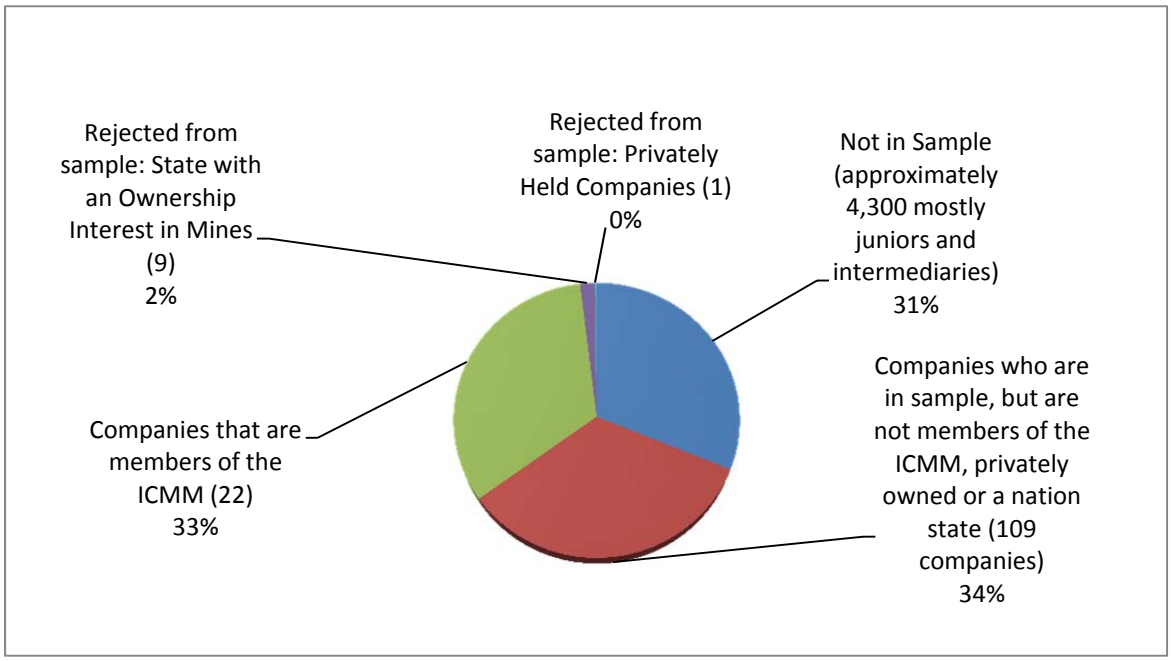

Figure 3: Portion of the industry sampled and breakdown of categories (based on production value)

The second dataset consists of contracting documentation from the 131 companies that had data in the Policy Dataset. This documentation was collected through templates available on company websites and direct requests for company contract templates (herein referred to as the "Contract Dataset").[210] In total 10 companies provided data. Although a small sample size, the details do provide useful insight as discussed in Chapter 4. The Contract Dataset remained unfortunately small, partly due to the small population of companies. Some companies chose not to disclose for reasons of confidentiality or citing a lack of a business purpose for such disclosure. Others noted that they had no template contracts to provide, and instead use templates provided by various industry associations. To ensure the confidentiality of the companies who provided data for the Contract Dataset specific references are not made. Only consolidated observations from the dataset are provided.

[210] The Contract Dataset contains information from ten mining companies, all of whom are major mining companies as defined in Chapter 1. These documents were provided on the condition that no specific reference to the contract language be provided and that the parties not be named.

3.3. Tools for analysis of a private legal system of sustainable mining

The qualitative content analysis methodological tool used in this thesis is an ethnographic content analysis. This approach "is used to document and understand the communication of meaning, as well as to verify theoretical relationships."[211] It "does not avoid quantification but encourages content analysis accounts to emerge from readings of texts."[212] By beginning with a research question, content analysis remains "empirically grounded", but it has an "open-endedness" that enables a determination of the purpose of text rather than a literal textual reading of the author.[213] This framework allows the researcher to observe the phenomena that they are interested in but cannot access, perhaps because of "intentional information barriers" or an otherwise inaccessible source of data.[214] Empirical content analysis is used in this thesis to allow the researcher to move beyond the text presented by the legal actors who are describing in text the private law (if any) that regulates their behaviour. The method allows for a discussion and review of the content of that law with respect to the private legal systems ability to assist in governing the mining sector for sustainability.

The analytical review attempts to minimize the differences between the autonomous systems of each mining company or project in an attempt to describe the reflexive legal system that encompasses all such actors. A main goal of this form of qualitative research is to collect data so as to better understand the subject area researched, as opposed to answering a specific thesis question.[215] Here, the particular data that is being sought relates to the trends of a private legal system so as to ascertain whether a new

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[211] David L. Altheide. 'Reflections: Ethnographic content analysis.' (1987) 10(1) Qualitative sociology 65 (hereinafter *Altheide 1987*) at 68.
[212] Klaus Krippendorff, *Content Analysis: An Introduction to Its Methodology* (3rd edn Sage Publications, Inc., Thousand Oaks, California 2013) 456 (hereinafter *Krippendorff 2013*) at 23.
[213] *Krippendorff 2013* at 37.
[214] *Krippendorff 2013* at 38.
[215] A. Bryman and J. Teevan, *Social Research Methods (Canadian Edition)* (Oxford University Press, Don Mills 2005) (hereinafter *Bryman and Teevan 2005*) at 147.

transnational legal system is emerging, and if so, the content of those laws. This provides a better understanding of an understudied legal system, and how the goal of integrating sustainability into mining can be achieved through the use of full range of legal and policy tools, from a variety of legal systems.

One of the main benefits of conducting content analysis is the ability to apply the method to a variety of mediums. This can include websites, visual images, mass media printed texts, music, transcripts or any other form of conveying information.[216] Content analysis does lend itself readily to the variance in form and language that appear between websites, corporate annual reports, legal documents, legislation and judicial decisions.

The qualitative approach has been criticised as being subjective, a criticism that can be resolved by designing a coding scheme utilizes coding choices influenced or designed by other sources aside from the researchers own criteria.[217] In this thesis, this is managed through the use of a coding scheme based upon principles drawn from the literature on sustainable mining. Most of that literature comes from the ICMM, but also includes several other sources.[218]

3.3.a. **Coding for analysis**

Qualitative content analysis requires interpretation of text. The use of a coding schedule is used to ensure consistent results across the numerous documents that are reviewed.[219] The coding scheme was designed to work for the analysis of all texts collected to ensure that a clear unit of analysis is defined and to provide mutually exclusive categories.[220] In addition, the coding scheme highlights the discourse on the six principles of sustainable mining that were established in Chapter 1: life cycle planning;

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[216] *Bryman and Teevan 2005* at 333.
[217] C. Bazerman, P. Prior and P. A. Prior, *What Writing Does and How It Does It: An Introduction to Analyzing Texts and Textual Practices.* (Lawrence Erlbaum Associates, Inc., Mahwah, New Jersey 2008) at 26-27 discusses both the critique of qualitative content analysis as well as the management of subjectivity through the use of a coding scheme.
[218] See section 1.2.c above for a discussion on the sources used to define sustainable mining for the purpose of this thesis.
[219] *Bryman and Teevan 2005* at 337.
[220] *Bryman and Teevan 2005* at 337.

community development; governance; environmental management; human rights; and health and safety. This allows for analysis of the exact actions being proposed and undertaken by the mining industry to incorporate the higher-order goal of sustainability into mining projects. After analysis of the evidence in Chapter 4, discussion on how mining companies can improve their sustainability programs, and continue the juridification of a private legal system is provided in Chapter 5.

No two mining companies or mining projects are alike. As a result the implementation of those principles in the effort to integrate sustainability is diverse. By using those categories, and coding documentation accordingly, evidence of a robust and justified set of principles regarding sustainable development can be collected from policies and contracts and analysed. In this thesis, that analysis is to determine whether the principles are being juridified, constitutionalized and used to co-regulate mining activities through the development of a private legal system.

When coding, the main decision is what fragments of a text are to be included in the analysis.[221] Coding can be based on words, subjects and themes or even the dispositions of the author of the discourse.[222] Each has a specific purpose. Words are used to demonstrate emphasis through word frequencies or to examine pairings of words. Thus, a coding scheme could simply look for the frequency in which sustainability, or the six principles of sustainable mining listed in Chapter 1 occur within corporate documentation. Alternatively, it could focus on pairings – how consultation and community appear together. Pairings are best suited for demonstrating what items are being reported together. This method is therefore useful where the goal is collecting data about how information is presented to facilitate the design of research questions regarding re-occurring ideas. These ideas can then be captured as topics, themes and subjects for additional qualitative content analysis. Prior to a more in-depth analysis based on coded subjects and themes, coding of words and pairings is used in this project to understand the data, the reoccurring themes, and how the industry differentiates between practice, obligations and guidelines.

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[221] *Bryman and Teevan 2005* at 333.
[222] *Bryman and Teevan 2005* at 333.

Two more interpretive approaches involve coding for subjects and themes, or for dispositions of the authors of the texts. This thesis is not aimed at attempting to establish the disposition of the industry towards sustainability. Instead it focuses on determining themes and exploring how they are used. Based on the literature review, it has already been assumed that there is a need to integrate sustainability into mining, and the viewpoints of a number of stakeholders were provided in Chapter 1 to support that assumption. The coding scheme focuses on coding for subjects and themes. This type of coding allows the analyst to search "not just for the obvious or *manifest* content but also for some of the underlying or *latent* content as well."[223] However, this form of coding lends itself to asking questions about what is happening, although in doing so the content analysis becomes qualitative in nature.[224] By coding for subjects and themes the analysis in Chapter 4 can focus on what principles are discoursed in the sample text and whether they are legal obligations, rules or merely examples of current practices.

Broader coding descriptions rather than highly specific phrases or word combinations are preferred where data is limited. Although 70% of the production value of the industry is represented, only 3% of the 4,500 companies in the industry were sampled. Broad themes were thus used to minimize the potential risk of creating a coding scheme that was overly specific if the criteria for selecting companies and countries results in a limited database. A broad scheme ensures the categories of analysis are not split into a multitude of categories, each with few instances of occurrence. If too many categories are used, the analysis would fail to find evidence of laws that were expressed throughout the private legal system, a criteria of distinguishing between rules and laws in a private system.[225] Instead the exercise would become similar to using words and pairings, i.e. one of exploring and describing the data rather than qualitatively analyzing the content.

Using the method of developing a coding schedule and manual set out by Bryman and Teevan in *Social Research Methods,* a coding schedule was designed to capture the

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[223] *Bryman and Teevan 2005* at 334. (emphasis in original)
[224] *Bryman and Teevan 2005*.
[225] *Teubner 2009.*

principles of sustainability in mining set out in the definition in Chapter 1.[226] The specific codes used were based on qualitative coding, "the process of defining what the data are about."[227] These qualitative codes take apart the data, name it in concise terms, and propose an "analytic handle to develop abstract ideas for interpreting" the data.[228] In particular, each of the six principles of sustainability were coded as themes within the material, as they are ways in which the industry has defined sustainability. To provide an analysis of that content however, coding was also required to understand how the themes were being addressed. This was done through an ethnographic content analysis approach to coding. It followed Altheide's approach of reflexive and recursive movement through sampling, collection and analysis as described in Bryman and Teevan.[229]

The final coding scheme that was used, includes two sets of coding. First the texts are coded with broad themes for each of the six principles of sustainability: Life Cycle Planning; Community Development; Governance; Environmental Management; Human Rights; and Health and Safety. They are then coded based on a paired coding of (a) obligatory language and (b) whether that obligation is substantive, procedural or constitutional. The results are qualitatively analyzed to determine if private laws or civic constitutional laws regarding the six principles of sustainable mining are identified.

Over 10,000 pages of text were reviewed, and the principles of sustainability were coded based on the methods and assumptions described below. Text was coded as obligatory if it used the obligatory words "shall", "will", "must" and "require" or similar obligatory wording. Focusing on these terms scoped the analysis to obligations rather than on practices, as the latter may reflect proactive choices rather than obligations. Obligatory language is used sparingly in the analyzed texts. Where is it used, there is a clear emphasis within the text that confirms those words are used to express the existence of a binding obligation as opposed to a best practice or suggested path for integrating sustainability. These passages were coded, collected together and qualitatively analyzed

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[226] *Bryman and Teevan 2005.*
[227] K. Charmaz, *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis* (Sage Publications, London 2006) (hereinafter *Charmaz 2006*) at 42.
[228] *Charmaz 2006* at 43.
[229] *Bryman and Teevan 2005* at 338; *Altheide 1987.*

to determine the extent of private juridification and civic constitutionalism in the mining sector.

In addition, although documentation from international organizations and international standards were reviewed, they were mostly constitutional not procedural nor substantive. They represent legal standards that guide the content of the procedural and substantive laws juridified within the network. They are referenced in corporate documentation, and their content can be seen to influence the private juridification occurring in the mining sector. That is, they set the parameters for how privately juridified laws should be cast. Occasionally these are referenced for specific processes and their influence on private juridification is noted throughout this section.

Together, these two coding schemes were the analytical handles used by the author to capture whether the principle was being referenced as a nationally legislated requirement, an obligation stemming from outside a national legal system, or merely best practices that should be observed but are not obligatory. This coding allows for an analysis of what principles are being integrated into the interorganizational network, and whether they are being juridified or constitutionalised.

Before moving on to a description of the qualitative content analysis method, each of the six principles of sustainable mining is detailed below. This additional detail is provided to allow the reader an understanding of the content that was coded in the collected data as well as its tie to sustainable mining. It must also be noted that even if a section of text was coded for a principle of the definition of sustainable mining does not mean that the principle was being juridified or formed part of a civic constitution. That distinction depended on whether or not obligatory language was being engaged as discussed in 3.3.b below, and whether the principle was repeated as an obligation throughout the interorganizational network identified in chapter 4.

Coding for principle 1: Life cycle planning

To achieve sustainability in the mining sector, all stages of mining activity must be addressed. In mining, this means policies are needed to foster sustainable development during exploration, development, extraction of minerals, and closure and reclamation of

the mining site.[230] Many mining companies, especially major mining companies that are integrated in the refining and production of downstream materials also stress the importance of material management in the form of reduction of inputs in the smelting and refining processes, increased efficiencies in the use of refined materials, and the ultimate recycling or proper disposal of products.[231] By coding for life cycle planning, the content analysis can determine where and how efforts to integrate sustainability before and after active mining occur. This is important as a requirement for planning for sustainability at the exploration phase as it sends a message to junior mining firms who dominate that portion of the cycle as to expectations for future projects that may be purchased by intermediary and major mining firms. In addition, proactive planning for the impacts of closure on the community also demonstrates the adaption of principles of intergenerational equity, a key concept to sustainable development.[232]

Coding for the first principle was done by searching for variations of 'life-cycle' and then reviewing the surrounding text to determine whether the reference was to life-cycle planning. For example, the following were coded as recognizing the need for life cycle planning:

> **Strategy in practice: Incorporating sustainability principles through the project life cycle**
>
> AngloGold Ashanti considers a range of sustainability principles at each stage of the project life cycle, from exploration to project development, through the operating life and ending in closure.[233]

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[230] *Bastida 2004b* at 583.

[231] Agrium Inc. 'Agrium: Environmental Stewardship – Land' <http://www.agrium.com/sustainability/environmental_stewardship_land.jsp>, 2012, accessed October 20, 2012 at paragraph 12; Antofagasta plc. 'Antofagasta plc Sustainability Report 2011' <http://www.antofagasta.co.uk/pdf/social/2011/Sustainability_Report_2011.pdf> accessed December 17, 2012 (hereinafter *Antofagasta 2012*) at 19; New Gold Inc. 'Health, Safety, Environment and Corporate Social Responsibility Policy' <http://www.newgold.com/files/HSECSRPolicy20121101.pdf>, 2009, accessed January 9, 2013 (hereinafter *New Gold 2009*).

[232] *Atapattu 2005* at 126.

[233] Anglo American plc. 'Our Approach' <http://www.angloamerican.com/development/approach-and-policies/our-approach> accessed on December 15, 2012. at 1. These strategies are detailed in AngloAshanti Gold. 'Sustainability Report 2011: Sustainable

and

> Sustainable development (SD) risks are identified, analysed, evaluated and treated in a timely and integrated manner during acquisitions, divestitures and throughout all phases of the project life cycle, i.e. exploration, pre-feasibility, conceptual design, detailed design, procurement, construction, commissioning, operation, decommissioning, closure, rehabilitation, post-closure care and maintenance and disposal.[234]

In contrast, mention of life cycle planning that does not incorporate all of the lifecycle from exploration through to closure, was not coded as life cycle planning.

Coding for principle 2: Community development

One of the tenets of sustainability is that the cost of adaptation may need to be disproportionately borne by those who are better off economically at that beginning of the transition to a more sustainable pathway. Referred to as the concept of differentiated responsibility, those whose primary needs are already met are required to carry a larger portion of any economic burden that results from undertaking sustainable development.[235] The concept acknowledges that developing and developed countries have different requirements and objectives from the mining sector. Ultimately, the discussions of differentiated responsibilities stemming from mining manifests in the interaction between mine developers, host communities and host nations. The manner in which differentiated responsibility is meted out is determined through the interaction of the company, the regional and national governments, indigenous populations and local communities. In the mining industry this is managed in part through the tariffs and taxes charged by the owners of the mineral rights. Sustainable development however requires a commitment to all stakeholders. Social and economic redistribution efforts of mining companies are often focused on local communities. As the main focus of additional

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Gold' <http://www.aga-reports.com/11/download/AGA-sustainability-report-2011.pdf> accessed December 15, 2012 (hereinafter *AngloAshanti Gold 2012*).

[234] Xstrata plc. 'Xstrata plc Sustainable Development Standards 2008' <http://www.xstrata.com/content/assets/pdf/x_sus_sdstandards2008.en.pdf> accessed December 15, 2012 (hereinafter *Xstrata 2009*) at 20.

[235] The principle of differentiated responsibility stems from a general principle of equity in international law, and an "evolved notion" of the "common heritage of mankind." *CISDL (supra* footnote 82) at 1.

support in the mining industry, the coding theme of community development was used to capture the industry's efforts towards integrating differentiated responsibility into the sector.

Coding for the principle of community development was done by text searches and phrase searches for variations of 'community', 'community development', 'economic contribution', 'economic redistribution' and 'responsibility' near to 'community'. The surrounding text was reviewed to determine whether the text was referring to community development or contributions to the community by the mining company. For example, the following were coded as community development related to mining projects:

> Work with local communities to achieve their development aspirations through capacity building and by ensuring our presence maximizes local employment and procurement opportunities.[236]

and

> New Gold's objectives are to … demonstrate its commitment to fostering sustainable communities[237]

Of course, the specifics of how that community development require additional detail, and some texts were better at enumerating those procedures than others. In addition, for all principles, many third party standards or policies documents were referenced for additional processes for obtaining sustainable development.

In contrast to the above coding, texts that mention community development through examples of how the community and the mine interacted without specifying a more overarching goal of development was not coded as community development, even where there was a clear benefit to the community.

Coding for Principle 3: Governance

The theme of governance is an important one for sustainability in mining. A private legal system governing sustainability is ineffective without adequate and meaningful procedures. Indeed, weak governance coupled with monetization of resources often leads

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[236] Inmet Mining. 'Corporate Responsibility Policy' <http://www.inmetmining.com/files/pdf/2012/Corporate%20Responsibility%20Policy%2012.07.31_v001_n0v6fk.pdf>, 2012, accessed October 10, 2012 (hereinafter *Inmet 2012a*) at point 7.
[237] *New Gold 2009* at 4th bullet.

to unsustainable development.[238] This is true whether the weak governance is within the national or private system. One of the key research goals of this thesis is to determine how a private legal system can help integrate sustainability into mining. To that end, corporate governance must be present to ensure sustainable development. Although a broader industry wide system for ensuring governance, transparency and adjudication would be beneficial, the principle of governance in this project is used to determine whether a company has strong or weak corporate governance. Without strong internal corporate governance, any other privately juridified system of laws becomes meaningless given the lack of a transnational dispute resolution system for the mining industry. The mining industry needs procedure to assess and weigh the economic, social and environmental issues, and the interests of all stakeholders.[239] This may come in a variety of forms including independently developed corporate procedures and industry wide processes or venues that are accessible to both project proponents and stakeholders.

From a coding perspective, this principle was tracked by coding references to processes for consultation, participation, corporate governance, accountability and transparency of programs, and mechanisms for consolidating and integrating stakeholder feedback. In particular, the texts were searched for words and phrases in the above sentence as well as 'social impact assessment' and 'environmental impact assessment'. Finally, sections of text highlighting a need for or the importance of governance that were reviewed by author. The surrounding text was reviewed to determine whether the text was referring to community development or contributions to the community by the mining company. For example, the following was coded as text that related to the importance of governance in mining projects:

> We conduct business in many countries. Many laws, local customs and social standards differ greatly from one place to the next. Our policy is to abide by the laws of the countries in which we operate, as well as to conduct business according to our Principles and our values. If local customs or practices differ from the standards contained in the PBC, we must follow the Principles. If there is a serious conflict in local

[238] *Wälde 2004a* at 131-133.
[239] *Atapattu 2005* at 135.

> expectations, consult with the designated Compliance officers to determine the proper way to conduct business in that location.[240]

Similarly, the *Corporate Guidelines* of EBX Group, were coded as a corporate governance text as it outlines 14 steps taken to integrate sustainability into its operations.[241]

Coding for Principle 4: Environmental management

In addition to an appropriate temporal scope, good governance and sensitivity to the differentiated responsibilities of stakeholders in a project, it is important to remember sustainability is fundamentally about envisioning development in a manner that balances multiple values. Rather than attempting to trade-off environmental, economic and social values, sustainable development processes focus on integrating all values in a holistic manner. Coding for environmental management was accomplished by noting all environmental performance measurement standards and requirements. These were found both through word and phrase searches, but also from a full manual review of all texts. Examples of the principle as coded in texts include:

> Work[ing] in an organized and disciplined manner, adopting rigorous practices of planning, implementing, monitoring and acting to correct possible imperfections and seeking the responsible and efficient use of natural resources. Through our stewardship commitment, facilitate and encourage responsible use, re-use, recycling and disposal of our products and by-products, including, when possib1e, the encouragement of responsible design.[242]

and

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[240] Freeport-McMoran Copper & Gold. 'Principles of Business Conduct' <http://www.fcx.com/ir/corp%20gov/Principles_Business_Conduct-english.pdf>, 2012, accessed December 15, 2012 (hereinafter *Freeport-McMoran 2012*) at 2.

[241] EBX Ltd. 'Sustainability Policy' <http://www.ebx.com.br/en-us/gestao-sustentavel/Pages/Politica-de-Sustentabilidade.aspx> accessed May 20, 2013 (hereinafter *EBX 2013*).

[242] Vale Limited. 'Vale Sustainable Development Policy: Revision 00-29/01/2009' <http://www.vale.com/EN/aboutvale/sustainability/links/LinksDownloadsDocuments/Politica_de_Desenvolvimento_Sustentavel_en.pdf>, 2009, accessed December 15, 2012 (hereinafter *Vale 2009*) at 2.

> Integrating the need for biodiversity conservation into operational decision making processes and taking all necessary measures to minimize impacts, is a commitment across the company.[243]

Alternatively, some companies have established short and long-term goals aimed at a reducing the impact of the corporate groups collective impact on biodiversity, water resources and other environmental resources.[244]

Many of the methods for managing the environmental impacts of mining are mandated through national legislation, so the coding scheme used to determine if a matter was privately juridified was important to determine where principles were the result of a private legal system.

Coding for Principle 5: Human rights

The social element of sustainability is expressed in sustainable mining through the principles of community development and health and safety. However, some projects will be located in areas where the impact of mining operations, through the environmental, economic and social change the project can bring to region, may lead to human rights abuses. It is therefore crucial to fully integrate local and indigenous views and to respect human rights.

When analysing the sampled data, references in the text that provide details beyond a mere commitment to recognizing and protecting human rights are coded. In particular, the texts were queried for reference to 'human rights' as well as various international treaties and non-governmental guidelines on the preservation of human rights. As a result, text referencing a commitment to "increase the mapping and monitoring of the supply chain for human rights-related issues (including forced labor or labor equivalent to

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[243] Vedanta Resources plc. 'Biodiversity Policy' <http://sustainability.vedantaresources.com/resources/18/BiodiversityPolicy.pdf>, 2011, accessed May 20, 2013 (hereinafter *Vedanta 2011a*) at first paragraph.

[244] See for example Teck's short and medium term goals as set out at http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability&portalName=tc.

slavery)" was coded for this principle.[245] In addition, a recognition of collective bargaining as a fundamental right and a prohibition on child labour (i.e. the use of labour aged under 18 regardless of national laws) were both coded as the principle of the protection of human rights being integrated so as to increase the sustainability of mining operations.[246]

Coding for principle 6: Health and safety

As mentioned above, the preservation and promotion of employee health and safety is the third way that social elements of sustainability are integrated into mining. From a coding perspective, texts were coded where they referenced health and safety obligations or programs. In particular, the term 'health', 'safety', 'health and safety' and a variety of international standards were queried. The resulting texts were then reviewed to determine if they were discussing employee health and safety issues, and were coded as relating to principle 6 if the discussion related to health and safety of employees in mining.

As a result, a corporation's design of corporate social responsibility principles to provide

> productive jobs with competitive remuneration and social benefits; unconditional compliance with the standards of social and labor relations defined by the legislation and collective bargaining agreements; ensuring occupational health and safety standards and high-quality social facilities in the workplace, with protection of employees' health and safety as a top priority

so as to ensure sustainable development of mining operations was coded for principle 6.[247] In contrast, reference to receiving health and safety system certification, although

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[245] Votorantim Group. 'Integrated Annual and Sustainability Report 2011' <http://www.votorantim.com.br/responsabilidade%20Social%20Corporativa_enUS/VID_ING_RAS2011.pdf> accessed December 5, 2012 at 11.
[246] Pan American Silver Corp. 'Sustainability Report 2010' <http://www.panamericansilver.com/wordpress/wp-content/themes/paas/pdf/Sustainability%20Report%202011.pdf> accessed November 12, 2012 at 21.
[247] Norilsk Nickel. 'Social mission and CSR Strategy' <http://nornik.ru/en/development/development_strategy_2011/social_mission/> accessed February 5, 2013 at fourth paragraph.

exemplary of steps being taken, was not coded as texts regarding the integration of health and safety as it did not discuss how the principle was related to mining and sustainability but rather was mention of an event that had occurred.[248] General health issues that result from the environmental impacts of the mine are discussed under principle 4 – environmental management. The area of health and safety is heavily legislated in national legal systems and it was thus important to note and analyze the additional steps being required by private systems as opposed to those textual references to existing national laws.

The corporate codes, contractual documentation, national laws and jurisprudence provide a rich source of data for the methods of analysis. They potentially provide evidence of substantive and procedural laws that are emerging in the private space; the civic constitutionalism that sets limits on those substantive and procedural laws; the regulatory hybridization that is occurring between private legal systems and national legal systems; and international judicialisation where judicial bodies in legal system other than the private legal system are reviewing the existence or content of private laws. The qualitative content analysis in chapter 4 examines that documentation to determine if a private legal system is emerging and how such a system impacts the sustainable development of the mining industry. The research seeks to highlight the core concepts, extent and characteristic of a private legal system of mining, and whether it governs and regulates the industry to encourage sustainable development.

3.3.b. **Content analysis of a private legal system governing sustainability in the mining sector**

Using the above coding scheme, the datasets are analyzed using qualitative content analysis to determine the extent of an interorganizational network, and the content of any emerging private laws governing sustainable mining. A binary coding is suggested to determine whether a mining company is within the interorganizational network that is governed by the hypothesized private legal system. By exploring the texts used, the

[248] Zijin Mining Group. 'Social Responsibility Report 2010' <http://www.zjky.cn/Portals/1/2010%E5%B9%B4%E7%A4%BE%E4%BC%9A%E8%B4%A3%E4%BB%BB%E6%8A%A5%E5%91%8A.pdf> accessed November 8, 2012 at 9.

analysis provides an understanding of legal/illegal binaries being juridified with respect to procedural and substantive obligations of sustainability and the overarching constitutional limits being placed on the mining sector. Together these three stages of analysis will review the evidence of the existence of a private legal system governing sustainable mining.

An interorganizational network

If a private legal system is a factor in governing sustainability of the mining sector, reflexive legal theory states that an interorganizational network should be present as it is one of the five trends of a private legal system. The interorganizational network will have a binary coding to determine the membership of the networks. This binary will be separate from the binary code any corporate groups or other networks within the interorganizational network.[249] For example, the ICMM will accept members based on whether or not they meet the specific membership requirements, and a company is part of a specific corporate group if it has ownership ties to a parent company. There binaries determine membership within networks. What is of interest to the private regulation of sustainable mining is whether these groups independently meet the qualifications of a distinct binary coding for the network of study – an interorganizational network governing sustainable mining overlays that overlays and incorporates other networks in the mining sphere. If so, the interorganizational network may utilize the relationships already established therein.

In this thesis, the binary coding for a private legal system governing mining is whether or not a corporate group, industry association or non-governmental organization self-identifies as being committed to integrating sustainability into its operations. Self-identification may occur if the company is a 'visionary' as identified by Williams in *International and Comparative Mineral Law and Policy: Trends and Prospects*, or they may self-identify because of a perceived need to accept the obligation and adapt appropriate policies.[250] Several companies have noted the need to adopt sustainability

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[249] *Teubner 2002*. In describing interorganizational networks Teubner draws on *Hutter and Teubner 1993*; *Kämper and Schmidt 1999*; *Luhmann 2000*.
[250] *Williams 2004*.

principles to ensure a continued license to operate within the mining sector.[251] This unilateral act was chosen as one of the two criteria for membership in the proposed interorganizational network as it is recognition by the entity of the external pressure on the sector to adopt sustainable practices, as well as the benefits of adopting such processes. The second method for determining membership was the existence of a link in relation to mining activity between a potential member and an existing member of the interorganizational network.

A clear criteria allows for an identification of a potential interorganizational network of groups bound by private laws. However, the methodologies for fully mapping an interorganizational network require a more extensive dataset than was collected for this project. In particular, information on the interactions between nodes (companies and organizations) within the network has not been collected. This project thus only provides a cognitive map of the interorganizational network of companies and organizations. It was produced by displaying the 131 companies in the sampled dataset, and their relationships to each other through associations, organizations and joint ownership of assets. It is not a comprehensive network map, but it provides the reader with an understanding of the space that is being privately juridified. Future research with a complete dataset would allow for a methodologically complete network analysis. Such analysis would assist in determining where institutional support is required, or can be bolstered, to increase the efficiency of the private legal system in transmitting ideas, concepts and reinforcing laws.

Despite not being able to conduct a full network analysis so as to determine the characteristics of the relationships within the network, a grounded content analysis is used to describe the variety of ways that companies are identifying themselves as a part of the private legal system. This analysis is discussed in Chapter 5 to determine if the

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[251] Lonmin. 'Investing in the Environment' <https://www.lonmin.com/sustainable_development/InvestingEnvironment.aspx> accessed December 15, 2012 at 14th bullet; Arrium Mining and Materials. 'Community' <http://www.arrium.com/sustainability/community> accessed January 9, 2013at paragraph 3; BHP Billiton. 'Our Sustainability Framework ' <http://www.bhpbilliton.com/home/aboutus/sustainability/reports/Documents/2010/ourSustainabilityFramework2010.pdf>, 2010, accessed December 15, 2012 (hereinafter *BHP 2010*) at 8.

binary proposed above can be refined. Once the existence of a network has been explored, the analysis moves to the exploration of the private juridification of procedural and substantive laws regarding sustainable mining.

Private juridification and civic constitutionalism

As discussed above, the evaluation of private juridification occurring within the system is done through the use of qualitative content analysis. The qualitative content analysis includes looking for recurring themes within sustainable mining, as well as exploring the context in which those principles are operationalized. The content analysis is conducted through the use of two coding schemes, a broad thematic scheme based on the six principles of sustainable mining; and a paired coding scheme relating to legal obligatory language. The documents in the Policy Dataset and Contract Dataset are used to evaluate if the policies set out in the corporate codes are turned into legal obligations. Agreements between corporations and third parties provide empirical evidence of the substantive rules existing in emergent private legal systems, if any. This thesis uses a qualitative content analysis to analyse how the principles of sustainable mining are incorporated into the corporate codes of corporations and the legal obligations between corporations and other stakeholders. Where privately juridified obligations are noted, only those that are prevalent throughout the system are reported. Finally, where a legal obligation is noted, it is not noted in the analysis if there is a reference to the obligation existing as a result of national legislation. Examples of obligations are provided with the goal of highlighting private laws, or areas that are developing towards private laws. Those specific findings are then discussed in Chapter 5.

Any privately juridified laws are of a substantive or procedural nature. As discussed in Chapter 2, they should be accompanied by a constitutional framework that establishes laws on how the procedural and substantial laws should be applied. Private juridification and civic constitutionalism will manifest in different manners as the former occurs in specialized and highly technical matters, while the latter reflects broader themes that set

out the bounds of an organizations powers, obligations and limits on activity.[252] The same methods of qualitative content analysis used in exploring private juridification is used to analyse civic constitutionalism. The main difference is a focus on laws about laws, and specifically the limits and broad frameworks that are being documented. The Contract Dataset is not used for analysing civic constitutionalism, only the Policy Dataset. However, texts from organizations and associations are analysed with the same coding scheme to illuminate any larger industry structural restraints on mining. The result is a content analysis that will utilize the coding scheme to determine what structural limits are being placed on the industry through self-imposed limitations, especially through corporate codes and unilateral acceptance of principles and guidelines from third parties.

This is a key difference. Procedural and substantive laws specify a process or substantive goal, while constitutional documents speak to the broad applicability of the principle. In the latter, the principle is captured as part of the civic constitution of the company. This can be seen in the example below, which is taken form *Agrium's 2012 Sustainability Report*. In turn it recognizes:

1. an overarching requirement to monitor and regulate impacts on human rights, which was coded as a constitutional obligation

   > As a company operating primarily in developed countries where there are numerous regulations addressing human rights issues and low risk of human rights abuses, we have not seen the need at Agrium to develop a human rights policy, training and monitoring, or to screen suppliers on human rights performance.[253]

2. a process for addressing any issues

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[252] See *Habermas 1986*; *Teubner 2009*, as well as the discussion in Chapter 2 of this thesis.

[253] Agrium Inc. '2010-2011 Sustainability Report' <http://www.agrium.com/includes/2012SustainabilityReport.pdf>, 2012, accessed May 20, 2013 (hereinafter *Agrium SR 2011*) at 13.

> Should a human rights issue arise, our Senior Vice President of Human Resources would address it in accordance with applicable legislative procedures.[254]

3. and a substantive set of goals and benchmarks

> As part of our participation in the United Nations Global Compact, we have made the following human rights commitments. We will not take part in human rights abuse, and will not engage or be complicit in any activity that solicits or encourages human rights abuse. In providing for the protection of company personnel and assets by public or private security forces, we will promote respect for, and protection of, human rights.[255]

Individually these references only show how one company is addressing a single principle of sustainable development within its mining operations. They could be said to be a part of a private legal system governing the corporate group Agrium. However, for the purpose of this project, when collected together with data from a multitude of firms, they provide data for the analysis of a private legal system governing a much larger network.

The data collected form the sampled companies and the third party documentation they reference or incorporate is analyzed in Chapter 4 to determine the extent to which each principle of sustainability is privately juridified and found in civic constitutions within the proposed interorganizational network.

Regulatory hybridization and international judicialisation

Unlike private juridification and civic constitutionalism, which draw upon content analysis of the texts produced by the companies, organizations and associations within the mining industry, the analysis of regulatory hybridization is based upon texts from established legal systems. In particular, the legislation of national legal systems are analysed to determine whether the national legal systems acknowledge private legal systems and the laws therein. If so, the analysis will explore how the two systems interact. Rather than coding national legislation for sustainability references, environmental, mining, health and safety and various corporate and other regulatory

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[254] *Agrium SR 2011.*
[255] *Agrium SR 2011.*

statutes are searched for references to private codes, standards, rules and mechanisms. Future research will help determine if there is evidence of regulatory hybridization or international judicialisation.

Although not analyzed through a qualitative content analysis, a preliminary review of a variety of examples of these two trends did occur during the compilation of the various datasets used herein. Those observations, to the extent the point to the benefits of future research or provide insight into the trends that are analyzed, will be discussed in chapter 5.

The datasets and coding scheme detailed above provide a rich tapestry for analysis. The coding scheme elicits the themes embodied by the six principles of sustainable development in mining and themes that describe the type of obligation corresponding to those principles. Through content analysis, possible evidence of a private legal system draws from a variety of codes, policies, position statements, guidelines, rules, literature, cases and legislation. This evidence is discussed in Chapter 5 to determine if a private legal system can assist in integrating the higher order goal of sustainability into the mining sector.

Chapter 4: Evaluating the trends of a private legal systems

A decade ago, the Mining, Minerals and Sustainable Development project was completed with the publishing of *Breaking New Ground.*[256] It was sponsored by over forty NGOs, major mining companies, international agencies and suppliers to the mining industry, and represented two years of dialogue and study on economic, environmental, social and governance issues in the sector. The study was a starting point but concluded with the observation that there was much work to still be done on what is a "complex subject."[257] Similarly, Teubner's reflexive legal theory was first espoused in 1983, and despite a growing adoption of the theory, there continues to be a shortage of empirical studies on the legal theory. The research in this thesis sets out to continue the dialogue started in *Breaking New Ground* and to provide additional empirical evidence of reflexive law, specifically with respect to the observable trends of a potential private legal system.

This chapter presents the results of data analysis of the three of the observable trends of a private legal system in the mining sector. Qualitative content analysis of the trends of a private legal system associated with the content of legal obligations – private juridification and civic constitutionalism is presented, with the consequences of that analysis discussed in Chapter 5. Although similar qualitative content analysis of regulatory hybridization and international judicialisation could be undertaken, that analysis is not done in this project. A lack of such analysis does not limit the conclusions regarding the content and application of the private legal system nor does it limit the discussion on how those two trends can integrate a pluralism of legal systems. It does however limit the discussion on specific mechanisms that currently exist to theoretical discussion. This prevents an empirical answer to the question of how a transnational private legal system that emerges, if any, interacts with other legal system. However, this project can provide an answer to the question of what role private parties acting in this transnational space have in governing the sector and encouraging the vision of a sustainable mining industry. In particular, empirical observations on whether a private legal system exists, i.e. whether the observable trends of an interorganizational network,

[256] *IIED 2002*.
[257] *IIED 2002* at 410.

and private juridification and civic constitution therein can be discussed. This analysis will also provide data that allow for further discussions on how such private laws can provide additional methods or tools for addressing the sustainability of mining.

The analysis begins with an exploration of the interorganizational network within the global mining sector. The network is built on and utilizes the relationships established by the networks of its members. From there the legal elements of the system, specifically the private juridification and civic constitutionalism are reviewed. The Policy Dataset and Contract Dataset (as defined in Chapter 3) are analyzed to determine what private laws, if any, are present.[258] To the extent that evidence of such laws exists, those laws are summarized for further discussion. This summary also provides the foundation for a discussion of the different procedural, substantive and constitutional laws therein. Regulatory hybridization and international judicialisation, trends that provide evidence of recognition by other legal systems, are not empirically examined. These trends do have an important impact on the effectiveness of a private legal system, and thus the importance of that recognition are discussed in Chapter 5 as applicable with reference to potential ways to integrate a plurality of legal systems.

4.1. The interorganizational network of sustainable mining

The first observable trend in a private legal system is an interorganizational network comprised of both existing non-legal networks and new networks of relationships that overlap, intertwine and interact with existing networks.[259] The networks are coordinated through a multitude of methods and these interactions are what create the binding obligations in the form of binary legal/illegal distinctions that make a reflexive system a reflexive legal system. Where relationships are based on social obligations, an interorganizational network may exist but a lack of private laws will prevent the emergence of a legal obligations.[260] The importance of an interorganizational network lies not in determining what the laws are, but rather who is bound by the system. To

[258] Although these datasets have different sample sizes, the Contract Dataset is based on a sample subset of the sampled companies used to populate the Policy Dataset. See Chapter 3 for more details on the samples used and the data collected.
[259] See Chapter 2 for a full description of interorganizational networks.
[260] As cited in *Fichter and Sydow 2002* at 362.

determine who is bound by the system a broad criteria for membership in the network is required. A broad criterion is used as it allows the testing, and if necessary, the refinement of the criteria.

The criterion proposed in Chapter 3 is whether or not an entities self-identify as committed to the sustainability of mining, or whether they have a mining related link to an existing member. This former is affirmed by a discourse by the organization, either to another entity within the interorganizational network or in a general statement to the world. The latter is exemplified through the ICMM's statement, "the International Council on Mining and Metals (ICMM) was established in 2001 to improve sustainable development performance in the mining and metals industry,"[261] while the former act could be satisfied through co-ownership and management of a mine with a member of the interorganizational network.

In total 131 companies (those that were not exempted from data collection as explained in Chapter 3) and 42 organizations (the ICMM, its member organizations, the IFC and ISO) were tested to determine if they stated that they were a part of an interorganizational network consisting of mining companies addressing sustainable development (hereinafter the "Sustainable Mining Network"). Whether they are a member is determined through content analysis of their disclosed documentation online, and their membership in organizations that had a commitment to sustainability in mining. As suggested above, the ICMM is a member of the network based on its vision statement, "Leading companies working together and with others to strengthen the contribution of mining, minerals and metals to sustainable development."[262] This is confirmed by the research initiatives undertaken by the group, the regular industry conferences it conducts to bring together companies and other shareholders to address sustainability issues and its

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[261] International Council on Mining and Metals. 'ICMM' (ICMM) <http://www.icmm.com/> accessed May 12, 2012 at 1st paragraph.

[262] International Council on Mining and Metals. 'Strategy and Action Plan' <http://www.icmm.com/about-us/strategy-and-action-plan>, 2013 as accessed March 7, 2013 (hereinafter *ICMM SAP 2013*) at 1st text box.

use as a reference for guidance on sustainability throughout the industry.[263] Similarly, given the requirement that all members implement the Sustainable Development Framework, the member companies and organizations are also self-identifying as members of the Sustainable Mining Network.[264] Members of organizations that are members of the ICMM, such as Prospectors and Developers Association of Canada, the Mining Association of Canada and the World Gold Council are connected to the Sustainable Mining Network through those networks, but may also meet the criteria independently. For example, Petropavlovsk PLC, a Russian gold company, is not a member of the ICMM, but has made the following commitment:

> The [Petropavlovsk] Group has adopted a strategy for sustainable development aimed at improving its performance in environmental, health, safety and social development through the continuous application of international best practices. In particular, this means that the Group will continue to implement the IFC Performance Standards, align itself with the Guidelines for Reporting on Sustainable Development and the Global Reporting Initiative ("GRI") and to operate in accordance with the principles of sustainable development of the International Council of Mining and Metals (ICMM), the International Cyanide Code and the recommendations of the World Council of Gold ("WGC").[265]

By aligning its operational policies with the ICMM and WGC (a member of the ICMM), Petropavlovsk PLC had self-identified as a member of the Sustainable Mining Network examined herein.

Finally, each of the 131 non-governmental companies in the Industry Group was reviewed to determine if it meets the criteria of disclosing an effort to integrate sustainability into its mining operations. Sixty-one companies are members of the

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[263] The ICMM participates in a number of forums and regularly hosts conferences and workshops. See http://www.icmm.com/news-and-events/past-events for a list of past events. Reference to the ICMM by non-members include Korea Resources Corporation. 'Sustainability Management.' < http://eng.kores.or.kr:8080/gpms/user.tdf? a=common. HtmlApp&c=2001&page=/english/mgt/mgt_03.html&mc=ENG_MGT_030>, accessed October 27, 2013; Petropavlovsk plc. 'Sustainability' <http://www.petropavlovsk.net/en/sustainability.html>, 2013, accessed March 3, 2013 (hereinafter *Petropavlovsk 2013*).

[264] International Council on Mining and Metals. 'Sustainable Development Framework' <http://www.icmm.com/members/member-commitments>, 2013, accessed March 7, 2013 at 1st paragraph.

[265] *Petropavlovsk 2013* at fourth paragraph.

Sustainable Mining Network as a result of their direct (22) or indirect membership (39) in the ICMM. Seven more are members of the network through the co-ownership of a mining project owned by a member of the network. Finally, 29 companies not otherwise in the Sustainable Mining Network self-identified and are part of the network. Based on the limited data gathered, these 29 companies did not have connections to any of the organizations or to other companies through co-ownership. They were therefore not included in the figures below mapping the network to minimize the data presented and to increase the readability of the figures. Only three of the ninety-seven corporate members of the Sustainable Mining Network were members solely because of membership in an organization that was linked to the ICMM. That is, they had no other discernible commitment to sustainability in their public documentation. All others self-identified as having an interest in promoting sustainability within the mining sector and a commitment to addressing the problematic of sustainability in mining in addition to their membership in the ICMM or an affiliate. In total, 97 companies self-identified as having an interest in, and a commitment to, integrating sustainability into the mining sector. Those commitments were expressed in a variety of ways. Some companies noted a commitment to sustainability, and listed their participation in various organizations with a focus on sustainability or a principle of sustainability.[266] Others cited the Bruntland report and their adherence "to this undertaking and endeavor to ensure a continually more responsible operation in terms of social, economic and environmental issues."[267] Only data linked to these 97 companies was used for the qualitative content analysis regarding private juridification and civic constitutionalism.

The Sustainable Mining Network map is reproduced at Figures 4, 5, and 6.[268] Figure 4 shows the corporations, organizations and associations that satisfied the binary

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[266] Agnico-Eagle Mines Limited. '2011 Corporate Social Responsibility Report' <http://www.agnicoeagle.com/en/sustainability/documents/reports/aem_csr_2011.pdf> accessed May 20, 2013 (hereinafter *Agnico-Eagle Mines 2012*) at 14.

[267] Grupo México. 'Sustainable Development ' <www.gmexico.com/development/index.php#homeSD> accessed March 7, 2013, Sustainable Development Tab at 1st paragraph.

[268] These diagrams were generated by NVivo 10. Nodes were placed to increase readability of the figure with the result being companies with multiple links, or similar links (e.g.

distinction of 'an interest in and commitment to integrating sustainability in the mining sector'. The relationships connecting those entities include membership in the ICMM, membership in organizations that adhere to the principles of the ICMM,[269] and a link between companies where they co-own at least one mine (e.g. Teck, BHP Billiton, Xstrata, and Mitsubishi all have an ownership in Compañía Minera Antamina S.A.). Evidence of co-ownership as a method of transmitting new practices does exist in the sampled data. For example, Lundin Mining and FreePort McMoRan Copper & Gold co-own the Tenke Fungurume Mine (TFM). FreePort McMoRan was a founder of the *Voluntary Principles on Security and Human Rights,* and those principles have been adopted into the TFM operational policies. [270] As a result, they have also been incorporated into Lundin Mining's policies and procedures.[271]

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relationships to similar industry associations or through shared mines) being placed together. Unfortunately, software limitations prevents the stacking of nodes in front of lines, with the result that the diagrams are less readable.

[269] Such adherence is demonstrated by membership of the organizations in the ICMM. These would include a number of regional associations (e.g. the Mining Association of Canada) and industry associations (e.g. the World Gould Council).

[270] Lundin Mining. 'Corporate Responsibility' <http://www.lundinmining.com/s/CR_Tenke.asp> accessed December 15, 2012 at 7th paragraph.

[271] Lundin Mining. 'Corporate Governance' <http://www.lundinmining.com/s/CR_governance.asp> accessed December 15, 2012 at eleventh paragraph.

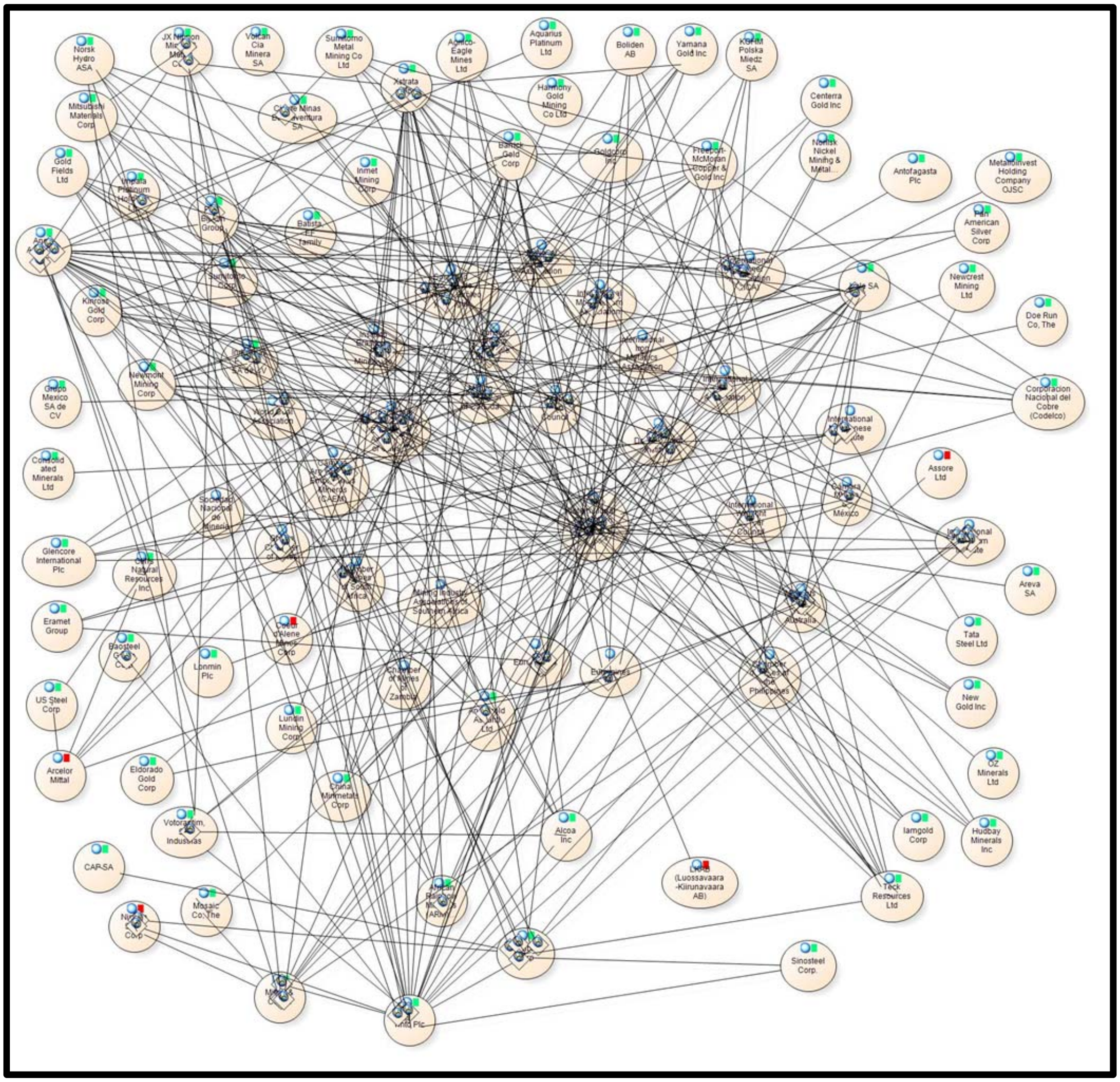

Figure 4: Sustainable Mining Network

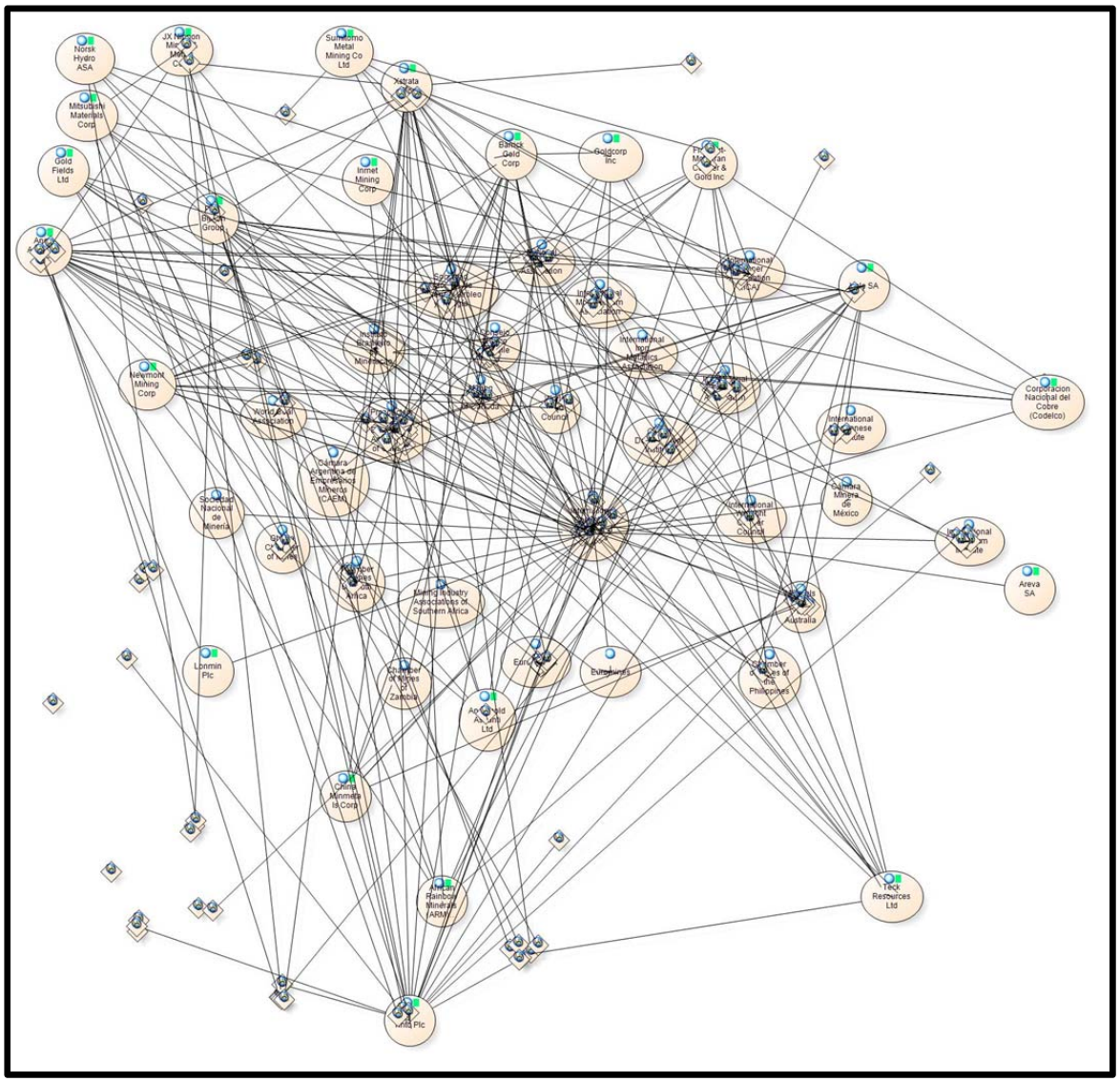

Figure 5: Sustainable Mining Network – showing only members who are also ICMM Members

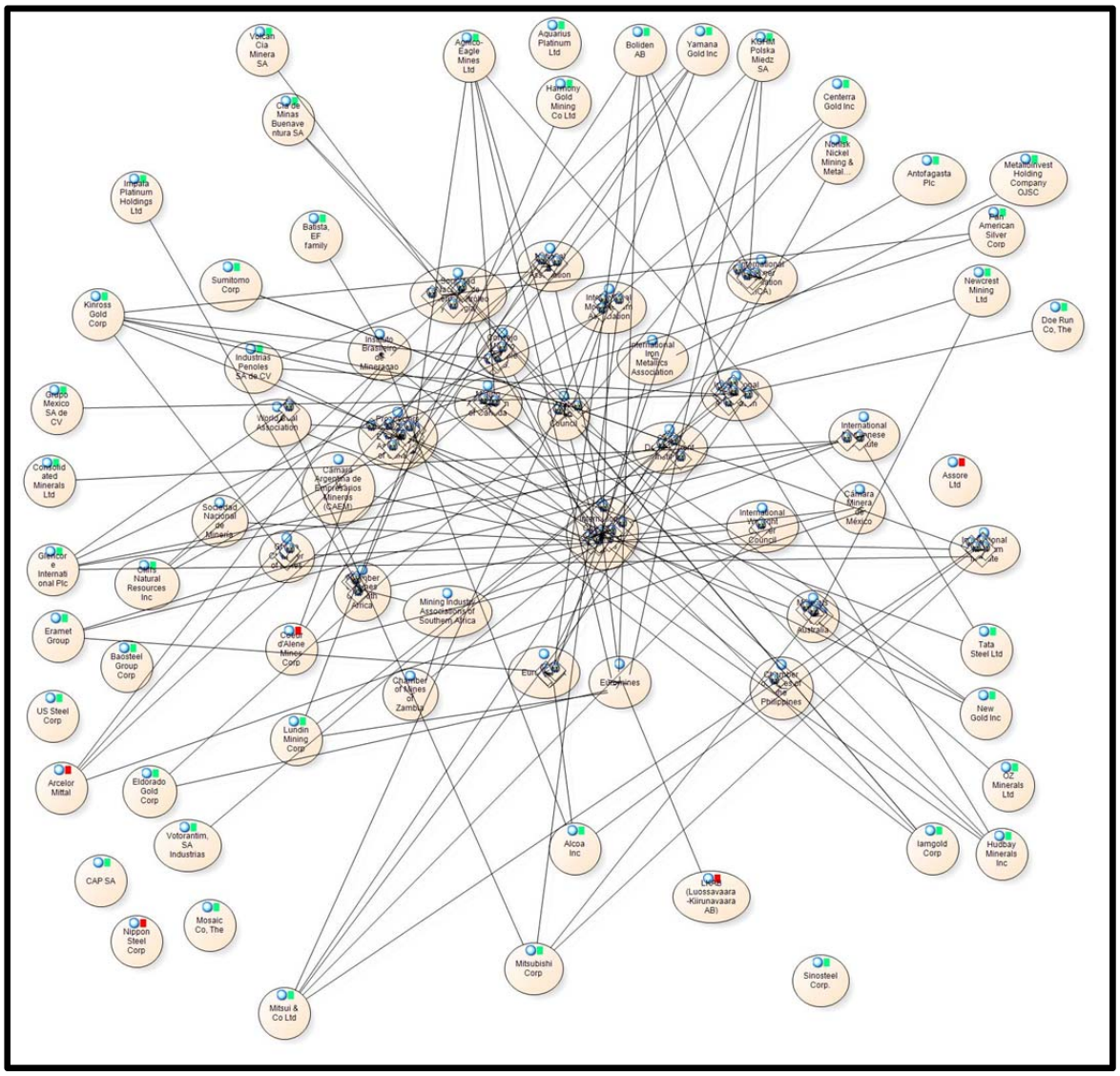

Figure 6: Sustainable Mining Network – showing only members who are not members of the ICMM

To explore the connectedness of the ICMM as a central node figures 5 and 6 demonstrate the sampled Sustainable Mining Network with only ICMM members and non-ICMM members respectively. In both figures, the lines that terminate in a diamond represent a non-ICMM or ICMM member (depending on the diagram) that has a co-ownership relationship with the company.

Although a proper network analysis is not possible with the data collected, some preliminary observations can be made. First, companies that are connected to the ICMM or one of its member organizations have a higher probability of professing an interest in integrating principles of sustainability into their operations. In particular, 96% of the 61 companies that were linked to the ICMM through direct or indirect membership or co-ownership of a mine with a member self-identified as working towards sustainable mining. In contrast, only 49% of those who were not a member of the ICMM or an affiliated organization self-identified through the sampled texts. Thus, those who were joining networks focused on sustainable mining were more likely to also self-identify through public disclosure.

Self-identification is prevalent even without a connection to the ICMM. There is no reason to not expect this trend to be present among the large number of companies with an interest in sustainable mining who come from the ranks of 4,600 intermediary and junior mining companies not sampled. Second, of the three companies that did not self-identify two were connected to the ICMM through co-ownership of a mine, while the other was a member of an organization that was a member of the ICMM. Thus, co-ownership or membership in an affiliate of the ICMM alone does not guarantee that further self-identification will occur. Thus it is important to have both methods for determining whether a company is a member of the network so as to capture companies that are bound to other firms through shared behaviour (membership) and those who are actively seeking solutions to the same problem.

Finally, it is also worth noting that roughly one-third of the companies in the Sustainable Mining Network were only considered members because they self-identified through textual discourse. No relationship network was identified between those companies and other networked companies. This suggest that either the criteria for inclusion in the network needs to be refined, or additional research is required to

determine the relationship between those companies, and the function of those relationships. That research is not undertaken as a part of this project, and the Sustainable Mining Network as displayed in Figure 4 is used as the lifeworld in which evidence of a private legal system are sought.

4.2. Analysis of private juridification and civic constitutionalism of the mining industry

The portion of the Sustainable Mining Network that the sampled data is collected from consists of 97 of the 131 sampled companies and various organizations whose documentation is referenced by those companies. Together these organizations and companies interact throughout the mining industry, the space that is being transformed from a system of rules to a juridified legal system (see Figure 4).

The following subsections 4.2.a. to 4.2.f. presents the findings of the qualitative content analysis detailed in Chapter 3 for each principle of sustainable development in mining, examples thereof, and a summary for discussion in Chapter 5. In many cases the texts specifically stated that these private and civic constitutional laws are to be used even if lower national law standards existed.[272]

Based on the coding and analysis methods detailed in chapter 3, both principles of sustainability in mining and obligatory language was coded and quantitatively analyzed. In particular, private substantive or procedural laws and constitutional laws were determined to exist if the principle was in the text and the surrounding or related texts suggested that this principle was obligatory based on the coding scheme used to track obligatory language. To the extent private juridification is identified through qualitative content analysis, the results were presented here as private laws as they meet the test set

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[272] Areva. 'Areva Sustainable Development Declaration for Suppliers version 05-01' <http:// www.areva.com/group/liblocal/docs/developpement-durable/2012/ Engagement_DD_Fournisseurs_EN.pdf> accessed January 9, 2013 (hereinafter *Areva 2012*) at 7; Cliffs Natural Resources. 'Community Relations – Asia Pacific' <http:// www.cliffsnaturalresources.com/EN/Sustainability/CommunityRelations/Pages/ AsiaPacific.aspx> accessed January 9, 2013 at 3rd paragraph (hereinafter *Cliffs Natural Resources 2012*); First Quantum. 'Environmental Policy' <http://www.first-quantum.com/files/policies/FQM%20Environmental%20Policy%20June%202011.pdf> accessed December 15, 2012 at 3rd bullet; *Xstrata 2009*.

out by Teubner: that an obligatory binary is engaged – i.e. the act must or must not be done, and this repeats throughout the system. As a result, only those privately juridified rules accompanied by an obligatory binary used in context to the obligation or procedure that appeared in a number of corporate documents are reported below. There was no set number of instances, or percentage of coverage, that was required to meet the second criteria – that the obligation be present throughout the system.

Unlike private juridification, which creates substantive and procedural obligations, civic constitutionalism provides a legal framework of broad principles that privately juridified laws must operate within. These principles are not strictly substantive or procedural obligations, rather they provide the overarching framework that substantive and procedural obligations and protections are based upon. As such they are phrased both as suggested methods of implementing substantive obligations and as specific corporate codes of conduct that direct corporate groups – a network within the larger interorganizational network. Examples of these documents would include the Global Reporting Initiatives Sustainability Reporting Guidelines & Mining and Metals Sector Supplement, the United Nations Global Compact, and the Mining Association of Canada's Towards Sustainable Mining.[273] Corporate civic constitutional documents, including codified environmental, health and safety policies, sustainability policies and corporate codes of conduct provide evidence of civic constitutionalism and private juridification.[274] In addition to corporate texts, civic constitutional texts include international standards; frameworks from non-governmental organizations and civic society; and guidelines and requirements for voluntary industry programs. The main difference between the two is that constitutional documents use less specific language than documents evidencing private juridification. Instead, they are texts that speak broadly of the types of behaviour or principles guide the activities of the Sustainable Mining Network or a specific corporation. Specifically they set out the expectations of

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[273] See for example *GRI 2011*; United Nations. 'UN Global Compact' <http://www.unglobalcompact.org/>; *MAC 2012*.

[274] See for example Rio Tinto. 'Rio Tinto, "The Way We Work," ' <http://www.riotinto.com/documents/The_way_we_work.pdf>, 2009, accessed March 22, 2013 (hereinafter *Rio Tinto 2009*); *New Gold 2009*; *Xstrata 2009.*

corporate groups for their members, or of the industry of its participants. Both Rio Tinto's *The Way We Work* and the ICMM's position papers on sustainability would be constitutional texts, the former for a specific corporate group and the latter for the industry as a whole.[275]

Civic constitutionalism is an important trend for establishing the existence of a private legal system because it demonstrates the values behind decisions and the limits on actions of those bound to the framework. Constitutionalism rarely provides substantive or procedural obligations, instead these are provided through the process of private juridification explained above. What is stated are an understanding of obligations. Upon a review of the constitutional texts of corporations (e.g. codes of conduct and health and safety policies) and those provided by civic society and industry organizations (e.g. the ICMM's position statements and the Global Reporting Initiatives reporting standards for sustainability in mining) there is clear evidence that the six principles are codified across the industry. Civic constitutionalism also relies heavily on the relationships created through the interorganizational network, with corporate codes and industry constitutional texts both relying heavily on cross reference to other sources of juridified or constitutionalized obligations.[276] The analysis below highlights some of the evidence of how each principle is used as a constitutional obligation within the Sustainable Mining Network, and some of the identifiable privately juridified laws therein.

4.2.a. **Life Cycle Planning**

A distinct reference to the first principle of sustainable mining, life cycle planning, arises in the texts of only a quarter of the reviewed companies. Instead, the principle is

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[275] *Rio Tinto 2009*; *ICMM 2013a*.

[276] See for example AEM's reference to the Carbon Disclosure Project and the International Cyanide Management Code at *Agnico-Eagle 2012* at 36, and *Petropavlovsk 2013* that reference adherence to the International Cyanide Management Code, the ICMM's principles of sustainable development and the World Gold Council's recommendations at paragraph 4, and the ICMM's reference to the United Nations Global Compact, OECD Guidelines on Multinational Enterprises, World Bank Operational Guidelines, OECD Convention on Combating Bribery, ILO Conventions 98, 169, 176, and the Voluntary Principles on Security and Human Rights (*ICMM SAP 2013*).

recognized by companies in the Industry Group through a clear acknowledgement that planning must occur throughout the life cycle of mining, and that each stage of development must address each principles of sustainability through the recognition of obligations regarding sustainability at all phases.[277] A substantive obligation to consider sustainability at all phases of the mining life cycle exists. In particular, although not all national legal systems require a closure plan, there is a growing recognition of an obligation to plan for closure from the earliest stage of mining, exploration.[278] Finally, several companies have provided additional guidance on how to handle life cycle analysis of sustainability. AngloGold Ashanti and Arcelor Mittal both suggest that companies should consider sustainability at all stages, but that the actual processes and procedures become more robust as a project develops.[279] The substantive and procedural juridification occurring with respect to the other principles reflects this process of increasing robustness as the project develops. Indeed, Vedanta recognizes that sustainability of mining should be viewed from a time line of more than one project. Each project should be reviewed with sustainability good practices and lessons identified in one project and applied to the next "such that impacts can be eliminated/mitigated by design."[280]

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[277] See for example: *AngloAshanti Gold 2012* at 27; *BHP 2010* at 3; Inmet Mining. 'Mine Waste Management Policy' <http://www.inmetmining.com/files/pdf/2012_Mine%20Waste%20Management%20Policy.pdf>, 2005, accessed October 10, 2012 (hereinafter *Inmet 2005*) at 2nd bullet; *New Gold 2009* at bullet 7; Vedanta Resources plc. 'Sustainable Management in Practice' <http://sustainability.vedantaresources.com/responsible_stewardship/sustainable_management_in_practice> accessed December 15, 2012 (hereinafter *Vedanta 2012d*) at list item 5.

[278] Anglo American plc. 'Sustainable Development Report 2011' <http://www.angloamerican.com/~/media/Files/A/Anglo-American-Plc/reports/AA-SDR-2011.pdf>, 2012, accessed December 15, 2012 (hereinafter *Anglo American 2012*) at 8; *New Gold 2009* at bullet 8.

[279] *AngloAshanti Gold 2012* at 27; Arcelor Mittal. 'Human Rights - Approach' <http://www.arcelormittal.com/corp/corporate-responsibility/governance-and-ethics/human-rights/approach> accessed December 15, 2012 (hereinafter *Arcelor Mittal 2012*) at paragraph 9.

[280] *Vedanta 2012d* at #7.

This first principle is stated as an objective. Neither processes nor substantive measures were noted as obligations throughout the sample. Most texts posed the obligation as a constitutive principle for approaching mining and the integration of sustainability. While roughly a third of the companies sampled explicitly had an procedural obligation to review sustainability over the entire life cycle, the members of the Sustainable Mining Network acknowledge a constitutional obligation to plan across the entire life cycle of a mine, from exploration through to post-closure management.

4.2.b. **Community Development**

Unlike the first principle, which is primarily a constitutional obligation, there is evidence of civic constitutionalism and private juridification of substantive and procedural obligations for the second principle of sustainable mining - community development. The principle is focused on the equitable distribution of the wealth generated by a project, as well as highlighting the impact on cultures and communities. It is the principle that moves the economic and environmental components of sustainable development beyond a cost benefit analysis to one aimed at maximizing total social, economic and environmental benefits. Elements of equitable distribution based upon the impacts borne by various groups now and over time are added into the equation by addressing the needs and interests of Indigenous Nations and the community of stakeholders beyond the mining company and mineral owner (i.e. the state).

The civic constitution of the Sustainable Mining Network is found within the corporate codes and policies of mining companies and in the documentation of organizations and associations within the network. With regards to the principle of community development, the approach is fairly uniform, with corporate codes enumerating an obligation to the community. Specifically mining companies have an obligation to explore the impact on the community, support the local economy as possible, and to strengthen local institutions and governance. These constitutive principles are integrated in a number of ways. Gold Fields Limited's Community and Indigenous Peoples Policy Statement states:

> Gold Fields Limited seeks to develop mutually beneficial relationships with host communities and governments. In part this will be satisfied through open engagement, **but more critical is active involvement in the**

> **support and development of the communities in which we operate**. [emphasis added][281]

The policy then goes onto enumerate a number of procedural and substantive obligations that Gold Fields undertakes. To the extent those procedures and substantive obligations are reiterated by other members of the interorganizational network, and thus found throughout the system, the form privately juridified laws. Gold Fields commitments to contribute "to the local economic development of our communities," embrace "sound principles of local procurement and employment that contributes to local economic development," and through the pursuit of "formalized partnerships with governments, local and international non-governmental organizations and donor organizations to ensure that community development programmes are well developed, effectively delivered and capitalize on any synergies that may exist."[282]

In contrast, other companies are less detailed, and their constitutive principle is not encoded into a corporate policy. Polymetal International PLC for example sets out the constitutive framework for sustainable mining as:

> We are committed to the highest standards of sustainable development, with particular emphasis on the local communities surrounding our assets.[283]

Finally, a third type of corporate constitution will reference sustainability, and provide for procedural and substantive obligations of the company to integrate sustainability into mining, but will not reference community development specifically as a constitutional limitation or objective of the corporation. Although the obligation to "promote economic prosperity in our surrounding communities, both during and post mining operations by fostering local entrepreneurship"[284] is established in New Gold's

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[281] Gold Fields Limited. 'Community and Indigenous Peoples Policy Statement' <http://www.goldfields.co.za/pdfs/policies/community_statement.pdf> accessed July 13, 2013 at paragraph 1.
[282] Ibid at bullets 1, 6 and 4 respectively.
[283] Polymetal International PLC. 'Sustainable Development' <http://www.polymetalinternational.com/sustainable-development.aspx> accessed November 21, 2012 at first paragraph.
[284] *New Gold 2009* at 13th bullet.

Health, Safety, Environment and Sustainability Policy there is no mention of community development in the preamble or objectives of the policy.

In addition to the constitutive text set out in corporate policies there are obligatory references that provide evidence of procedural and substantive private laws of sustainable mining. These references also exist in the texts of other documents in the Policy Dataset. The obligations of Gold Fields, set out above, and similar commitments from other companies (as referenced below) provide evidence of those obligations. In particular, the qualitative content analysis conducted suggests that privately juridified laws are developing that require mining companies to:

1. Conduct social impact assessments on all projects[285]
2. Contribute to the host community[286]
3. Procure goods and services from the local community whenever possible[287]
4. Support and strengthen local institutions and governance structures

In addition to these substantive obligations, there are procedural obligations that should be followed by mining companies to ensure community development is integrated into mine design, operation and closure. These include the use and development of external standards;[288] ensuring that suppliers adopt procedures to ensure compliance with these obligations; and to design programs based on stakeholder engagement to ensure the obligations are met. However, as the specifics of the procedural obligations vary from mine to mine and company to company they fail to meet the second requirement of a

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[285] Barrick Gold Corporation. 'Responsibility - Community' <http://www.barrick.com/responsibility/community/default.aspx> accessed May 20, 2013 (hereinafter *Barrick 2013)* at Social Impact Assessment tab, 1st paragraph; *BHP 2010* at 8.

[286] *BHP 2010* at 8; *Barrick 2013* at Social Impact Assessment tab, 1st paragraph; *Inmet 2012a* at list item 7; Inmet Mining. 'Sustainability' <http://www.inmetmining.com/corporateresponsibility/default.aspx> accessed October 10, 2012 (hereinafter *Inmet 2012b*) at paragraph 5; *New Gold 2009* at bullets 12 and 13; *Vale 2009* at 1.

[287] *Agnico-Eagle Mines 2012* at 34; Fortescue Metals Group plc. 'Corporate Social Responsibility' <http://www.fmgl.com.au/Community/Corporate_Social_Responsibility> accessed May 20, 2013 at Economic subheading; Hudbay Minerals Inc. 'Human Rights Policy' <http://www.hudbayminerals.com/files/doc_downloads/Human%20Rights%20Policy%20HudBay.pdf>, 2011, accessed July 12, 2012 (hereinafter *HudBay 2011*) at 1; *Inmet Mining 2012a.*

[288] See for example *PDAC 2013*

reflexive law – that they be repeated throughout the system. Thus, although there are substantive private laws regarding community development as an outcome of the mining project, there appears to be no private juridification of processes to ensure the promotion of community development is addressed. The third principle governance does however provide additional processes that could be of assistance in guiding the actions of mining companies in meeting their substantive obligations to integrate community development goals into mine planning and operations.

4.2.c. **Governance**

A private legal system governing sustainability is ineffective without adequate and meaningful procedures. Indeed, weak governance coupled with monetization of resources often leads to unsustainable development.[289] This is true whether the weak governance is within the national or private system. In the context of mining, sustainable development requires governance structures within the industry that ensure the other principles are successfully incorporated into activities. Thus governance structures should be aimed at consultation and meaningful participation, a system of corporate governance to integrate principles of sustainability, and accountability and transparency of those processes.[290] The coding highlighted ways that the principle of governance is privately juridified and incorporated into civic constitutions. This occurred at the corporate level with respect to corporate governance structures, interactions throughout the interorganizational network, and in ways that strengthen and support local institutions and public governance. Where these occur, the other principles of sustainability are more likely to be integrated into the mining sector.

With respect to internal corporate governance, the development of a strong system of governance within the private legal system begins with corporate processes for managing sustainability as well as the identified principles of sustainable mining.[291] This is captured

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[289] *Wälde 2004a* at 131-133.
[290] See section 1.2.c for more details.
[291] *Agnico-Eagle Mines 2012* at 12; *Agrium SR 2011* at 6; *Barrick 2013* at Social Impact Assessment tab; *HudBay 2011* at 1; *EBX 2013*; Newmont Mining Corporation. 'Health and Safety Policy' <http://www.beyondthemine.com/2012/managing_sustainably/

both within the civic constitutions of corporate groups and is also provided for as a guiding principle of sustainable governance in non-corporate documentation. The former is exemplified by First Quantum's statement:

> We fulfill our responsibility to employees, investors, host communities and the general public by governing our company with accountability, transparency and integrity.[292]

Alternatively, governance can be constitutionalized at the corporate level through a corporate policy that sets out the governance principles. This is done by Kinross Gold Corporation with its *Ten Guiding Principles for Corporate Responsibility* defines "what doing the right thing means" for their corporate group, which includes a codified list of principles for governing the company.[293] Finally, a corporation may simply codify the obligation within a corporate sustainability policy, as is done by IamGold Corporation with the statement in their *Sustainability Policy* that "practicing good corporate governance, transparency, fair dealing and reporting annually on performance" is a guiding principle for committing to "sustainability and social responsibility from all its employees and contractors is fundamental to the success of its business."[294] The need for a solid governance regime is also constitutionalized by references from industry associations and other non-governmental organizations. The ICMM's first principle in its sustainable development framework requires adherents to "implement and maintain ethical business practices and sound systems of corporate governance."[295]

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policies/health_and_safety_policy>, 2012, accessed November 14, 2012 (hereinafter *Newmont 2012b*) itemized bullets under Scope subheading.

[292] First Quantum Minerals Ltd. 'Corporate Governance' <http://www.first-quantum.com/Corporate-Responsibility/Corporate-Governance/default.aspx> accessed July 16, 2013 at first paragraph.

[293] Kinross Gold Corporation. 'Ten guiding principles for corporate responsibility' <http://www.kinross.com/media/23923/k.4.4%20cr%20brochure_english.pdf> accessed July 16, 2013 at page 2.

[294] IamGold Corporation. 'Sustainability Policy' http://www.iamgold.com/files/corporate_responsability/IMG%202012%20HSS%20Sustainability%20Policy%20EN.pdf, 2011, accessed February 3, 2013 (hereinafter *IamGold 2011*) at page 1.

[295] *ICMM 2012a* at fourth paragraph, bullet 1.

These examples are also privately juridified with a variety of procedural and substantial obligations. The ICMM's first principle is further detailed with specific obligations including obligations to:

- develop and implement company statements of ethical business principles, and practices that management is committed to enforcing
- implement policies and practices that seek to prevent bribery and corruption
- comply with or exceed the requirements of host-country laws and regulations
- work with governments, industry and other stakeholders to achieve appropriate and effective public policy, laws, regulations and procedures that facilitate the mining, minerals and metals sector's contribution to sustainable development within national sustainable development strategies.[296]

Similar obligations are then repeated throughout the network of mining companies that were included within the Sustainable Mining Network. The obligation to apply corporate governance procedures to all processes and acquisitions is highlighted for example by Vale in its *Sustainable Development Policy* where the ICMM 10 Principles and UN Global Compact 10 Principles are both incorporated by reference, and the obligation:

> to implement and maintain ethical business practices in every country and region where we operate. To seek excellence in our corporate governance, operational processes, product quality and relationships with stakeholders. To promote and disseminate sustainable practices in our value chain. To adopt global sustainability standards and practices, while respecting the sovereignty and legislation of each country.[297]

Indeed, Vale's Sustainability Policy encapsulates all six of principles of sustainability in mining set out in Chapter 1. However, it is the fact that there are substantive and procedural obligations recognized by Vale with respect to these obligations that is of importance to the analysis of private juridification. They provide one example of obligations being recognized within the interorganizational network. Those same

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[296] *ICMM 2012a* at fifth paragraph.
[297] *Vale 2009* at 2.

obligations are also recognized by Norsk Hydro, when they state the need to have procedures that evaluate and assesses sustainability risks,[298] and by Agnico-Eagle and Inmet who highlight the obligation to report incidents and unaddressed risks to management and, if required, to the board.[299] Other examples abound in the Policy Dataset. The obligation to establish processes and procedures and to monitor, report and verify those processes with the assistance of third parties is being juridified within the network through statements, including Teck's commitment to "strive for continual improvement and hold ourselves accountable through verification and reporting of our performance" and Agrium's requirement to "develop plans to achieve [sustainability commitments], and track our performance to ensure progress is made."[300] Finally, all process must be reviewed periodically, with firms typically committing to do so every two or three years.[301]

When developing processes for ensuring sustainability is integrated into the governance structures of corporations and mining operations, companies must consult with the local community to ensure the processes allows for meaningful participation by external stakeholders and substance that address all stakeholder requirements.[302] There is agreement that those processes should be open and transparent so as to ensure effective consultation.[303] That consultation should be designed "to ensure that local people and

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[298] Norsk Hydro ASA. 'Integrity and Human Rights' <http://www.hydro.com/en/Our-future/Our-performance/Integrity-and-human-rights/> accessed November 12, 2012 (hereinafter *Norsk 2012*) at 3rd paragraph.
[299] *Agnico-Eagle Mines 2012* at 12; (hereinafter *Inmet 2005*) at 5th bullet.
[300] *Agnico-Eagle Mines 2012* at 12 and 30; *Agrium SR 2011* at 6; Teck Resources Limited. 'Health and Safety Policy' <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fOur+Commitments+pages%2fPolicies+pages%2fHealth+%26+Safety+Policy&portalName=tc> accessed January 9, 2013 (hereinafter *Teck 2012c*) at 2nd paragraph; *Barrick 2013* at Stakeholder Engagement tab; *Inmet 2012a* at list item 11; *Norsk 2012* at 3rd paragraph.
[301] *BHP 2010* at 8; *Areva 2012* at 14.
[302] *BHP 2010* at 9; *Cliffs Natural Resources 2012* at 3rd and 4th paragraphs; *HudBay 2011* at 1; *Inmet 2005* at the 3rd, 4th, 8th and 9th bullets; Mitsui & Co. Ltd. 'CSR Policy and the CSR Promotion Framework' <http://www.mitsui.com/jp/en/csr/philosophy/policy/index.html> accessed May 20, 2013 (hereinafter *Mitsui 2013*) at 1st paragraph; *EBX 2013*; *New Gold 2009* at bullet 7; *Vale 2009* at 3.
[303] *Inmet 2005* at 4th bullet; *EBX 2013*; *Vale 2009* at 3.

communities share in the wealth creation generated by the extraction of natural resources," and "mining companies must invest meaningfully according to their needs and priorities and with their full support, engagement and participation in decision making."[304] Where companies move beyond capturing the need to consult in more than a constitutive principle, the procedures and substantive obligations involved are stated in a variety of ways. Although juridification occurs through repetition throughout the network, specific examples of text contributing to that process include the following three examples:

> To achieve [Corporate Responsibility] excellence we will: … Forge relationships based on trust with a broad range of stakeholders by openly, transparently and continually engaging about our business, listening to concerns and incorporating these into our plans.[305]
>
> * * *
>
> We will place importance on interactive communication with our stakeholders. We will fulfill our accountability with respect to CSR and continually work to improve our CSR activities based on the responses of our stakeholders.[306]
>
> * * *
>
> All Rio Tinto managed activities are required to develop Communities and Social Performance capability based upon this standard… Acquired businesses will have 18 months from the date of acquisition to conform to the standard...[307]
>
> 1.4 Mutually acceptable consultation and engagement procedures will take place, in good faith with mutual obligation. Such procedures will be transparent, inclusive, culturally appropriate and publicly defensible; ensuring that:
>
> > a. potentially affected communities are as fully informed as practically possible, including access to reliable independent

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[304] *Inmet 2012b*.
[305] *Inmet 2012a* at 1.
[306] *Mitsui 2013* at third bullet.
[307] Rio Tinto. 'Communities Standard 2011' <http://www.riotinto.com/documents/ReportsPublications/Communities_standard.pdf>, 2011, accessed July 18, 2013 (hereinafter *Rio Tinto 2011*) at 3.

> advice, about the activities of the business and their possible effects before they occur;
>
> b. two way discussions cover community issues and priorities as well as the concerns and needs of the business;
>
> c. discussions occur in a language and format that is understandable to local communities;
>
> d. affected communities participate to the greatest extent possible in social and environmental impact assessments;
>
> e. a record is kept of all formal meetings and informal meetings that involve commitments, including, how views of both the business and the community may have changed, records of agreement and action items with dates for completion; and
>
> f. discussion and community decision making reflects established local conventions and protocols, including gender considerations, supplemented if necessary by additional processes for inadequately represented and marginalised groups.[308]

It is also worth noting that the last example, which comes from Rio Tinto's *Community Standards*, links directly to the company's constitutional document *The Way We Work*.[309] *The Way We Work* sets out a broad outline of the conduct required of the company, its operations and its consultants and suppliers with private juridification being captured in the texts of developed standards. With respect to community consultation, there is the following civic constitutional obligation in *The Way We Work*:

> We promote collaborative engagement at international, national, regional, and local levels. We work hard to ensure that communities are consulted, in a format and language they understand, before we open new operations, while we run existing ones and when we close them at the end of their productive lives. We want local communities to actively participate in the economic activity resulting from our operations and we support regional and community based projects that contribute to sustainable development, without creating dependency.[310]

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[308] *Rio Tinto 2011* at 5.
[309] *Rio Tinto 2011; Rio Tinto 2009.*
[310] *Rio Tinto 2009* at 14.

Not all obligations are as clearly set out in civic constitutions and then juridified through private texts. One area where there is not a clearly juridified obligation is whether or not such consent needs to meet the standard of free prior informed consent. While some companies, for example BHP, recognize that this standard is mandated by national legal systems, they do not recognize a private obligation for free prior informed consent.[311] In contrast, Agnico-Eagle "subscribes to the principle of informed consent when working on private land, including aboriginal land. AEM seeks the consent of the land owner; this consent usually takes the form of a formal agreement acknowledging that AEM will conduct work in a certain area and under certain conditions."[312] This is not the same level of informed consent as free prior informed consent, but is still a step above the obligation to "seek prior acknowledgement, consultation and involvement, of local stakeholders," recognized by Vale.[313] Finally, AngloAshanti Gold has highlighted the continually changing nature of obligations regarding consent, and recognizes that there may be a private obligation to free prior informed consent from indigenous groups beginning to codify.[314] This obligation was being addressed by several members of the Sustainable Mining Network including the International Financing Corporation and ICMM and is already obligatory under the Global Reporting Initiatives Mining and Metals sector specific commentary.[315]

Any system of process and procedures aimed at governance must be continually reviewed and updated with revisions of how sustainability applies to mining, as well as review of the processes and targets designed to achieve sustainability.[316] Some companies

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[311] BHP Billiton recognizes the need for Free Prior Informed Consent only where mandated by national laws (*BHP 2010* at 9).
[312] *Agnico-Eagle Mines 2012* at 12; BHP Billiton recognizes the need for Free Prior Informed Consent only where mandated by national laws (*BHP 2010* at 9).
[313] *Vale 2009*.
[314] *AngloAshanti Gold 2012* at 30.
[315] *AngloAshanti Gold 2012*; *GRI 2011* at 11.
[316] *Agrium SR 2011* at 6; *Inmet 2012a* at list item 10; *EBX 2013*; Newmont Mining Corporation. 'Social Responsibility Policy' <http://www.beyondthemine.com/2012/managing_sustainably/policies/social_responsibility_policy>, 2012, accessed May 20, 2013 (hereinafter *Newmont 2012c*) at 5th bullet; *Vedanta 2012d* at 2nd paragraph states that the sustainability "standard" must be applied to all new projects.

have tied a portion of remuneration to clear targets for integrating policies aimed at promoting sustainability into operations.[317] Alcoa has set non-salary remuneration to the achievement of sustainability targets, with the goal of aligning executive performance with entrenchment of sustainable principles into operations. Not only have targets been met, but mid-term and long-term goals were redefined so as to accelerate their implementation.[318]

As with the evidence and examples discussed above, there is also evidence of private juridification occurring regarding the strengthening of the governance regimes under national legal systems. In particular, the preservation of and support for governance regimes in national legal systems comes through efforts to minimize corruption and support the strengthening of national legal systems. In addition to a clear need for strong corporate governance procedures, there is also a privately juridified obligation banning the corruption of foreign officials. This law ensures that governance systems external to the private legal system are not weakened by the acts of mining companies. The United States, Canada and England have all implemented strict anti-corruption and bribery legislation.[319] The result has been the development of programs across the mining sector to implement those legislative requirements.[320] Despite legislated exclusions and the lack of a universal applicability across all mining activities globally, there is a clear privately

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[317] Alcoa Inc., "Sustainability – Vision Strategy," <http://www.alcoa.com/sustainability/en/info_page/vision_strategy.asp> accessed on April 7, 2013 (hereinafter *Alcoa 2013*) at paragraph 9.

[318] *Alcoa 2013* at paragraph 4.

[319] Bribery Act 2010 (UK) 2010 c.23; The Foreign Corrupt Practices Act of 1977 (USA) 15 U.S.C. § 78dd-1, et seq.; Corruption of Foreign Public Officials Act (Canada) SC 1998, c 34.

[320] The regulation of governments through a combination of national legislation and corporate regulation is an example of regulatory hybridization. Both systems regulate the same space, with a goal of reducing corruption of foreign officials, but in different ways. For example national legislation sets a broad prohibition against payments for benefit, with fines and prison sentences as enforcement. In contrast the corporations often provide specific guidelines applicable to their industry and operations, with enforcement through termination of contracts or employment.

juridified obligation to allow no corrupt transactions, including bribery and other corruption of foreign officials or third parties.[321]

As a corollary to anti-corruption of national governance systems, there is also an obligation to strengthen and compliment national legal systems. This is done by ensuring that national legal requirements are met, while also meeting higher standards developed internally or internationally.[322] By importing internal and international laws and standards to a project, mining companies can demonstrate that higher standards can be met, and can reinforce the applicability of those standards and strengthen local governance aimed at increasing the sustainability of mining.

A third obligation related to the principle of governance requires co-operation and collaboration with other members of the interorganizational network to ensure the first two obligations. There is a recognition by mining companies of the importance of the relationships and shared common interest in sustainable mining. In particular, there is a recognized need to collaborate with other companies, organizations and institutions to create standards and solutions to challenges that create unsustainable practice in the mining sector. Through the adoption and promotion of standards and the recognition and observance of privately juridified legal obligations, the sector can provide processes and standards that are externally developed, and increase efficiencies in addressing sustainability issues.[323]

In addition to references to numerous third party standards as the source of substantive and procedural rules for meeting the obligations of sustainable mining, several companies have begun codifying their obligations. The result is the creation of libraries applying internally developed policies and standards that reflect national

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[321] *Agnico-Eagle Mines 2012* at 12; *BHP 2010* at 8.

[322] *Freeport-McMoran 2012* at 2; Hudbay Minerals Inc. 'Responsibility' <http://www.hudbayminerals.com/English/Responsibility/default.aspx> accessed May 20, 2013 (hereinafter *HudBay 2013*) at Voluntary Codes and Initiatives subheading, where Hudbay Minerals enumerates the private codes it adheres to, noting that it considers them voluntary; *EBX 2013*; *Newmont 2012c* at 5th bullet; *Vale 2009* at 2.

[323] *Inmet 2012a* at list item 14; *EBX 2013*; *New Gold 2009* at bullet 6; *Newmont 2012b*c at 4th bullet; Rio Tinto utilizes the connections within the interorganizational network to "promote collaborative engagement at international, national, regional, and local levels." (*Rio Tinto 2009* at 14).

obligations as well as third party standards and processes. These libraries assist in the process of codification of privately juridified rules, and are part of the civic constitutions of sustainable mining.[324] Such civic constitutionalism is an important outgrowth of private juridification of strong governance structures in private legal systems.

Finally, as with all other principles of sustainable development in mining, companies must ensure their contractors, consultants and suppliers adopt corporate standards and third party standards that bind those parties to the same privately juridified obligations that govern mining companies.[325] Review of the Contract Dataset, which consists of sample contracts from 10 major mining companies, demonstrates that suppliers and contractors are being required to agree to the same private legal obligations that mining companies are not obliged to observe. In particular, reference to laws, policies and guidelines, as well as specific corporate policy documents are provided and parties are contractually bound to observe them.[326] This provides evidence that the private laws are obligatory, contractual relationships are an important link in the interorganizational network, and that these private laws can be enforced as contractual law obligations in national legal systems.

The above analysis allows for several summary conclusions, which will be discussed in further detail in Chapter 5. In addition to the codification of a civic constitutional obligation to create governance regimes to support sustainability within mining, there is evidence of private juridification of processes and substantive obligations with regards to internal corporate governance, interorganizational cooperation and the preservation and support of governance regimes in other legal systems. Several important obligations have

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[324] See for example, the Rio Tinto Library of policies at http://www.riotinto.com/index_library.asp and Teck's library of twenty-one standards related to sustainable mining available at http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fOur+Commitments+pages%2fPolicies+pages%2fEHSC+Standards&portalName=tc.

[325] *Agnico-Eagle Mines 2012* at 99; *EBX 2013*; *Rio Tinto2009* at 7. This was also confirmed through a review of confidentially supplied contracts between companies in the Industry Group and their suppliers.

[326] Specific references cannot be provided as the Contract Dataset was provided on terms of confidentiality and reproduction of specific text was prohibited. References are held by author subject to confidentiality agreements.

begun to juridify within the mining sector to strengthen governance, especially with respect to the implementation of sustainable development policies. These include obligations to:

1. foster the development of strong governance within the system governed by private laws;
2. preserve and support systems of governance in other legal systems; and
3. co-operate and collaborate with other members of the interorganizational network to ensure the first two obligations.

4.2.d. **Environmental Management**

The fourth principle of sustainable development in the mining industry focuses on environmental management. By its very nature, extraction of resources is disruptive, often at a large scale. Sustainability in mining requires the continual improvement of mining methods to minimize the environmental impacts of mining. Thus, a sustainable mining operation will establish methods, measurements and goals to reduce the environmental impacts of mining, manage the life-cycle of mined products and inputs, to preserve the biodiversity, and ultimately to ensure appropriate remediation.

Although many procedural and substantive environmental obligations are nationally legislated, there is room for private legal systems to juridify and legally obligate members of the system to meet standards that are not applicable through national laws. In particular, the obligation to meet local laws and to apply international best standards and frameworks and techniques used elsewhere is creating a series of private legal obligations with respect to the environmental sustainability of the mining industry.[327] As with the civic constitutionalism that has begun with respect to the principle of good governance,

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[327] *Agnico-Eagle Mines 2012* at 30; *Mitsui 2013* at 1st paragraph; Goldcorp Inc. 'Environmental and Sustainability Policy' http://www.goldcorp.com/files/docs_governance/Environmental%20and%20Sustainabiilty%20Policy.pdf, November 2010, (hereinafter *GoldCorp 2010*) at 1st bullet; *Inmet 2005*; Boliden AB. 'Minimising emissions and discharges to air and water' <http://www.boliden.com/Sustainability/Environmental-responsibility/Emissions-to-air-and-discharges/> accessed May 21, 2013; *Bastida 2004b*.

there has been a proliferation of texts that establish constitutional limitations and legal frameworks for environmental management of mining, as discussed below.[328]

Reference to national legal systems are made both respect to the interaction between private company regulations, as well as private third party regulations. The former is seen in both UralKali's sustainability report and K+S Potash's sustainability report.[329] Centerra's notation that "the Cyanide Code is intended to complement an operation's existing obligation to comply with the applicable laws and regulations of the political jurisdictions in which the operation is located," demonstrates how, with respect to environmental laws, private regulations often layer on top of existing national laws.[330] However, there is also a strong recognition that highest standards should be used, especially when local national laws are lower than the methods and measurements used within the industry in other countries. This principle is reiterated throughout corporate codes and forms a part of the civic constitution of the mining industry. [331]

Beyond an obligation to apply national legal standards as a minimum, with a private obligation to meet environmental standards that are universal throughout the organization and industry, certain key aspects of mining's impact have been the subject of private

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[328] *Agnico-Eagle Mines 2012* at 30; *Mitsui 2013* at 1st paragraph; *Inmet 2005* at paragraph 1 and the 1st and 2nd bullets.

[329] UralKali. 'Nourishing The World. Sustainability: Our Agenda. Sustainable Development Report 2011' < http://www.uralkali.com/upload/iblock/2d9/SD_Report_11_09.pdf>, 2012, as accessed on August 9, 2013 at 42; K+S Potash. 'Corporate/Sustainability Report 2011.' <http://www.k-plus-s.com/en/pdf/2011/ub2011.pdf>, 2012, as accessed on August 9, 2013 at 75.

[330] Centerra Gold. 'News Release: Centerra Gold's Kumtor Cyanide Transportation Operation Certified Under International Cyanide Management Code.' <http://www.kumtor.kg/en/international-cyanide-management/>, April 20, 2012, as accessed on August 9, 2013. Although not undertaken in this project, this acknowledgement of co-regulation by private legal systems and national legal systems is evidence of regulatory hybridization.

[331] *Agnico-Eagle Mines 2012* at 30; *Mitsui 2013* at 1st paragraph; Goldcorp Inc. 'Environmental and Sustainability Policy' <http://www.goldcorp.com/files/ docs_governance/Environmental%20and%20Sustainabiilty%20Policy.pdf> at 1st bullet; *Inmet 2005*; Boliden AB. 'Minimising emissions and discharges to air and water' <http:// www.boliden.com/Sustainability/Environmental-responsibility/Emissions-to-air-and-discharges/> accessed May 21, 2013; *Bastida 2004b*.

juridification. These include the protection and net improvement of biodiversity;[332] water management through risk assessments and conservation initiatives;[333] the adoption of carbon disclosure, reduction and management plans;[334] the reduction of the use of virgin

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[332] African Rainbow Minerals. 'Sustainability Report 2011' <https://www.google.com/url?q=http://www.arm.co.za/im/files/annual/2011/download/ARM-sustainable-development-report-2011.pdf&sa=U&ei=HzWbUcyFNKTniAKK74GgDQ&ved=0CAoQFjAB&client=internal-uds-cse&usg=AFQjCNG_pbH5xcnWkQrJBserHT0pwhXN8Q> accessed May 20, 2013 at 69; *Agnico-Eagle Mines 2012* at 86; *Anglo American 2012* at 56; *Xstrata 2009* at 14; Goldcorp Inc. '2010 Sustainability Report: Biodiversity' <http://www.goldcorp.com/Theme/GoldCorp/files/annual_reports/Report2010/6_biodiversity.htm> accessed October 8, 2012 at paragraph 10 states, "regardless of regulatory requirements, all of our operations have voluntarily developed and implemented biodiversity management practices; Teck Resources Limited. 'Biodiversity' <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fKey+Focus+Area+pages%2fEcosystems+and+Biodiversity&portalName=tc> accessed January 9, 2013 (hereinafter *Teck 2012a*) at Longterm Goals subheading, where Teck notes it has a long term goal of ensuring it is a "net positive impact to biodiversity"; Vedanta Resources plc. 'Climate Change, GHG and Air' <http://sustainability.vedantaresources.com/responsible_stewardship/climate_change> accessed January 9, 2013 at 1st paragraph.

[333] Barrick Gold Corporation. '2011 Responsibility Report' <http://www.barrick.com/files/responsibility-report/2011/Barrick-2011-Responsibility-Report.pdf?noexit=true> accessed September 30, 2012 (hereinafter *Barrick 2012*) at 72; Teck Resources Limited. 'Water' <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fKey+Focus+Area+pages%2fWater&portalName=tc> accessed January 9, 2013, (hereinafter *Teck 2013*); Vedanta recognizes an obligation to use best available technology and the global standards in addition to national legal standards Vedanta Resources plc. 'Environment Overview' <http://sustainability.vedantaresources.com/responsible_stewardship/environment_overview> accessed January 9, 2013 at 3rd paragraph, and to "apply a zero discharge philosophy wherever possible" (Vedanta Resources plc. 'Water Management Policy' <http://sustainability.vedantaresources.com/resources/12/WaterManagementPolicy.pdf>, 2011, accessed May 20, 2013 (hereinafter *Vedanta 2011b*) at 3rd bullet.

[334] *Agnico-Eagle Mines 2012* at 36; ; *Hudbay 2013* at Voluntary Codes and Initiatives subheading International Council on Mining and Metals. 'Final Position Statement on Mining and Indigenous Peoples Issues' <http://www.icmm.com/page/8312/news-and-events/news/articles/final-position-statement-on-mining-and-indigenous-peoples-issues> accessed February 13, 2013 (hereinafter *ICMM 2013b)*; Newmont Mining Corporation. 'Carbon Management Policy' <http://www.beyondthemine.com/2012/

materials;[335] and an obligation to continually reduce water usage, waste and discharge created by mining activities, and energy use through programs of improvement rather than through strict regulatory compliance.[336] These private obligations are substantive in nature and are exemplified by a variety of text including:

> All operating assets [mines] are **required** to develop and implement environmental management systems in line with the Group's policy and all new capital projects include environmental risk assessment and mitigation plans.[337]

and

> We will manage and use land in our operations in a manner that allows biodiversity conservation needs to be integrated with business needs through the project lifecycle, including decommissioning, closure and rehabilitation; and … work towards the conservation of threatened/rare and endemic species and high priority conservation areas, and support local, national and global conservation initiatives. We will provide information and raise awareness among our employees and other stakeholders to enhance knowledge and understanding of biodiversity and conservation issues, where applicable.[338]

and

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managing_sustainably/policies/carbon_management_policy>, 2012, accessed May 20, 2013 (hereinafter *Newmont 2012a)*.

[335] See for example Alcoa's commitment and targets for the reducing the amount of bauxite residue and for increasing the amount of residue recycled or reused in the mid and long-term at Alcoa Inc. 'Sustainability at a Glance 2011' <http://www.alcoa.com/sustainability/en/pdfs/2011_Sustainability_Highlights_Report.pdf> accessed October 20, 2012 (hereinafter *Alcoa 2012*) at 4-5.

[336] *Areva 2012* at 14; *New Gold 2009*; *Newmont 2012a*; Teck Resources Limited. 'Energy' <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fKey+Focus+Area+pages%2fEnergy+and+Climate+Change&portalName=tc> accessed January 9, 2013; Teck Resources Limited. 'Materials Stewardship' <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fKey+Focus+Area+pages%2fMaterials+Stewardship&portalName=tc> accessed January 9, 2013; *Vedanta 2011b.*

[337] Ferrexpo plc. 'Corporate Responsibility - Environment' <http://www.ferrexpo.com/environment.aspx> accessed November 21, 2012 (emphasis added).

[338] *Vedanta 2011a* at first and fifth bullet.

> To achieve these objectives New Gold … will seek and adopt sustainable practices in the use of natural resources taking into consideration the protection of the local and regional biodiversity where we operate; and … maximize the reuse of materials and recycle of waste, and minimize the use of consumables and raw materials.[339]

Environmental private laws are often based on following national laws and enhancing those procedures and obligations to bring local operations to a level of environmental performance that is similar to other operations owned by the corporate group. While national laws regulate the environmental impact of mines through a variety of regulatory tools, including land use planning, the requirement for discharge permits, regulations against certain types and levels of discharge and prohibitions on the disruption of certain species or environments, not all national laws are similar. Although this variance can influence the cost of mining resources, they can only influence mining by making the venture cost prohibitive so as to prevent the project in its entirety. By virtue of the fact that the mineral is locked into the land, the operation cannot be simply moved to a country with lower standards. In addition, "it now seems increasingly clear that social license to operate and good environmental management are prerequisites of business in order to run properly."[340] If higher standards can be met in other countries, there is no technical reason they cannot be achieved in other operations even if national laws are more lax. As a result, mining companies are required to ensure that mines meet standards established throughout the industry rather than merely meeting local national laws. This is recognized as part of the social license required for mining operations. The recognition of this reality, and the reinforcement through texts that highlight the obligation to meet those standards privately juridifies those standards. Through this process environmental management, the fourth principle of sustainability, is co-regulated by private legal systems alongside national laws.

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[339] *New Gold 2009* at eleventh and twelfth bullet.
[340] PT Antam Tbk. 'Ensuring the Benefits for Tomorrow.' <http://www.antam.com/images/stories/joget/file/annual/2011/SR_PKBL/Sustainability_Report_Antam_2011.pdf>, 2012, accessed on August 18, 2013 (*Antam* 2012) at page 9.

4.2.e. **Human Rights**

As is the case with environmental laws, laws that protect human rights are also common throughout most countries. However, their specific requirements, the groups that are protected thereunder, and the enforcement of those national laws varies. As with environmental management, the management of human rights issues is also a matter of social license for mining companies.[341] An accusation of human rights abuses will not only derail a mining project, it has the potential to completely remove any support for mining projects in a region. This in turn creates pressure by other members of the interorganizational network to ensure all members comply. Without the proper protection and promotion of human rights mining projects are subject to instability, which both hinders the economic performance of the mine, but also the economic and social benefits that the mine brings to the community. The result is an unsustainable mining economy in the region. Thus, the preservation of human rights is an important aspect of any sustainable activity in the mining sector. As Barrick notes with respect to the North Mara mine in Tanzania, the remote location suffers from a host of personal security threats. However, its affiliate in the area has worked with local stakeholders to help promote social and economic integration with the long term goal of creating "an environment that provides for improved law, order and safety for all concerned."[342] By improving law and order the mining in the area is more likely to be sustainable.

Although there are obligations to preserve human rights in some jurisdictions, many developing countries with a large natural resource economy do not have strong national legal protections. This was recognized by several companies sampled, who noted that private juridification of human rights, in the form of corporate policies and the adoption of third party standards, occurs where the risk for such violations are highest and existing national laws are weak.[343] Cutting across borders, the private transnational legal sphere

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[341] *Antam 2012*.
[342] *Barrick 2012* at 65.

[343] *Agnico-Eagle Mines 2012* at 99; Agrium Inc. 'Management Approach' <http://www.agrium.com/sustainability/management_approach.jsp>, 2012, accessed May 20, 2013 at Human Rights subtitle exemplifies the recognition of a need for a human rights policy only in certain operating environments where local legal governance may be too weak to secure human rights.

in the mining industry has begun the process of creating civic constitutional obligations to respect fundamental human rights. These constitutional obligations appear in policies of various companies as well as non-governmental and industry organizations. The first principle of Antofagasta's Sustainable Development Policy states, "People Come First. Respect fundamental human rights by placing special emphasis on safeguarding health and safety issues in the workplace and across all areas of activity."[344] Similarly, Inmet Mining's *Human Rights Policy* constrained the activities of the company through an obligation to govern its activities in accordance with the policy. That policies goal was "to set out the principles and methods by which Inmet will achieve these objectives [fair and respectful engagement of stakeholders] in the context of human rights."[345] The balance of the policy sets out specific ways that the activities of the company will be modified so as to ensure this civic constitutional obligation is met.

Civic constitutionalism of human rights is also evidenced in non-governmental and industry documents. EuroMines, an industry body for European based mining companies, states in its *Sustainable Development Guidelines*, "members shall respect human rights, cultures, customs and values of people affected by their activities."[346] The ICMM's third principle binds its members to an obligation to "uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities."[347] Through the widespread adoption of this principles as discussed above, and the large economic role of those who are directly bound to this obligation, this statement has begun to constrain the actions of all companies who wish to ensure a mining project reaches completion.

In addition to these examples of civic constitutionalism of the importance of human rights to the creation of a sustainable mining industry several private laws have also been

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[344] *Antofagasta 2012* at 13.
[345] Inmet Mining. 'Human Rights Policy' <http://www.inmetmining.com/files/pdf/2012_Human%20Rights%20Policy.pdf> accessed October 10, 2012 (hereinafter *Inmet 2011*) at 1.
[346] Euromines. 'Sustainable Development Guidelines.' <http://www.euromines.org/sites/default/files/content/files/sustainable-development-issues/euromines-sustainable-development-guidelines-jan2012.pdf>, 2012, as accessed on February 18, 2013 at 10.
[347] *ICMM 2012a.*

privately juridified. Rio Tinto requires all of its subsidiaries and all of its contractors to adhere to *The Way We Work*, which "prohibit[s] discrimination on the basis of race, gender, national origin, religion, age, sexual orientation, politics, or on the basis of any personal characteristic protected by law, yet retain the right of the Group to make exceptions to favour local employment where local laws provide."[348] That policy also forbids the use of child and forced labour, as does HudBay's *Human Rights Policy* with the simple statement "HudBay supports the elimination of all forms of forced, compulsory and child labour."[349] Unlike the other areas of private laws governing sustainable development, there is little evidence of procedures being juridified by the companies who are required to observe them. Instead, companies reference non-governmental organizations policies, procedures and treaties.[350] Doing so ensures there is a decreased perception of a conflict of interest in addressing the preservation of human rights, an issue key to ensuring a social license to operate within some areas.

In summary, the mining industry is subject to private legal obligation as follows:

1. Mining companies must prohibit discrimination in hiring processes and within the work place.[351] All staff must be trained to recognize and mitigate discrimination. All suppliers and contractors must also contractually agree to ensure that human rights obligations are followed within their organizations.[352]
2. Neither child or forced labour should ever be used in the industrial mining sector.[353]

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[348] *Rio Tinto 2009* at 12.
[349] *Rio Tinto 2009* at 14; *HudBay 2011* at 1.
[350] *Arcelor Mittal 2012* at paragraph 1; *Agnico-Eagle Mines 2012* at 30; *BHP 2010* at 9; Goldcorp Inc. 'Memberships & Commitments' <http://www.goldcorp.com/default.aspx?SectionId=2681f122-c58f-44ab-86aa-c3ac95688cef&LanguageId=1> accessed May 21, 2013; *HudBay 2011* at 3; *Inmet 2011* at 3rd bullet on page 1; *Rio Tinto 2009* at 14.
[351] *Rio Tinto 2009* at 12; *Alcoa 2012* at 6; The Mosaic Company. 'Code of Business Conduct and Ethics' <http://www.mosaicco.com/documents/code_of_business_conduct.pdf> accessed January 9, 2013 at 35.
[352] *Alcoa 2012* at 6; *Arcelor Mittal 2012* at 8th paragraph; *Agnico-Eagle Mines 2012* at 12; *HudBay 2011* at 1; *Inmet 2011* at 4th bullet on page 1; *Newmont 2012c* 1st through 4th bullets.
[353] *Rio Tinto 2009* at 14; *Agnico-Eagle Mines 2012* at 12; *Areva 2012* at 3; *HudBay 2011*.

3. To increase transparency, external standards should be incorporated into corporate processes rather than developing unique standards applicable only to the corporate group. Although general transparency is a part of the principal of third principle - good governance – here the juridified obligation is to increase transparency through the specific application of external standards rather than merely being transparent as to the internal process used to protect and preserve human rights. In particular, constitutional documents such as the United Nations Global Compact, the *Voluntary Principles on Security and Human Rights* and the *World Gold Council's Conflict Free Gold Standard* should be adopted as binding obligations of the company.[354] It was also noted that greenfield developments raise specific challenges that are not present with brownfield projects and acquisitions.[355] These programs should have specific customized policies, which should be developed early in the life-cycle of the mine.

Despite these obligations, views on human rights are often culturally informed. Although private juridification is occurring with respect to human rights obligations of mining companies, companies must take care to respect the sovereignty of states, and to be cognisant of local customs and rules.[356]

4.2.f. **Health and Safety**

Even more so than environmental and human rights laws, legal obligations regarding the health and safety of employees exist in most national legal systems. As a result, all industrial mining operations are subject to a host of national health and safety regulations, often both from the country where the mine is located, but also from the country where the company (or its parent company) is incorporated. As a result, many companies have begun the process of creating health and safety policies, regulations and programs that

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[354] *Arcelor Mittal 2012* at paragraph 1; *Agnico-Eagle Mines 2012* at 30; *BHP 2010* at 9; Goldcorp Inc. 'Memberships & Commitments' <http://www.goldcorp.com/default.aspx?SectionId=2681f122-c58f-44ab-86aa-c3ac95688cef&LanguageId=1> accessed May 21, 2013; *HudBay 2011* at 3; *Inmet 2011* at 3rd bullet on page 1; *Rio Tinto 2009* at 14.
[355] *Arcelor Mittal 2012* at 3rd paragraph.
[356] *Vale 2009* at 3.

meet the requirements of all of these national systems. The result has been highly specialized health and safety programs that are binding on the companies, employees, consultants, suppliers and anyone who may venture on to the mine site.

As a result of this process, the privately juridified laws that are emerging in the mining sector are focused on standards that are often in excess to local standards as they that incorporate broad safety principles and that are based on international standards so as to allow uniformity across operations despite local national regulations. In particular, private juridification creates an obligation to:

1. Design safety programs that will help companies reach the goal of zero fatalities.[357]
2. Ensure staff are properly trained, that compliance with health and safety obligations is a condition of employment, and to empower staff and management to ensure that health and safety programs are effectively implemented, reviewed and updated.[358]
3. Adopt the highest international standards,[359] including standards set by the International Labour Organization and Occupational Health and Safety Advisory Service.[360]
4. Ensure these obligations are legally required of all consultants, supplier and subcontractors.[361]

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[357] Freeport-McMoran Copper & Gold. 'Safety and Health Policy' <http://www.fcx.com/envir/pdf/policies/safety%20health.pdf>, 2007, accessed December 15, 2012 (hereinafter *Freeport-McMoran 2007*); *Inmet 2012a* at list item 4; *New Gold 2009* at bullet 10; Oz Minerals Limited. 'Oz Minerals Limited Sustainability Policy' <http://www.ozminerals.com/Media/docs/OZ_SustainabilityPolicyMar2011-5f97122d-90a6-47f6-91f9-6d368f3b2060-0.pdf> accessed May 21, 2013 at 1st paragraph; *Rio Tinto 2009* at 11; *Teck 2012c*.

[358] *Antofagasta 2012* at 39; *BHP 2010* at 3; *Freeport-McMoran 2007* at 2; *Newmont 2012b*; *Rio Tinto 2009* at 11; Vedanta Resources plc. 'Safety' <http://sustainability.vedantaresources.com/responsible_stewardship/safety> accessed January 9, 2013 (hereinafter *Vedanta 2012d*).

[359] *Xstrata 2009* at 13.

[360] *Agnico-Eagle Mines 2012* at 39; *Hudbay 2013* at Voluntary Codes and Initiatives subheading.

The obligation to increase and normalize health and safety standards across national legal systems is occurring within the private legal system governing mining. This in part is due to an attempt to bring similarity to mining operations. It is also a recognition that "not only is the safety of our employees, contractors and the public a precondition to our social license to operate, it is a moral imperative."[362]

Evidence of all six principles of sustainable development in mining is provided above. Some principles are manifest in text that has begun to create a civic constitution, while other areas have been the focus of private juridification both substantially and procedurally. Juridification both at the corporate level, and through the efforts of industry and non-governmental organizations have contributed the resulting private legal system.

One process that was noted through the review of the textual evidence was that over time the process of juridification has been intensifying. This is evidenced through the increased number of corporate policies and social responsibility and sustainability reports that are being published annually. In addition, these reports, and the policies, codes and procedures that they reference have been increasing in length and complexity. Companies with policies developed several years ago, including Vale, Rio Tinto, Hudson Bay Minerals, New Gold and others tend to have more textual discourse about the content of private legal systems than those who have only recent put into place a private sustainability policy. It is clear that private juridification is an evolving process and that sustainability programs take time to be implemented as they are defined and refined. In the interorganizational network of mining companies, a majority profess an effort to integrate the higher-order of sustainability into mining practices. These have created civic constitutional restrictions to that effect. In addition, a growing number of private

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[361] Anglo American plc. 'Supplier Sustainable Development Code' <http://www.angloamerican.com/~/media/Files/A/Anglo-American-Plc/development/Supplier_SD_Code_english.pdf> accessed January 9, 2013 at 2; *BHP 2010* at 3; *Vedanta 2012d*.

[362] Agrium Inc. 'Agrium: Sustainability - Safety' <http://www.agrium.com/sustainability.jsp#safety>, accessed on October 20, 2012 (hereinafter *Agrium 2012*).

laws, 21 of which are summarized below, have juridified to ensure those constitutional obligations are adopted.

4.3. Recognition of private laws through regulatory hybridization and international judicialisation of sustainable mining

Having analyzed the texts collected in the Policy Dataset and Contract Dataset, a series of private laws and civic constitutional laws are evidenced that are regulating portions of the mining industry. The spread, continued adaptation and reflexive review and modification of those laws are dependent on an interorganizational network. This project has proposed a starting point for further research on the interorganizational network. That research will not only provide a better understanding of the network and methods for strengthening it, but it will also provide a better understanding of whether or not the private laws set out above are being observed. It may also provide an opportunity to determine how best to establish a system for adjudicating disputes between stakeholders related to those private laws.

As suggested in Chapter 2, private laws may exist without the observable trends of regulatory hybridization or international judicialisation. However, these last two trends provide evidence of acceptance of the existence of a private legal system by a pluralism of legal systems. Given the lack of dispute resolution systems for the Sustainable Mining Network studied, enforcement and reinforcement of private legal obligations through regulatory hybridization and international juridification will be important for ensuring the effectiveness of private laws. The research to determine if a private legal system governing the sustainability of mining industry is recognized by national legal systems, the legislation and jurisprudence of a sample of nation states where a majority of mining activity occurs, for example the ten nations were most mining occurs as discussed in Chapter 1, would be required. These trends were not reviewed as a part of this project, although such research would be beneficial. As a result, only anecdotal reporting based on observations while researching this project can be included in the following discussion of how private laws are impacting the sustainability of the global mining sector.

In summary, a mining company operating in the transnational sphere is regulated by a pluralism of national systems, and a series of privately juridified laws. The privately juridified laws identified in sections 4.2.a. to 4.2.f. include obligations to:

1. Plan for sustainability and the entire life cycle of the mine from exploration through to closure, maintenance and remediation;
2. Conduct social impact assessments on all projects;
3. Contribute to host community;
4. Procure goods and services from the local community whenever possible;
5. Support and strengthen local institutions and governance structures;
6. Develop strong governance within the system governed by private laws;
7. Preserve and support systems governed by national legal systems;
8. Co-operate and collaborate with other members of the interorganizational network to ensure strong governance in all legal systems;
9. Protect and improve biodiversity in mined areas over the lifecycle of the project;
10. Manage water through risk assessments and conservation initiatives;
11. Adopt carbon disclosure, reduction and management plans;
12. Reduce the use of virgin materials;
13. Continually reduce water usage, waste and discharge created by mining activities and energy use through programs of improvement rather than through strict regulatory compliance;
14. Prohibit discrimination in hiring processes and within the work place;
15. Never use child or forced labour;
16. Train staff to recognize and mitigate discrimination;
17. Increase transparency, external standards should be incorporated into corporate processes rather than developing unique standards applicable only to the corporate group;
18. Design safety programs that will help companies reach the goal of zero fatalities;
19. Ensure staff are properly trained, that compliance with health and safety obligations is a condition of employment, and to empower staff and management to ensure that health and safety programs are effectively implemented, reviewed and updated;

20. Adopt the highest international standards related to health and safety; and
21. Ensure these obligations are legally required of all consultants, supplier and subcontractors.

The significance of these 21 private legal obligations, and the preliminary evidence of regulatory hybridization and international judicialisation will be discussed in Chapter 5.

Chapter 5: The role of private legal systems in integrating sustainability into global mining operations

There are over 4,800 mining companies operating globally and an estimated 2,500 to 4,000 mines that are currently active.[363] Mining activity is consolidated and integrated, with roughly 2/3 of the production value owned by the largest 100 companies, but its activities are not limited in territory. Mining occurs on all populated continents, with much of the exploration and active mining occuring in Canada, the United States, Australia and Latin America. Historically, companies headquartered and operating in Canada, the United States, the United Kingdom and Australia have dominated the mining industry.[364]

In summary, the mining sector is directly and indirectly responsible for 45% of global GDP, is the source of the raw materials for almost everything used in daily life and is a key piece of many regional and national economies.[365] Yet the mining industry is not without problems. Mining monetizes minerals locked in the earth, but the process creates social and environmental impacts and raises questions of how to determine the allocation of the economic benefits from the mine.[366] Ultimately, these are questions that are addressed through the governance structures of governments, communities and the mining corporations themselves. Addressing these issues is important for all stakeholders. Questions of fairness and environmental justice, the allocation of benefits that justifies the costs, revenue certainty for the mineral owners, and a continued social license for the industry all require a response to the questions and concerns raised by mining.

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[363] The low ratio of operating mines to mining companies results from the fact that over 3000 of the world's mining companies are junior companies in the exploration and early development stage of projects.

[364] As a corporate headquarters for mining companies, the United Kingdom plays an important role in the mining sector. It is the home jurisdiction of several transnationals who are responsible for a significant percentage of the mining sector by production. This is due mainly to the fact that both Rio Tinto and Anglo American Plc are based out of the United Kingdom and together are responsible for 8% of the world's mine production.

[365] *Creamer 2012*.

[366] *Williams 2004* at 69.

This thesis approaches the issues generated by mining activity through the rubrics of sustainable development, and the pluralistic legal theory of reflexive law. To do so, a definition of sustainable development as it applies to mining is required, as is a theoretical lens for identifying and explaining the roles of private legal systems. In chapter 1, a definition was provided that states:

> Sustainable mining requires the operation of a mining industry where projects are planned, operated and closed with a view to … minimiz[ing] the costs to all stakeholders, now and in the future, while maximizing the benefits the communities, government rent collectors and the mining corporation and its stakeholders. It does not provide formulas or strict targets for how to ensure sustainability nor determine if it has been achieved. Instead sustainability refers to the practices of adopting a framework of processes to attempt to shape an industry that has very real economic, social and environmental impacts on all of its stakeholders.[367]

Six principles of sustainable activity within mining are also identified in Chapter 1: (1) Life Cycle Planning; (2) Community Development; (3) Governance; (4) Environmental Management; (5) Human Rights and (6) Health and Safety.

The theoretical framework of reflexive law was chosen as it is has been used to analyze a number of environmental, commercial and international legal issues. It is rooted in the assumption that there is a pluralism of legal systems, and that those legal systems interact with outside influences. In addition, through the writings and research of Teubner, the legal framework provides for a method of identifying private legal systems and their characteristics. In particular, Teubner's article *The Corporate Codes of Multinationals: Company Constitutions Beyond Corporate Governance and Co-Determination* provides five observable trends of a private legal system.[368] Those trends and reflexive law are explored in detail in chapter 2. The scope of this project required the five trends to be split into two groups. Three of the five 'observable trends' of a private legal system interorganizational network, private juridification, and civic constitutionalism, focus on the creation of new laws within private systems. The other two trends, regulatory hybridization and international judicialisation, focus on the

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[367] See Chapter 1 for a more in depth discussion of sustainable mining.

[368] *Teubner 2009*.

recognition of private legal systems by other legal systems, namely national legal systems. The first three trends are explored with empirical data collected from mining companies, associations and non-governmental organizations. Through an analysis of these three trends, the question of whether there is a private legal system can be answered – although it does not provide an answer as to how it interacts with other legal systems. The second group of trends was not analyzed.[369] The trends of international judicialisation and regulatory hybridization are important for the operation of a legal system as they provide recognition of private laws in a pluralism of legal systems, their existence is not required to demonstrate the existence or content of private laws governing sustainability. They are however of key importance to determining effectiveness of a private legal system. A legal system is more than the sum of its parts. Yet the mere existence of private laws says little about how the private legal system governs. The trends that are researched herein identify the extent of the space that is governed by private laws, what rules have been juridified into laws through the use of text that create binding obligations, and the constitutional framework of values that those rules are constrained within. This project lays the ground work for future research into tools, policies and methods that can assist in the integration of private and national legal systems to ensure sustainable resource use. Thus, the conclusions in this chapter will discuss the implications of using Teubner's trends as a theoretical basis for empirical research on private legal systems, specifically what it can tell us about the content of laws, and how the variety of trends interact to form a legal system.

Before turning to a discussion of the findings of this thesis's research regarding empirical research in reflexive law and the implications of private laws for the integration of sustainability into mining, the methods, assumptions and findings that the discussion is based upon is summarized below.

5.1. Methods, Assumptions and Limitations

The findings in this thesis are impacted by the methods used and the assumptions made in conducting the analysis. This thesis utilizes qualitative content analysis. It

[369] See the beginning of Chapter 4 at 90 for a more detailed discussion.

allows the use of a document to "understand the communication of meaning, as well as to verify theoretical relationships."[370] By beginning with a research question, content analysis remains "empirically grounded", but it has an "open-endedness" that enables a determination of the purpose of text rather than a literal textual reading of the author.[371] Empirical content analysis is used in this thesis to allow the researcher to move beyond the text presented by the legal actors who are describing in text the private law that regulates their behaviour. The method allows for a discussion and review of the content of that law with respect to the private legal systems ability to assist in governing the mining sector for sustainability. Texts analysed in this thesis include websites, corporate annual reports, contracts, policies, guidelines, mass media publications, legislation and judicial decisions.

To conduct analysis of those texts, coding of the texts is required. Two types of coding is applied to the texts in this project. The first uses coding of pairs of words and phrases to determine where obligatory language is being used, and whether it is procedural, substantial or constitutive. Further coding for subjects and themes based on the six defined principles of sustainability is then used to provide the analysis in Chapter 4. Together the focus is on what principles are discoursed in the sample text, and whether they are legal obligations, rules or merely examples of current practices.

The analysis of the texts, and the findings based there on, are shaped by the assumptions made in this thesis. First, it is assumed that there is a need to integrate sustainability into mining, and that doing so will help address the myriad of issues addressed in Chapter 1. Second, it is assumed that there is a pluralism of legal systems, that other legal systems are already attempting to address those issues, and that reflexive law is correct in theorizing that these systems can interact to co-regulate the stakeholders to modify the activity. Finally, it is assumed that the sampling methods used have produced a representative sample of the industry. These assumptions do qualify the research however. In particular, although the content analysis is designed to move beyond the words of the text and explore patterns and meaning therein, actual results

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[370] *Altheide 1987* at 68.
[371] *Krippendorff 2013* at 37.

stemming from those laws are not analyzed with regards to determining the content of the legal system. Thus, the extent to which identified private laws are being enforced cannot be determined through this research. Further, although the sample size includes all of the major mining companies, and a sample of intermediary mining companies, relatively few junior mining companies were included in the sample. Thus, juniors may not be adequately sampled, or may be only loosely connected to the proposed Sustainable Mining Network discussed in Chapter 4. This would in turn mean that much of the work in the early stage of mining – exploration – is not being juridified, or that such juridification is substantially different from the juridification discussed herein. As the first contact with local communities for many projects, and because of the impact on the later stages of a project, a focused study on the private legal obligations of junior mining companies and their integration with the system discussed herein would be worthwhile.

5.2. Summary and Discussion of Empirical Findings

The analysis in Chapter 4 provided several findings regarding interorganizational networks, private juridification and civic constitutionalism.

The interorganizational network provides the lifeworld in which a private legal system develops. As was demonstrated in Chapter 1, the global mining sector is highly consolidated, and the networks of industry organizations, non-governmental organizations, corporate hierarchies and mines all provide existing networks that an emergent private legal system can take advantage of. It is for this reason an interorganizational network is referred to as parasitic.[372] The network is not a parasite that erodes or damages the existing networks; instead it takes advantage of the efficiencies and existing bureaucracies, technical know-how and systems for spreading and re-enforcing ideas. An interorganizational network can utilize these characteristics in a number of ways, but for a private legal system they are important for providing the lifeworld in which technocratic specialists can juridify the private interactions of corporations with the goal of enforcing chosen principles for exploration, development, operation and closure of mines. It is through the utilization of existing and new

[372] *Teubner 2002*.

connections within the interorganizational network, and the repeated statements and applications of binary legal/illegal statements therein, that leads to the private juridification and civic constitutionalism of private laws regarding sustainable mining.

A potential interorganizational network is proposed in Chapters 3 and 4, based upon various criterion for allowing corporate groups and industry and non-governmental associations to self-identify their networks for membership in the larger network. This Sustainable Mining Network was not qualitatively tested, and the coding was not designed for qualitative content analysis. Instead, a coding scheme based on the reported laws would have to be applied to the datasets to provided data that could be quantitatively analyzed. As a result, any qualitative content analysis based on the sampled data would be biased by the current coding and uncertainty whether the sampled data is collected from a representative sample of the Sustainable Mining Network bound by the private laws identified herein. Instead, the results below demonstrate a sample of the emerging privately juridified substantive and procedural obligations. To the extent private laws are identified, additional research on their observance by mining companies, and how they are enforced if and when they are breached would be of value.

Despite not being able to conduct a full network analysis so as to determine the characteristics of the relationships within the network, a grounded content analysis of texts that purport to self-identify is possible. This method is used to describe the variety of ways that companies are identifying themselves as a part of the private legal system. The Sustainable Mining Network provides solid examples of the linkages that are present in a private legal system. Linkages can be found where mining projects are co-owned, such as the Antamina Mine (co-owned by Teck, BHP Billiton, Xstrata, and Mitsubishi), which created a new mine whose operating policies are reflective of the environmental, health and safety and corporate governance policies of the owners, as well as the International Finance Corporation's sustainability framework as a result of their financial assistance early in the project. Co-ownership can also lead to the transfer of private legal frameworks. After partnering with FreePort McMoRan Copper & Gold on the development of the Tenke Fungurume Mine, Lundin Mining adopted the *Voluntary*

Principles on Security and Human Rights, into its own operational policies.[373] Through the parasitic nature of interorganizational networks, these cross network exchanges are then passed throughout entire corporate hierarchies.[374]

The qualitative content analysis in Chapter 4 provides evidence that there is an interorganizational network that is linked through a variety of relationships including coordination of research and policy formation through organizations, co-ownership of mining operations and a shared resource pool of consultants, financiers and suppliers. One factor that became clear to the author was the need to broaden the criteria for inclusion. Indeed, the private legal system most likely includes all entities involved in the mining industry. The criteria that links them may become more apparent after exploring how private laws and other legal systems co-regulate. In areas that are subject to hybrid regulation, subjects of the other legal systems will likely also be governed by private laws by virtue of the recognition between legal systems. Thus a Canadian company subject to securities disclosure laws under the *Securities Act* (Ontario) or a Peruvian mining company subject to Peruvian environmental laws may be linked into a private legal system where they are subject to those national legal systems, and there national legal systems in turn reference and recognize private laws. Thus a legislative recognition of private laws may provide a linkage between organizations within the private sphere by reinforcing and expanding the group of governed entities from those who self-identify, to all entities who plan on participating in the sector. Similarly, co-regulation can expand national jurisdiction by making compliance with national laws that would not otherwise apply a necessity in practice. This would occur for example when a company is faced with the decision of whether or not to disclose certain facts, on the off chance that they may wish to list on a certain stock exchange or seek funding from specific parties in the future.

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[373] Lundin Mining. 'Corporate Responsibility' <http://www.lundinmining.com/s/CR_Tenke.asp> accessed December 15, 2012 at 7th paragraph; and Lundin Mining. 'Corporate Governance' <http://www.lundinmining.com/s/CR_governance.asp> accessed December 15, 2012 at eleventh paragraph.

[374] Evidence of the spread through corporate hierarchies is present in the Contract Dataset, where similar templates are used throughout the corporate group by separate legal entities. Each contract template however references the same broad governing policy documents.

Ultimately though, the full extent of that network, and thus who is bound by any private laws requires further refinement. It is possible to state that any mining company that operates in multiple mining jurisdictions is probably a member of the network given the high degree of interconnectedness and consolidation of the industry. More importantly, if they are not currently a member of the network, they should govern their actions as if they are. Ramifications for not governing actions were not discussed in this thesis as they stem from the trends of international judicialisation and regulatory hybridization. Enforcement however is not required by reflexive legal theory to prove the first three trends of a private legal system: the existence of an interorganizational network, private juridification and civic constitutionalism. The latter two provide the content of the legal system, regardless of whether they are effectively enforced. The potential of enforcement through regulatory hybridization and international judicialisation, or simply through the loss of the social license to permit and operate a mine, has often been noted by members of the network.[375] The analysis undertaken in Chapter 4 demonstrated an expansion of the network over the past ten years. If private juridification is not already impacting the operations of a mine, through joint ventures, policies from a parent company, or financing restraints, it is very likely that those private obligations will occur at some point through the life cycle of the mine. The presence of an interorganizational network will not change the industry, but it does provide for a lifeworld within which private juridification and civic constitutionalism may occur.

So what type of private juridification and civic constitutionalism is appearing within the interoganizational network? In the search for evidence of these two observable trends of a private legal system, texts from mining companies representing 70% of the industry (by production value) were analyzed to determine whether any obligations were being framed as legal obligations. The result was a series of private obligations that were posed as obligatory binding statements in both the companies whose texts iterated the obligation and of those with whom they contract within the mining industry. In total twenty-one private laws set within the six principles of sustainability were evidenced.[376] In addition,

[375] See for example *Antam* 2012 at page 9; *Agrium 2012.*
[376] See the conclusion of chapter 4 for further detail on the specifics of those obligations.

there was qualitative evidence of policies that formed a constitutional framework for how mining should occur. Even companies who did not use obligatory language with regards to the privately juridified laws often had safety, health and environment policies, or sustainability policies that provide a constitutional framework for their corporate group on how to approach mining through a lens of environmental and social sustainability.

With respect to civic constitutionalism of the 97 companies who were a part of the identified interorganizational network, only two did not have internal constitutional texts: PNG Sustainable Development Program Ltd. and Sté Minière du Sud Pacifique. As both of these are not mining companies, but rather government owned organizations that hold ownership in large mineral projects in Papua New Guinea and New Caledonia for the benefit of their local populations, it is unsurprising that they do not have constitutional documents regarding how to mine sustainability as they are project stakeholders and not operators. They are however important stakeholders in the sustainable development of local mining activities as both are designed to manage and maximize the social, economic and environmental benefits associated with local mining projects.

Although there is widespread evidence of the six principles of sustainable development in mining being codified as part of an overarching civic constitutionalism both within individual corporate groups and throughout the larger industry, evidence of private juridification provided mixed results. Analysis of the texts revealed at least one or two oft repeated legal obligations. There was however no evidence that detailed regimes of substantial and procedural regimes for the principles of human rights and community development were being juridified. Instead, the need for community development and the protection of human rights were enshrined as constitutional principles, but the substantive and procedural juridification is being sourced from other systems. In the case of the preservation of human rights, this was a deliberate choice so as to avoid the perception of bias by creating specific human rights obligations that apply to mining in a manner that differs from other industries. In contrast, it appears that the principle of community development is not being juridified within a private legal system because of the realization that the process will be highly variable and context driven.

Similar to the private juridification of the principle of human rights, which acknowledges the regulatory hybridization of this space, both the principles of

environmental management and health and safety have juridification that reflects the existence of a pluralism of legal systems. Examples of private juridification can be found, including, the private legal obligations to preserve and minimize the impact on biodiversity when designing and operating a mine. This creates a dilemma for the developing private legal system though. Although private juridification creates a legal obligation to integrate the preservation of biodiversity into mine design and operation, there still remains no agreement on how to establish targets that should be achieved when designing, operating and decommissioning a mine. Numerous targets are being used by companies, from a clear policy not to explore in critical habitats even if national laws allow for such exploration, to policies designed to use biodiversity offsets as a proxy for lost biodiversity at a mine site.[377] The appropriate approach will likely depend on local circumstances, the natural factors at question (e.g. loss of a unique habitat or critically endangered species versus general loss of wild spaces) and the other legal systems that regulate the space and activity. Thus, private juridification of biodiversity obligations highlight the need for private laws to co-regulate with a pluralism of legal systems for effectiveness.

The uncertainty that arises when exploring the specific actions required of a company attempting to ensure compliance with private laws of sustainable mining is not limited to biodiversity. There are some absolute bars, for example the prohibition on the use of child and forced labour, but most private laws need additional regulation. Currently this is handled by individual corporations attempting to meet the obligation through internally developed programs, reference to third party measurements and policies, or a combination thereof. The private legal system is attempting to co-regulate with other

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[377] An example of the different metrics and methods for addressing biodiversity can be seen when comparing Barrick Gold Corporation and Teck Resources Limited. The former develops mines so as to avoid UNESCO designated world heritage wildlife sites and works with the Nature Conservancy to address mining impacts on biodiversity (Barrick Gold Corporation. 'Responsibility - Environment' <http://www.barrick.com/responsibility/environment/default.aspx> accessed January 9, 2013 4th and 6th paragraphs under the subheading Biodiversity). Teck in contract has a long term goal of being a net positive impact on biodiversity through programs designed to offset biodiversity loss (*Teck 2012a* at subheading Longterm Goals).

legal systems, in particular with other private legal systems and with an international law system designed to codify human rights laws. Where no clear source of procedural law exists civic constitutions can also help guide the actions of corporations, and provides a measuring stick for those attempting to determine if the acts are legal or illegal. If there is no clear guidance on which third party method, or national legislation is being used to ensure compliance, civic constitutional documents such as the companies sustainability policy or safety, health and environment policy can provide guidance on the types of actions that would be required. Alternatively, where an internal constitution is lacking or insufficient to provide the necessary details, civic constitutional documents from organizations that have provided guidance on the obligation can be of assistance.[378] Although, there is some private juridification with respect to environmental management and health and safety, the main thrust of that juridification is to stress the importance of using the highest standards and best methods available, and not just national legal standards. This is a concept that is also juridified under the principle of corporate governance, perhaps the most important private juridification for ensuring sustainability in mining.

The private juridification of corporate governance was highly developed among the texts analyzed. The creation of a specific guiding document in the form of a sustainable development policy, corporate social responsibility policy or corporate governance by-laws was evidenced in the documentation of many of the major and intermediary mining companies sampled.[379] To complement these broad constitutional documents, or occasionally in lieu of broader policies, companies also put in place policies on key issues, including but not limited to: water;[380] biodiversity;[381] human rights;[382] and

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[378] For example, if a company was lacking constitutional documents or clear guidance on how it was going to address the obligation to consult with first nations and local populations the ICMM's position paper on Indigenous Peoples (*ICMM 2013b*) is of assistance as an explanation of the type of program that should be in place to meet the obligation.

[379] See for example, *Rio Tinto 2009; Xstrata 2009; IamGold 2011; GoldCorp 2010*; *EBX 2013*.

[380] *Vedanta 2011; Teck 2013.*

[381] *Vedanta 2011a.*

[382] *Inmet 2011*.

environment, health and safety.[383] Finally, two companies have also made publicly available libraries of specific methods in which these policies are to be implemented in practice.[384] Together, these all exemplify ways that individual corporate groups are strengthening their internal legal frameworks to constitutionalize and juridify the six principles of sustainable mining.

Only the largest companies who have been focusing on sustainable mining for more than decade are at the stage where they have extensive policy frameworks, constitutional documents and libraries of procedural requirements. At a broader level, the Sustainable Mining Network has clearly juridified an obligation to ensure internal procedures for mining companies to create corporate governance regimes that integrate sustainability into decision making. Examples of the juridification occurring can be found in section 4.2.c in Chapter 4. In particular, there is evidence of private juridification of processes and substantive obligations with regards to internal corporate governance, interorganizational cooperation and the preservation and support of governance regimes in other legal systems. Several important obligations have begun to juridify within the mining sector to strengthen governance, especially with respect to the implementation of sustainable development policies. These include the obligations to:

1. foster the development of strong governance within the system governed by private laws;
2. preserve and support systems of governance in other legal systems; and
3. co-operate and collaborate with other members of the interorganizational network to ensure the first two obligations.

These obligations suggest companies should be taking an active role in creating connections amongst corporate networks through associations and research bodies to help address issues of sustainability. To the extent that acts can be used to strength

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[383] *Newmont 2012b; Teck 2012c.*

[384] See for example, the Rio Tinto Library of policies at http://www.riotinto.com/index_library.asp and Teck's library of twenty-one standards related to sustainable mining available at http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fResponsibility+Pages%2fSustainability+Pages%2fOur+Commitments+pages%2fPolicies+pages%2fEHSC+Standards&portalName=tc.

governance in the resource sector, both privately and through public/national legal systems, companies have an obligation to do so. More importantly, they cannot undertake acts that threaten to weaken governance, for such an act will have impacts for all stakeholders in the network. Any weakness in governance, whether within a national legal system or a private legal system, increases the likelihood of unsustainable activities, especially where the monetization of a resource is occurring.[385] For this reason, and as the method in which all other principles of sustainable mining are incorporated and put into action in the mining sector, the development and enforcement of solid corporate governance structures will be key to the integration of sustainability into mining.

Based on those findings, and using the provided definition of sustainable development in mining and a lens of reflexive law, this thesis has proposed a number of questions. In particular:

1. What does the evidence of private juridification and civic constitutionalism suggest about the regulation and development of a sustainable mining industry? Can private laws assist in integrating sustainable development into mining?
2. How does this research add to the empirical literature?

These questions will be answered in turn below.

5.3. What does the evidence of private juridification and civic constitutionalism suggest about the regulation and development of a sustainable mining industry? Can private laws assist in integrating sustainable development into mining?

This thesis began by asking whether a transnational private legal system based on the private guidelines, practices and standards set out by corporations, associations and non-governmental organizations regulate the mining industry. Although there is evidence of an emerging private legal system, it is also clear that this system cannot regulate the industry in isolation. None of the laws being juridified speak of enforcement mechanisms, and indeed there is no procedural mechanism within the interorganizational network created to enforce legal obligations. Instead enforcement will come through

[385] *Wälde 2004a* at 131-133.

compliance, the loss of social license where there is no compliance, and regulatory hybridization with national regimes and other private regimes (for example treaties or agreements with enforcement clauses whose remedy is usually limited to expulsion or removal of membership).

What does the existence of privately juridified laws without clear and widely accepted procedural regulations mean for the ability of a private legal system to integrate sustainability into mining? There is evidence that corporate governance has been strengthening, and that there is a general acceptance of the need to incorporate sustainability into mining since the release of *Breaking New Ground* in 2002. However, it is also clear that there are still many times when weak governance at the corporate level, the governmental level, or both, create a risk of unsustainable resource development. Teubner specifically included co-regulatory hybridization and international judicialisation as trends within a private legal system as private laws appear to only be effective when they interact with other systems. For this reason, there is a need for more research into the regulatory hybridisation and international judicialisation of private laws of sustainability in the mining sector. There is anecdotal evidence that this is occurring – from the enforcement of the International Financing Corporations sustainability guidelines in international tribunals, to the reference to corporately defined sustainability practices in legislation.[386]

Although a preliminary data collection on international judicialisation and regulatory hybridization was undertaken as part of this project, no analysis was conducted.

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[386] In the Compliance Advisory Ombudsman (CAO) Appraisal Report regarding Antamina Mine (*Peru / Compania Minera Antamina S.A.-03/Huarmey* 2008 Compliance Advisory Ombudsman Appraisal Report September 2008 (Compliance Advisory Ombudsman)) the International Finance Corporation's sustainability standards and looked to operationalize and enforce the requirements for community consultation. Unfortunately, by the third reference of the matter to the CAO, Antamina no longer had a financing guarantee from the International Financing Corporation, and the CAO dropped the matter as it no longer had jurisdiction. Evidence of regulatory hybridization can be seen in the definition of "sustainable development" for the purposes of the *Mines and Minerals Act* (Manitoba) CCSM c M162. Subsection 2(2) therein states that sustainability shall be defined with reference to the principles set out by "government and industry, in their respective policies and practices."

However, a review of that data indicates that there is minimal published international judicialisation of sustainable mining, although regulatory hybridization is occurring in a number of areas. In addition, the data that did exist appeared to be growing in quantity for both trends, and a more detailed analysis should be possible in the future. A full review would require extensive resources to review cases and legislation in multiple jurisdictions and languages. This research would be of benefit to determining the extent that a private legal system is being recognized by other systems.

No research was not conducted on regulatory hybridization and international judicialisation in this thesis, but three observations can be made based on Teubner's legal theory. First, without the trends of private juridification and civic constitutionalism, there can be no regulatory hybridization or international judicialisation. This is clear when it is acknowledged that the function of the latter two trends is the acknowledgement of private laws by other legal systems, and the cross pollination of ideas and regulation in tandem for certain areas. Second, as both regulatory hybridization and international judicialisation provide forms of recognition by other legal systems of a private legal system, and because they offer mechanisms for enforcement and implementation of those laws, both these trends will strengthen governance in the private legal system. Third, if regulatory hybridization has the ability to strengthen governance within private systems, there is no reason to expect that it will not strengthen governance in national legal systems through greater recognition by members of the private legal interorganizational network. Indeed, by regulating spaces such as health and safety and biodiversity protection together, a pluralism of legal systems provide recognition to each other and support for the governance systems of the other legal system. Thus, the existence of the last two trends will not only help improve the effectiveness of private laws, but they will also strengthen governance within legal systems governing the monetization of mineral resources. This creates an environment that is more likely to develop sustainability than those with weak governance.

Clearly there is a role for private laws in regulating the sustainability of mining. Already a number of new laws are juridifying and a civic constitution aimed at limiting and directing the actions of mining operations is beginning to form. To become truly

effective, these systems must continue to grow, and more importantly they must interact with other legal systems and not attempt to govern in isolation.

Additional steps are required to can strengthen both national legal systems and the private legal system, and ultimately create stronger governance systems that ensure sustainable development of mining projects. *Breaking New Ground* has suggested an international system for the settlement of disputes regarding the development of mining projects.[387] This has not been followed up on, but is a crucial step in integrating the pluralism of legal systems that govern mining. The creation of an independent system for adjudicating disputes will provide a forum for exploring the successes and failures of national legal systems in governing mining outside of the national legal system. Such dispute resolution mechanisms are already beginning to appear for some voluntary codes, including the International Cyanide Management Code.[388] Such private dispute resolution mechanisms provided an important tool for governing difficult issues. A legal system's function, according to reflexive legal theory, is to adjudicate whether the act is legal or illegal and not to pass judgment on the content of that law. By externalizing the decision to a tribunal that exists at the intersection between legal systems, decisions can be made with reference to the laws of both legal systems – a function which has potential of strengthening both legal regimes by offering new lens for exploring the issues. This would also provide a substantive remedy to stakeholders who may have rights within a legal system, but who have no way to enforce those rights within that system.

Finally, fleshing out the substantial content of the private laws, which has not as of yet occurred, and strengthening the ways that the pluralism of legal systems interact will provide new routes for creating and evaluating the legal obligations to develop minerals sustainably. It is possible that the legal obligations required to create a sustainable mining project already exist, albeit in parts across a variety of legal systems. Through interactions between national systems and a private legal system, the private legal system offers a method of consolidating ideas, which in turn can be juridified, and ultimately

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[387] *IIED 2002* at 405-406.

[388] International Cyanide Management Institute. 'Dispute Resolution - International Cyanide Management Code' <http://www.cyanidecode.org/about-code/dispute-resolution> accessed May 17, 2013.

applied across the global mining industry regardless of deficiencies in local laws. Alternatively, rather than governing mining, a private legal systems' ultimate function may be merely to introduce new legal obligations into national systems be demonstrating that better practices and more sustainable mining is possible despite a national legal system that only requires mining practices that are unsustainable. It is the flexibility of the newly emerging private legal system, and the fact that much of its content and interactions are still being formed that offers legal practioners, mining companies, technicians and advocates a chance to form a system that could either incrementally adjust the way that mining occurs, or which may bring about transformative changes in the way in which minerals are extracted and the wealth is shared across groups to develop within a sustainable manner.

These observations on private laws and their impacts on sustainable mining provide several observations on next steps for future research and the usefulness of this research for practioners. Before discussing those however, there is also a need to review the lessons learnt with respect to the empirical research of reflexive legal systems.

5.4. How does this research adds to the empirical literature?

This question is not directly linked to the subject matter of sustainability or mining. The limited amount of empirical work has been highlighted by Paterson and Teubner.[389] Even with respect to the five observable trends of a private legal system, Teubner's noted the need for additional empirical research into the trends.[390] Thus a discussion on lessons that can be learnt from this research for others contemplating research using reflexive law is worth undertaking. The lessons the author can provide from this project are three-fold:

1. Multiple iterative passes are required, and the research must be designed with this in mind;
2. Although the observable trends of a private legal system can be studied in isolation, the research may uncover linkages between those trends that make the research incomplete without analysis of other trends; and

[389] *Paterson and Teubner 1998.*
[390] *Teubner 2009.*

3. As a result of the iterative and autopoietic nature of the theory, definitive answers cannot be achieved, only observations and additional research questions can be provided through empirical research of reflexive systems.

As Chapter 3 demonstrated, reflexive legal theory cannot be studied through quantitative methods, nor through any methods that rely on, or attempt to demonstrate causation. This limits the research tools, and thus the empirical evidence that can be conducted. It also means that qualitative content analysis is going to be a prime mean for studying any reflexive legal system. To do requires a coding scheme, but as the questions that are to be asked with respect of a reflexive legal theory depend in part on content of the texts, the final coding scheme will often not emerge until after several iterations of data. This must be kept in mind when generating a dataset as it means most data will need to be reviewed and coded multiple times before analysis begins. Thus, when coding, working systematically through codes based on words, pairs, and then themes and subjects can be of assistance in creating a coding scheme that allows for meaningful analysis.

A second impact of the inability to study causation is that research questions will never be able to answer question aimed at determining effects directly. Indeed, this is a major research problem for determining the ability of regulatory hybridization and international judicialisation to make private law more effective. Although the study of both trends will potentially provide evidence of recognition of private laws and methods in which they are enforced and reinforced, it will be impossible through the available methodological tools to determine if these trends actually make private laws more effective at addressing the issues.

This in turn leads to the third observation. Empirical research of reflexive legal systems is ultimately limited to providing a better understanding of the data that exists within a system, including the content of laws and how stakeholders and legal systems interact. It will not be able to explain how stakeholders impact laws, nor how laws impact stakeholders and outcomes. The knowledge that there are interactions however does provide a valuable tool as it provides new pathways for interacting between stakeholders and attempting to modify outcomes from mining operations.

With these thoughts in mind, this thesis can be completed with a summary and discussion of where the industry currently is and next steps for research, the development of private law in the sector, and practical consequences for practioners working in this area.

5.5. Final Thoughts and Next Steps

This thesis has provided evidence of private legal obligations being acknowledged, quoted and internalized into contracting and corporate governance procedures by mining companies. It is clear that a system of private laws is emerging, but it is still in its infancy. Much of the regulatory content that will outline the procedural obligations has yet to juridify into clear legal/illegal binaries. But there is evidence that private juridification has begun and continues to occur. Legal obligations that arise outside of the national system exist. It is widely recognised that the higher order of sustainability should be integrated into mining, and now obligations are juridifying to ensure it is. Civic constitutionalism at the corporate level continues to codify policies and interpretations of how those obligations impact corporate groups. Those who are working with mining companies need to recognize that these are not 'soft laws' or mere policy – they are legal obligations that can be demonstrably shown to exist. As such, their observance, especially in areas that are also regulated by national legal systems, is paramount. Where legal systems intersect is where the interpretation of private laws by third parties will occur, through enforcement, litigation, adaptation of projects and policies and perhaps someday transformative change of the mining industry. Whether that change will continue to occur, and whether it is transformative or incremental will ultimately depend on the actions of those impacted by the system and on whether new mechanisms are created to encourage the co-regulation between private and national legal systems.

Several research initiatives have been identified herein. First, there is a need to explore the extent to which the identified private laws and civic constitutionalism is occurring amongst junior miners. Although this group of companies represents only a third of production, they account for 80% of the private firms. Furthermore, they are the companies who have the least governance capacity internally. The lack of capacity

within that industry segment is a main challenge in implementing sustainability across the industry.[391] Second, research is required on the last two trends. That may provide evidence of recognition, but it can also provide practioners with a clear pathway for enforcing the identified private laws. For practioners, and here the term is used to mean the lawyers and consultants advising stakeholders in the mining industry, the focus should be on creating projects that assist the cross fertilization of ideas and the improvement of corporate governance processes that embed the values of sustainability. Much has already been done, but without further effort only some stakeholders will benefit and the industry will not integrate sustainability into its planning and operations.

These efforts will most likely include the support of procedures external to corporate groups. Only a few companies are large enough to justify the expense of customizing procedures for operationalizing the principles of sustainable development. Thus, the creation and support of broader networks outlining substantive and procedural rules such as those found in E3 and the Equator Principles must be supported and adopted on a wide scale.

Finally governance is key to sustainability. As much of the private juridification regarding health and safety, environmental management, community development and the protection of human rights is through the integration of existing legal standards from a pluralism of legal systems, it would be beneficial to those involved to encourage the integration of higher standards into other legal systems. Here private law could act as a bridge and a facilitator between a pluralism of legal systems that do not otherwise interact, or interact in only nominal ways. Standardization of laws, or at least recognition of laws form other legal systems, will level the playing field and ensure proactive and visionary mining operations are not penalized. It will also enhance the transparency of the industry and ultimately its social licence to operate.

Private laws cannot provide a solution to the unsustainable practice of mining alone. With hard work and the perseverance of all stakeholders though, it may be able to co-regulate the space with other legal systems and provide flexibility and stronger governance. That remains to be seen, but at least now it is clear that there are private

[391] *Buxton 2012* at 12.

laws in place, and that the process of co-regulation and further juridification have a space in which to grow. If private laws prove to be effective at co-regulation and the spread of a sense of obligation to improve practice, than sustainability can be integrated into mining.

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Appendix 1: Sampled Mining Companies

African Rainbow Minerals (ARM) Ltd
Agnico-Eagle Mines Ltd
Agrium Inc
Alcoa Inc
Almalyk Mining and Metallurgical Complex
Alrosa Group
Anglo American Plc
Anglogold Ashanti Ltd
Anshan Iron and Steel Group Corp
Antofagasta Plc
APAC Resources Ltd
Aquarius Platinum Ltd
ArcelorMittal
Areva SA
Assore Ltd
Baosteel Group Corp
Baotou Iron & Steel Group Co Ltd
Barrick Gold Corp
Batista, EF family
Belaruskali OJSC
Benxi Iron & Steel Company
BHP Billiton Group
Boliden AB
CAP SA
Centerra Gold Inc
China Minmetals Corp
Chowgule & Co (Pvt) Ltd
Cia de Minas Buenaventura SA
Cia Siderurgica Nacional
Cliffs Natural Resources Inc
Coeur d'Alene Mines Corp
Consolidated Minerals Ltd
Corporacion Nacional del Cobre (Codelco)
Doe Run Co, The
Eldorado Gold Corp
Equinox Minerals Ltd
Eramet Group
Erdenet Mining Corp
Essel Mining & Industries Ltd
Eurasian Natural Resources Corp Plc
EuroChem Mineral and Chemical Company OJSC
Evraz Group SA
Ferrexpo Plc
First Quantum Minerals Ltd
Fortescue Metals Group Ltd
Freeport-McMoran Copper & Gold Inc
Glencore International Plc
Gold Fields Ltd
Goldcorp Inc
Grupo México SA de CV
Hancock Prospecting Pty Ltd
Harmony Gold Mining Co Ltd
Hebei Iron & Steel Group Co Ltd
Hochschild Mining Plc
Hudbay Minerals Inc
IamGold Corp
Impala Platinum Holdings Ltd

Industrias Penoles SA de CV
Inmet Mining Corp
Jinchuan Group Ltd
JSW Steel Ltd
JX Nippon Mining & Metals Corp
K+S AG
Kazakhmys Plc
Kermas Group Ltd
KGHM Polska Miedz SA
Kinross Gold Corp
Korea Resources Corp
Lingbao Gold Company Ltd
LKAB (Luossavaara-Kiirunavaara AB)
Lonmin Plc
Lundin Mining Corp
Magang (Group) Holding Company Ltd
Mechel OAO
Metalloinvest Holding Company OJSC
Millennium Investments Elad Ltd
Minsur SA
Mitsubishi Corp
Mitsubishi Materials Corp
Mitsui & Co Ltd
Mosaic Co, The
MSPL Ltd
National Iranian Copper Industries Co
National Mineral Development Corp Ltd
Navoi Mining & Metallurgical Combine
New Gold Inc
Newcrest Mining Ltd
Newmont Mining Corp
Nippon Steel Corp
Norilsk Nickel Mining & Metallurgical Company
Norsk Hydro ASA
Novolipetsk Iron & Steel Works
Omid Investment Management Corp.
OneSteel Ltd
Orissa Mining Corp Ltd
OZ Minerals Ltd
Pan American Silver Corp
Petropavlovsk Plc
Platinum Group Metals Corp
PNG Sustainable Development Program Ltd
Polymetal MNPO
Polyus Gold OJSC
Potash Corp of Saskatchewan Inc
Privat-Holding (Kolomoyskiy) Group
PT Antam Tbk
PT Timah Tbk
Quadra FNX Mining Ltd
Rio Tinto Plc
Severstal OAO
Shougang Corp
Silvinit JSC
Sinosteel Corp.
Smart Holding N.V.
State of Botswana
State of Congo (Dem Rep)
State of Cuba
State of India

State of Iran
State of Jordan
State of Morocco
State of Turkey
State of Venezuela
Sté Minière du Sud Pacifique
Sté Nationale Industrielle et Minière
Steel Authority of India Ltd
Sumitomo Corp
Sumitomo Metal Mining Co Ltd
System Capital Management
Taiyuan Iron and Steel (Group) Co Ltd
Tata Steel Ltd
Teck Resources Ltd
Ural Mining and Metallurgical Company
Uralkali United Company
US Steel Corp
Vale SA
Vassantram Metha & Co Pvt Ltd
Vedanta Resources Plc
VM Salgaocar & Brother Pvt Ltd
Volcan Cia Minera SA
Votorantim, SA Industrias
Wuhan Iron and Steel Group
Xstrata Plc
Yamana Gold Inc
Zijin Mining Group Co Ltd