The reasons for continued investment in company housing: A case study of the village of Deloro, Ontario.

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The Reasons for Continued Investment in Company Housing:
A Case Study of the Village of Deloro, Ontario

by Derrick M. Wong

A Thesis
Submitted to the Faculty of Graduate Studies and
Research through the Department of Geography
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1998
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ABSTRACT

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There are two main areas of conflict in relation to company housing in Canada: i) whether or not company housing was profitable; and ii) whether dominant industries utilize company housing in a self-determining survivalist manner. A model of the dominant industry's decision-making process was conceptualized and applied to a case study in order to determine the factors involved in the development and continued maintenance of company housing. This study examined company housing in the Village of Deloro, Ontario from 1916 to 1961 by investigating the factors of labour maintenance, industry profits, housing profits, social control and labour control. The Deloro Smelting and Refining case study uses pattern matching to determine which factors were involved in the decision making process.

The analysis suggested that the prosperity of the resource extraction operation was the primary reason for continued investment in company housing. Although the profitability of company housing was a factor, producing a capital return was by and large insignificant to the continued maintenance of the units. Despite the auxiliary benefits of profits, social control and selective labour
control, company housing was subsidiary to the resource extraction industry. In this regard the Deloro Smelting and Refining case study has demonstrated that there is a need to ensure that dominant industries' powers are kept in check. As long as dominant industries are pressured to produce greater capital returns they will utilize any means at their disposal to ensure survival in the free market, this includes using company housing to manipulate their employees.
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1. INTRODUCTION

Dominant industries, or resource extraction companies, have developed company housing in Canadian resource communities as a means to shelter their employees. Company houses are the primary tools for dominant industries to direct spatial living environments, yet past research has been limited. Existing literature has identified two main areas of conflict in relation to company housing in Canada: i) whether or not company housing was profitable; and ii) whether dominant industries utilize company housing in a self-determining survivalist manner.

Dominant industries contend that company housing was developed at a loss and maintained as a benefit for their employees (Walker, 1953; Robinson, 1962; Allen, 1966; Lucas, 1971; and Horsfall, 1974). Yet other researchers claim the reverse, that company housing in fact produced a capital return (Walker, 1927; Pollard, 1965; and Goltz, 1989&1990). Thus, profitability is a key issue because it brings into question the accepted rationale for developing company housing. There is also the implied paternalism of an employer owning the shelter in which the employee lives. Company housing can be utilized as a tool to manipulate the community’s social structure, the dominant industry’s labour force and the local political process. Thus, there is a need to determine if company housing was used to achieve the dominant industry’s operational objectives, thereby providing additional reasons for continued investment. Both of these issues have larger implications because they bring into question the very reason for which company housing was initially developed and why they were maintained.
This study reexamined the reasons for continued investment in company housing by applying a model of the dominant industry's decision-making process to a single explanatory case study of Deloro Smelting and Refining's (DSR) company houses. The first chapter will provide a theoretical foundation for the study and is followed by a description of the methodology, the data results, and finally a conclusion. The DSR case study contributes to existing knowledge that can assist in the development of policy for the better management of company housing in the future.
2. FOUNDATION

This chapter seeks to explore existing knowledge on company housing and provide a theoretical framework for the DSR case study. The review will explore past research to provide an understanding of company housing within the larger framework of a resource extraction operation. This is followed by a theoretical model of the dominant industry’s decision making process. The central aim of this chapter is to not only present existing knowledge, but to identify areas where further research is needed thereby providing a foundation for the DSR case study.

2.1 Literature Review

The study of company housing has largely taken place within the context of investigations into single resource communities. Resource communities are distinguished by the fact that they have been built to shelter workers who are engaged in the extraction, development, or processing of a forest, mineral, fishing, or power resource (McCann, 1982, p. 61). Resource communities can be broken down into two types: a) service and supply towns, which are characterized by several industries and sometimes have their origins as boom towns; and b) company towns, the existence of which remain closely attached to one industry’s operation (Stelter & Artibise, 1982, pp. 48-50). It is the latter type of resource community that this study is most concerned with.

Resource communities, however, are not the same as company towns. Whereas a company town can be a resource community, the reverse is not necessarily the case. The key difference is that resource communities often have more than one dominant enterprise influencing the operations of
the community while company towns are controlled by a single private interest. Stelter & Artibise (1982) believed that the overriding common characteristic of company towns was their function; all were built as adjuncts of industrial enterprises to provide a means for attracting a sufficient work force (Stelter & Artibise, 1982, p. 51).

Several researchers have studied resource communities according to the different periods of development (Walker, 1953; Robinson, 1962; Committee on Resource Dependent Communities in Northern Ontario, 1986; and Bradbury, 1993). Stelter and Artibise (1982) grouped resource communities according to their period of construction and the planning practices that were prevalent at the time. These authors believed that there were three generations of resource towns built since 1867. The first period was the privately developed towns before 1920 that was characterized by an ad hoc laissez-faire approach to planning. The second period was between the time of the two world wars and was characterized by a more holistic approach including the City Beautiful and the British Garden City movements. The third period was the time from World War II to the present where a comprehensive approach was taken and emphasis was given to green belts, Central Business Districts, traffic separation and land-use segregation (Stelter & Artibise, 1982, pp. 52-55).

Lucas (1971) took a different approach to studying the development of single resource communities in Canada. This author developed the theory that resource towns progressed in four main stages of development. The first stage is the planning and construction of the community where the location's existing resources were analyzed. The second
stage sees the new community evolve from a company dependent organization to an independent one. The third stage is the transitory stage where the company relinquishes control over the community thereby leaving it essentially self-determining. The fourth stage is the mature community stage which is characterized by a low labour turnover rate, high percentage of company employees with seniority, and negative characteristics such as limited potential for young people in the community (Lucas, 1971, pp. 21-89). While Lucas' work provided a foundation, other researchers have advanced his theory to include two additional stages that might occur, the winding down and closure of the resource community. These stages are characterized by severe housing problems such as lack of demand and dramatic decreases in real-estate values (Bradbury & St. Martin, 1983; Bradbury, 1993).

One of the key issues in the study of company housing is the belief that dominant industries realized a profit from their housing investments. Many researchers believe that company housing was developed and maintained at a loss for the benefit of the employees (Walker, 1953; Robinson, 1962; Allen, 1966; and Horsfall, 1974). Goltz's (1989) study of Copper Cliff, Ontario, however, found that the dominant industry expected a return on its housing expenditures which suggest profit was the motivating factor behind employee houses. It seems that the image of dominant industries providing accommodations at a loss was a myth caused by misleading analysis of low rental rates (Goltz, 1992, pp. 42-69). The issue of profitability is important because it suggests that employee shelter provision was not the only motivation for developing and maintaining company houses.
The quality of construction is another important component in the analysis of company housing because it is an indication of the dominant industry's intention or commitment to its employees. A 1919 survey conducted by the United States Bureau of Labour Statistics found that workers in company towns lived in comfortable dwellings comparable in every way to other residences in America (U.S. Bureau of Labour Statistics, 1919). This very early piece of work, however, conflicted with later studies which found that company houses, especially those erected prior to World War II, were of poor quality construction (Pearson, 1965; Goltz, 1989; and Warwick & Littlejohn, 1992). Goltz (1989) observed that the dominant industry in Copper Cliff, Ontario did little maintenance and the company houses were generally in poor condition. Allen (1966) made the observation that company housing constructed during the late 1800s and early 1900s was of poor quality and little attention was paid to the social implications of the built environment. Dominant industries provided only that which was essential to keep employees working (Allen, 1966, p. 86).

The notion of company housing as a social control mechanism is based on two objectives: social stratification based on the location of different groups within the company town; and labour control. Social stratification in a residential community is not restricted to company towns and can occur in any community. The main difference is that in a company town the location of dwellings is controlled by a single private interest while in a free housing market it is dictated by the actions of many self-directing individuals or groups. In a company town the location of a dwelling, hence an individual's social
status, is controlled by the paternal actions of the dominant industry (Allen, 1966; Springett, 1986; Shifflett, 1991; Goltz, 1990&92; and Crawford, 1995).

Several researchers have recognized the patriarchal relationship between employment status, location of housing, and social status which is controlled by the area’s dominant industry (Allen, 1966; Wikstrom, 1976; Schwartz et al., 1992; Goltz, 1992; Warwick & Littlejohn, 1992; and Crawford, 1995). Land leases and house rentals became powerful tools that dominant industries used to enforce strict social control over their employees. One of the key indicators of patronage was the mechanism of dwelling rents being deducted from an employee’s paycheck (Goltz, 1990, pp. 30-35).

Robinson’s (1962) study of single industry communities in post World War II Canada found that residential areas in single resource communities tended to be of uniform quality, one of the usual marks of social distinction in urban-suburban settings. Instead, social stratification was based on the location of different groups within the same area and the dominant industry controlled the distribution. Both Allen’s (1962) study in the United States and Goltz’s (1992) study in Canada found that dominant industries used company housing to facilitate social polarization based on employment status. Goltz’s study of Copper Cliff, Ontario found that International Nickel Company’s 1912-14 program to group residents according to occupation was one of the first instances of planned segregation in an Ontario company town (Goltz 1990, p. 43).

Employment status is, however, only one aspect of the social structure in company towns. Allen (1966), Goltz
(1989), and Shifflett's (1991) research showed that dominant industries enforced their racial prejudices through the use of company housing and other tools. Shifflett's (1991) study of coal mining towns in the United States found that there was a clear social hierarchy with Anglo-Saxons at the top and blacks and other immigrants at the bottom. Similar to Shifflett's (1991) findings, Goltz's (1989) study of Copper Cliff, Ontario showed that the dominant industry catered to Anglo-Saxon employees by providing housing, medical, shopping, entertainment, and other such facilities while non Anglo-Saxon employees were expected to develop their own communities. Both studies found that dominant industries spatially segregated residential areas according to ethnicity and occupation.

Some of the literature suggests that dominant industries attempted to incorporate social ideologies into the planning of the company town, primarily through segregating residential areas (Allen, 1966; Neil et al., 1982; Quillen, 1986; Shifflett, 1991; and Crawford, 1995). For instance, Neil's et al. (1982) study in northern Australia found that in order to simplify planning decisions, single men working in company towns were regarded as a homogeneous group. Administrators in the company towns considered single men as rowdy, uncouth, undisciplined, given to hard drinking and a tendency to brawl. Interaction between single men and the families was minimized and every effort was made to prevent them from having contact with female residents. To address this belief, single men were isolated in barracks away from the remainder of the residents (Neil, et al. 1982, p. 9).

Dominant industries often utilized company housing as a weapon in their considerable arsenal to control labour
movements and to influence the political process. Two studies in Canada and one in the United Kingdom found that dominant industries commonly evicted workers from company owned houses in strike or lockout situations (Walker, 1953; Horsfall et al., 1974; and Warwick & Littlejohn, 1992). Some companies even bribed other landlords to do the same (Warwick & Littlejohn, 1992, p. 66). Horsfall's et al. (1974) study in British Columbia found that residents in single industry towns did not have the right to municipal self-government since voting at the time was based on home ownership which was impossible because the dominant industry owned all of the houses.

Schwartz et al. (1992) was of the opinion that modern, employer-assisted housing breaks the paternal relationship by introducing an intermediary group into the scene. For instance, an independent agency would have the authority to arbitrate disputes concerning house provision between an employer and employee. Nevertheless, it is clear that company houses were more than mere benefits or tools to accommodate production; company housing provided dominant industries with a powerful means of social control.

There seems to have been a shift in the development of company housing in the post World War II period (Walker, 1953; Robinson, 1962; The Committee on Resource Dependent Communities in Ontario, 1986; and Bradbury, 1993). Prior to World War II, almost all of the houses in single industry towns were built by dominant industries and rented to their employees. In the post World War II period, parent enterprises opted to move away from developing houses and frequently sold the units that they constructed to their employees (Walker, 1953, p. 98; Robinson, 1962, p. 145). This illustrates a marked change in the corporate
philosophy towards employee housing needs in single industry communities. Closer examination of the resource community housing market shows that the tendency in the past has been to sell company houses to employees at either below market value or at very minimal prices (The Committee on Resource Dependent Communities in Northern Ontario, 1986, p. 53). Goltz (1989&92) believed that dominant industries realized a profit from the sale of their houses after recovering the cost of construction from several years of rental revenues.

There was a clear trend in the post World War II period that pointed to employer supported home ownership as the preferred option, as opposed to an employer-landlord versus employee-tenant relationship (Walker, 1953, p. 140). Neil's (1982) study in Australia found that most companies considered employee houses undesirable and did not plan on providing such a service in the future. Wikstrom (1976) found similar results in a study of large corporations in the United States as did the Department of Energy, Mines, and Resources' (1976) study of single resource communities in Canada. All of these researchers found that dominant industries were getting out of direct housing ownership unless absolutely necessary. While Lucas' (1971) theory suggests resource towns have evolved to disinvestment, other authors have pointed to the lack of profitability, increased cost of maintenance, public relations and so forth.

The literature review has explored past research to provide a holistic understanding of company housing, but several areas were identified where there were conflicting views and further research was required. Among these were the issues of profitability, maintenance, social control,
and labour control as they relate to company housing within the larger scheme of a resource extraction operation. Thus, the objective of this study was to reexamine the reasons why dominant industries developed and maintained company housing. The following section will present a theoretical framework for investigating company housing based on the issues identified in the literature review.

2.2 Theory and Research Questions

Because the research objectives were chronologically related, the method of analysis functioned in a similar fashion. The investigation of the two research objectives centred on a dynamic, single explanatory case study following Yin's (1993) method of case study research. Yin's (1993) method of case study research is explained in further detail in the methodology section. Chart 1: Company Housing Theoretical Model, provides a conceptual illustration of the proposed theoretical model that was the framework for the case study.

The examination of the dominant industry's decision making process of whether or not to continue investing in company housing, was based on the analysis of nine major factors some of which contained sub-variables. The nine major factors were: (a) Labour Maintenance, (b) Public Relations, (c) Legislative Changes, (d) Corporate Ownership, (e) Corporate Management, (f) Labour Control, (g) Industry Profits, (h) Housing Profits and (i) Social Control. A unit of analysis was qualified in the model by its ability or potential to influence the dominant industry's decision-making process. All of the nine major factors were dynamic and interdependent. Thus, a change in any one major factor affected the other major factors as
Chart 1: Company Housing Theoretical Model

Source: Author, 1998
well as the potential outcome of the model. The system continued to function until the overall net benefits of investing in company housing became negative, at which point there was dis-investment. The following is a more detailed explanation of the nine major factors affected the maintenance of company housing.

(a) Labour Maintenance refers to the dominant industry's need to attract and maintain a sufficient labour force in a remote location. Labour Maintenance also includes the desire to keep labour turnover to a minimum which is an important determinant of production. The extensive literature on resource communities establishes Labour Maintenance as a fundamental reason for developing company housing. The key question is, how has the need for shelter provision changed over the years? Technological advancements such as automobiles, facsimile, and computers have broken down spatial restrictions thereby reducing dominant industries' need to provide shelter within close proximity to the production site. Despite changes in technology, however, there is still a need to maintain a sufficient labour force within close proximity to the production site, particularly in a resource extraction enterprise which requires a high degree of physical labour. Thus, Labour Maintenance must be included as a fundamental aspect of the analytical model.

(b) Public Relations refers to the public's perception of the dominant industry's function and can result in change if action is taken. This includes the public's perception of how the dominant industry operated the resource extraction operation, working conditions, management style, labour negotiations, benevolent paternalism and so forth. Public Relations was a major
factor because the public’s perception can result in legislative changes which will affect the resource extraction operation as well as the company houses themselves. The distinction should be made between internal and external public perception. Internal public perception refers to the employees of the dominant industry. External public perception refers to people who are outside of the dominant industry’s employ.

(c) Legislative Changes refer to changes in legislation that affected the functional environment in which the company town operated. For instance, the Landlord Tenant Act, rent control, the Planning Act, the Municipal Act, building codes, Canadian Charter of Rights and Freedoms, and taxation laws are all legislative changes that have altered the functional environment in which the dominant industry operated. These changes have had a direct or indirect impact on the net benefits of maintaining company housing and are therefore important sub-variables in the model.

(d) Corporate Ownership refers to the changes in ownership of either the resource extraction operation or the company houses themselves. Ownership was an important factor that would affect the overall net benefits of maintaining company housing because it dictated accountability as well as sensitivity to the employees’ needs. For instance, a business that is owned by an individual would operate differently than if it were owned by a corporation having several share holders, or as part of a mutual fund where there are many unit holders. Each type of ownership would have a varying degree of social responsibility that will affect the functional environment of the company housing. Ownership of the company town
could have changed throughout the period of analysis and this would also be a significant factor affecting the overall net benefits of maintaining company housing.

Although the two are closely related, (e) Corporate Management is a separate concept from Corporate Ownership. Corporate Ownership refers to the potential changes in ownership of the company town while Corporate Management refers to the dynamics of management style. The dominant industry's approach to operating the company town can change over time. This is particularly important when an employer controls the living environment in which the employee lives because management style extends to every aspect of the resident's life. Thus, Corporate Management was qualified as a major factor because it can potentially shape Legislative Changes, via Public Relations, which would affect the overall net benefits of investing in company housing.

(f) Labour Control should not be confused with Labour Maintenance which, in the context of this study, is a different concept. Whereas Labour Maintenance refers to the need to retain a sufficient labour force for the resource extraction operation, Labour Control refers to the dominant industry's desire to control its employees in a paternalistic manner. Labour Maintenance is a logical necessity of any industry in a remote location while Labour Control is an employer's desire to manipulate its employees to extract greater profits. The literature has shown that dominant industries have in the past utilized company housing to control their labour force (Walker, 1953; Horsfall et al., 1974; and Warwick & Littlejohn, 1992). Because Labour Control is a significant issue in the
maintenance of company housing it was analyzed in this study.

(g) Industry Profits refer to the profitability of the resource extraction operation. This includes market dynamics on an international scale where demand and value of the locally produced goods were dictated by foreign forces beyond the dominant industry's control. The profitability, or the financial strength, of the resource extraction operation was an important factor because it affected the overall net benefits of investing in company housing. This was because the labour force, hence the demand for shelter, was dependent on the prosperity of resource extraction operation. Thus, Industry Profits was analyzed in the context of this study.

(h) Housing Profits refer to the production of capital from the company housing itself. The profitability of company housing was an important factor for analysis because it provided an indication of the dominant industry’s intended use for its units. If the houses were maintained at a loss then the dominant industry's claim that they were merely employee benefit vehicles may be true. If on the other hand the company houses were profitable, then producing a capital return may be the primary reason for continued maintenance. There are also variations between these two positions so it was necessary to examine the financial aspects of company housing to determine if profitability was a factor in their continued maintenance.

(i) Social Control refers to the dominant industry’s ability to control the community’s social environment. This includes the distribution of company housing according to the dominant industry’s beliefs or ideologies. The
distribution of company housing was an important factor because a household’s social status is often determined by location of dwelling. Thus, Social Control was a significant factor because it can be an incentive for the dominant industry to continue investing in company housing.

Some major factors were more important in the continued maintenance of company housing so a different weight would be assigned accordingly. The actual value of the weight was difficult to quantify and attempting to do would not provide a realistic reflection of the theoretical model because some of the variables contained intangible value. As previously mentioned a comprehensive examination of the research objectives would require an investigation of all nine major factors and their interrelationships including various weights attached to them. This was beyond the scope of this study so only the most important aspects of the model were examined. The major factors examined in the DSR case study were: Labour Maintenance, Social Control, Housing Profit, Industry Profit and Labour Control.

The literature review has identified several areas where there was a lack of knowledge and more research was needed. These shortcomings were outlined in the company housing theoretical model as major factors for analysis. Several research questions were developed from the major factors which form the foundation for the DSR case study:

1. Why did Deloro Smelting and Refining develop company housing?

2. Was the profitability of Deloro Smelting and Refining’s resource extraction operation the sole reason for continued investment in company housing?
3. Did profits from the company houses provide an incentive for Deloro Smelting and Refining to maintain its units or were they operated at a loss?

4. Did Deloro Smelting and Refining continue to maintain its company housing to exercise employer paternalism or was social control an auxiliary benefit made available by the existence of the units?

5. Did Deloro Smelting and Refining maintain its company housing to control the labour force, or was labour control an auxiliary benefit made available by the existence of the units?
3. METHODOLOGY

This chapter outlines the methodology for investigating company housing within the framework of the company housing theoretical model. The initial step is to provide a systematic approach to examining company housing by describing the chosen research methodology. This is followed by an overview of the case study selection process, pattern matching, data collection, and finally the data analysis techniques. By providing a detailed description of the research methodology a clear understanding of the investigation process can be achieved.

3.1 Case Study Methodology

The research methodology for this study borrowed heavily from Strauss and Corbin’s (1990) "grounded theory" approach. Grounded theory encourages the development and provisional verification of data throughout the collection and analysis process, thereby allowing the relevant aspects of company housing to emerge throughout the study’s progression. In grounded theory, data collection, analysis, and theoretical development is dynamic and interdependent upon one another. The grounded theory approach was incorporated into Yin’s (1993) method of case study research which was the chosen method of analysis for this study. Yin’s method of case study research was adopted because it allows for both qualitative and quantitative data collection techniques and is dynamic where the design can be altered depending on data collection. Moreover, case study research emulates that used in most experimental design where knowledge of prior research and theoretical development precede the actual experimentation. The DSR case study was developed in an
ethnographic context where it attempted to gain a close-up detailed rendition of the real world through the use of active field work. The unit of analysis throughout the study was the company house.

3.2 Case Study Selection

The initial step in Yin’s (1993) research methodology was to identify a suitable case study. Four locations containing company houses were identified and evaluated on the basis of their physical attributes. These four locations were the communities of Walkerville, Sarnia, Marmora, and Deloro all in Ontario. The following paragraphs provide a brief overview of each site.

Hiram Walker developed a number of company houses in Walkerville that are presently part of Windsor, Ontario. The Walker family established roots in the Windsor community dating back to the mid 1800s. Beginning in the 1890s Hiram Walker Land and Building Company developed a community of company houses for its workers in the distillery. The worker houses were approximately 1,200 square feet (108.216 square meters) and the managerial units were slightly larger at 2,000 square feet (180.36 square meters). Unlike company housing described in existing literature the Hiram Walker company houses were not uniform in colour or design, although the worker units do share a rough resemblance to each other (Robinson, 1962). The Walker company houses were relatively well built being constructed of stone and each containing a fire place. Hiram Walker Land and Building Company sold all of its company houses in 1933.

Sarnia, Ontario is a mid-sized community located at the northern end of Lake St. Clair across the border from
Port Huron, Michigan. The primary source of employment in Sarnia comes from the manufacturing of chemical products. Polymar Corporation developed company houses in Sarnia in 1942-43, primarily for the purposes of housing its executive staff. Unlike the company housing described in past studies, the Polymar units were not uniform in appearance. Allen's (1966) study of company towns in the United States observed that dominant industries often painted their houses in one uniform colour, most often red or gray. The Polymar company houses were aesthetically pleasing and vary in both colour and design. Most of the units observed were constructed of brick and a few were made of wood, but these units were no less appealing. The houses were built with set-back garages that was typical of pre-Don Mills housing design. By and large, the Polymar company houses were the same quality if not better than the private market houses in the surrounding community. It should be noted, however, that the company housing described in the existing literature focused on worker accommodations while the Polymar units were intended for managerial staff.

Marmora, Ontario is located in Hastings County approximately 192 kilometers north-east of Toronto. In 1949 the Ontario Department of Mines in conjunction with the Geological Survey of Canada discovered a potentially large deposit of Magnetite in the Marmora area which sparked the interest of the international mining company Bethlehem Steel. This was the beginning of Bethlehem Steel's Marmora operations. In the early 1970s the dominant industry developed a small number of company houses in Marmora primarily for the purposes of sheltering its executive staff. The Bethlehem Steel company houses
were unique in the sense that they were developed in an already established urban environment where much of the infrastructure that was needed already existed. Similar to Hiram Walker and the Polymar developments, Bethlehem Steel's company houses were aesthetically pleasing, varied in design, and construction. Bethlehem Steel's company houses were also intended for occupancy by managerial as opposed to sheltering its labourers.

The Village of Deloro is located in southern Ontario in Hastings County approximately five kilometers east from the larger urban centre of Marmora. Presently, the only access to the village is by automobile being located just north of highway 7. A railroad route used to transport materials to and from the production site has been closed down. Appendix A provides a regional map of the Village of Deloro.

Beginning in 1916 DSR built company houses and other facilities for its employees. There are 39 company houses still in existence in the village: three large single-detached; sixteen midsize single-detached; and twenty semi-detached. Excluding the three large single-detached dwellings, the units range between 900 to 1,200 square feet (81.162 to 108.216 meters square) and all were built on cement foundations. The above ground portion of the houses was constructed of wood and stone. Appendix B illustrates some of the company housing in the Village of Deloro.

The four potential locations were evaluated primarily on the basis of four criteria: i) remote location; ii) period of establishment; iii) number of units; and iv) diversity of housing type. The first criterion requires that the case study be located in a remote location. A closed company town environment was required to control
external factors that would affect the examination of financial variables. It was also important to select a case study that was established for a number of years with a sufficient number of units. Finally, a suitable location had to have a combination of both labourer and managerial houses because the absence of either would provide a biased observation. Managerial houses shelter employees who make decisions that affect the built environment, while labourer units shelter employees who have little or no decision-making power. This discrepancy may be reflected in the quality of the company houses as well as the extent to which the employer controls the employee. All things considered the Village of Deloro was the only location that met all of the requirements for a suitable case study. Table 1: Case Study Selection Criteria, provides a tabular illustration of the factors used to select the most suitable case study. Appendix C provides a detailed map of the Village of Deloro listing all of its facilities.

<table>
<thead>
<tr>
<th>Location</th>
<th>Dominant Industry</th>
<th>Period of construction</th>
<th>Units</th>
<th>House Type</th>
<th>Industry Type</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Walkerville</td>
<td>1890s</td>
<td>30+</td>
<td>labour &amp; managerial</td>
<td>spirit distillery</td>
<td>previously established environ.</td>
</tr>
<tr>
<td>B</td>
<td>Sarnia</td>
<td>1940s</td>
<td>18</td>
<td>managerial</td>
<td>chemical manufacturing</td>
<td>previously established environ.</td>
</tr>
<tr>
<td>C</td>
<td>Marmora</td>
<td>1970s</td>
<td>8</td>
<td>managerial</td>
<td>resource extraction</td>
<td>previously established environ.</td>
</tr>
<tr>
<td>D</td>
<td>Deloro Smelting</td>
<td>1910s</td>
<td>45</td>
<td>labour &amp; managerial</td>
<td>resource extraction</td>
<td>Remote</td>
</tr>
</tbody>
</table>

3.3 Pattern Matching

The analysis of the empirical data followed Yin's (1993) method of pattern matching logic. In pattern matching, rival theoretical patterns are developed prior to the analysis of the empirical data that reflect all
possible outcomes of the analysis. Once the theoretical patterns are established the empirical data is analyzed and matched with a theoretical pattern or a combination of theoretical patterns. Threats to the internal validity of the pattern are disqualified by showing how alternative patterns do not match the empirical data.

The goal of the analysis was to build an explanation about the case study so that we can understand how company housing fits into the larger scheme of a resource extraction operation. This will provide a greater understanding of why company housing was initially developed, why they were maintained, and the specific factors that were involved in their eventual disinvestment. Ultimately, the pattern matching logic should induce some theoretically significant propositions in relation to the past role of company housing, the company town and the dominant industry.

The theoretical patterns were developed in the form of "embedded units of analysis" which were derived from the major factors described in section 2.2: Theory and Research Questions. The embedded units of analysis provided the framework for analyzing the empirical data. There were three possible outcomes for each of the embedded units of analysis and collectively they formed a matching theoretical pattern. With the exception of the company variety store, the embedded units of analysis Industry Profit and Housing Profit were the only sources of income for the community. Consequently, it was possible for Social Control and Labour Control to be primary reasons for maintaining the company houses, but this was unlikely. Thus, the matching empirical pattern had to be a combination of at least Labour Maintenance and Industry
Profit because both were fundamental factors in the continued maintenance of company housing. What remained unknown was the combination of the remaining embedded units of analysis that was to produce a matching theoretical pattern to the empirical pattern. Table 2: Theoretical Patterns, describes the proposed embedded units of analysis.

3.4 Data Sources and Collection Process

The empirical data for analyzing the embedded units of analysis came from several sources. Existing literature as well as the very nature of a resource extraction operation made it reasonable to assume that labour maintenance was a fundamental reason for developing company housing. Consequently, the Labour Maintenance embedded unit of analysis did not require further research to establish it as an integral part of the theoretical pattern. Data for examining the Industry Profits embedded unit of analysis was obtained from periodical articles, books, research papers, internal reports, and unpublished essays on DSR from the early 1900s to 1970. This provided a significant amount of information to assess the development of DSR as it related to global events. The main intent of the Industry Profits embedded unit of analysis was to determine how the development of DSR affected the continued maintenance of its company housing. Section 4.1: History of Deloro Smelting and Refining, summarizes the results of this research.

A three-step ethnographic approach was utilized to gather data for the Housing Profit, Social Control and Labour Control embedded units of analysis. The first step was to acquire scoping data by taking a census of the
<table>
<thead>
<tr>
<th>PRIMARY</th>
<th>INDUSTRY PROFIT</th>
<th>HOUSING PROFIT</th>
<th>SOCIAL CONTROL</th>
<th>LABOUR CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing literature has shown that maintaining a sufficient labour force is an inherent reason for developing company houses. Thus, Labour Maintenance is a necessary part of the matching empirical pattern.</td>
<td>Production of capital from the resource extraction operation is the key deciding factor for continued investment in the company houses.</td>
<td>The company houses are a separate capital opportunity that is made available by the location and operation of the resource extraction industry.</td>
<td>Social control is the dominant industry's employees is the primary reasons for continued maintenance of the company houses.</td>
<td>Labour control is the primary reason for continued investment in the company houses.</td>
</tr>
<tr>
<td></td>
<td>When the resource extraction operation is no longer economically viable the dominant industry disposes of its houses regardless of the other embedded units of analysis.</td>
<td>Maintenance of the company houses continues as long as they are profitable regardless of the other embedded units of analysis.</td>
<td>The dominant industry continues to invest in its houses regardless of the other embedded units of analysis in order to control its employees' ethnicity, voting behavior, and social structure.</td>
<td>The dominant industry maintains its houses, even at a loss, so that it can control its employees.</td>
</tr>
<tr>
<td></td>
<td>The other embedded units of analysis are either auxiliary or have no bearing on the continued investment in the company houses.</td>
<td>Investment in the company houses ceases when they no longer produce a capital return.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AUXILIARY</th>
<th></th>
<th></th>
<th>Social control is an auxiliary benefit for the dominant industry to continue maintaining its houses.</th>
<th>Control of the labour force is an auxiliary benefit for the dominant industry to continue maintaining its houses.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production of capital from the resource extraction operation is not the primary reason for developing and maintaining the company houses.</td>
<td>Another embedded unit of analysis is the primary reason for continued maintenance of the company houses.</td>
<td>Since the houses are necessary for another primary reason, the dominant industry uses them to exercise social control over its employees.</td>
<td>Since the houses are necessary for some another primary reason, the dominant industry uses them to control its labour force.</td>
</tr>
<tr>
<td></td>
<td>The company houses are developed and maintained regardless of the resource extraction operation's profitability.</td>
<td>The company houses are developed out of necessity, but since they are needed the dominant industry exploits any opportunities to produce a profit from its houses or attempts to redirect the cost of maintaining them to its employees.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Essentially the company houses function as a separate capital opportunity from the resource extraction operation.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| NULL       | The production of capital from the resource extraction operation is neither an incentive or disincentive for continued maintenance of the company houses. | The production of capital from the company houses is neither an incentive or disincentive for continued maintenance. | Social control is neither an incentive or disincentive for continued maintenance of the company houses. | Labour control is neither an incentive or disincentive for continued investment. |
|           | Industry profits is not a factor and is in fact theoretically irrelevant to the empirical pattern. | Housing profits is not a factor and is in fact theoretically irrelevant to the empirical pattern. | Social control is not a factor and is in fact theoretically irrelevant to the empirical pattern. | Labour control is not a factor and is in fact theoretically irrelevant to the empirical pattern. |
current residents of Deloro. The main intent of the census was to identify and locate the focus group which was residents of Deloro who lived there when DSR owned the company houses, or people who purchased a unit in 1961. The census took the form of a questionnaire which was distributed with the residents' water bill at the village's municipal office. A sample of the questionnaire can be found in Appendix D: Questionnaire. The questionnaire was followed by advertisements in local periodicals in the communities of Marmora, Madoc, Eldorado, Belleville and Havelock. Appendix E: Advertisements, provides a sample of the advertisement that was published in the local periodicals. The census and the advertisements were able to identify a sufficient number of informants to proceed to the next step in the ethnographic research.

The second step in the ethnographic research was to interview those participants who could be identified as key informants in the selection process. The interviews were conducted in an open-ended manner using a tape machine to record the conversations and field notes to make detailed observations. An interview guide was developed to provide a structured format so that all of the informants were asked the same set of questions. The interview guide contained five categories of questions that were aimed at gathering empirical data for the pattern matching. These five categories included: employment information, residence information, quality of construction and maintenance, social control and labour control. Appendix F: Interview Guide, provides a sample of the interview guide that was used to gather the ethnographic data. Other than formal interviews, informal conversations either by telephone or in person provided additional data for the study.
The final step in the ethnographic approach was to transcribe the formal interviews so they could be analyzed. A total of eighteen formal interviews were conducted of which fifteen were useful. The remaining interviews could not be used because the interviewee either: did not qualify to be in the focus group because they had insufficient information; or the respondent's memory was deteriorated so the data collected was inaccurate. The following sections describe the data collection process and sources as they were specific to the Housing Profit embedded unit of analysis.

The methodological objective for Housing Profits was to determine if there was a financial motive for investing in company housing and was based on the development of the present value of annuity or the discounted value. The intent of the analysis was to derive a general theme of the company houses' profitability rather than to extract an absolute value figure from the inputs. The analysis of Housing Profits depended on four sources of data: cost of building the unit, rent charged, maintenance cost and selling price. The four sub-variables used to analyze Housing Profits are described below.

The cost of construction for DSR's company houses was not available from either the village municipal office or Canada Mortgage and Housing Corporation (CMHC). Consequently, the cost of construction was estimated based on similar units from Goltz's (1989) study of Copper Cliff, Ontario. The company housing in Copper Cliff was: built in the early 1900s; ranged from 900 to 1,200 square feet (81.162 to 108.216 square meters); and constructed of wood. Because the Copper Cliff units had similar construction and physical characteristics, they were ideally suited for
comparison to DSR's company houses. Primary data for the Copper Cliff location were obtained from the original researcher to achieve a reasonable estimate of the cost of developing DSR's company houses.

Another variable to consider in determining profitability was the revenue acquired from renting the units. Data from the formal interviews were cross-verified to provide the rental rates. The interview data showed that the rental rates varied depending on the size of the company house, but remained static throughout the unit's use. Consequently, several rental rates were confirmed to reflect the various sizes of company houses, but it was necessary to confirm only one rate throughout the unit's operation.

The total cost of maintenance was considered because it provided an indication of the quality of the company houses. Moreover, maintenance fees were a considerable expense that can offset the rent revenues. DSR maintained all of its units using company staff and resources thereby leaving no record of transactions to determine the cost of maintenance. Consequently, the total costs of maintaining the company houses were estimated from home maintenance standards established by CMHC. The senior market appraiser for the Toronto branch of CMHC estimated that it cost approximately 3.5% of a house's original value to maintain a dwelling on an annual basis with a yearly increase of 0.25%.

The total revenue from the sale of the company houses was examined because this was a major determinant of profitability. The purchasing price for the company houses was acquired by cross-verifying interview data. The formal interviews also provided data for analyzing: the employees'
perception of the company houses' profitability; the quality of construction; and the level of maintenance.

All of the data for analyzing the Social Control embedded unit of analysis were obtained from the formal interviews. The data on Social Control was used to determine if DSR used its company houses to exercise employer paternalism. There were two sets of Social Control data obtained from the interviews: i) spatial distribution of the village occupants according to employment function; ii) employees' perception of benevolent paternalism in Deloro. The perception of benevolent paternalism was further divided into another two categories: spatial segregation according to employment status; and spatial segregation according to ethnicity.

Similar to Social Control, all of the data for analyzing the Labour Control embedded unit of analysis were obtained from the formal interviews. The Labour Control data attempted to determine if DSR utilized its company houses to influence the employees thereby providing an incentive for maintaining the units. In this respect, the interview questions looked at company houses as they related to voting, labour disputes and the dominant industry’s eviction practice.

3.5 Data Analysis Techniques

This section of the study describes the data analysis techniques that were utilized in the examination of the Industry Profits, Housing Profits, Social Control and Labour Control embedded units of analysis. Each embedded unit of analysis required different analytical indicators to verify an empirical pattern so the techniques varied accordingly. The Industry Profit embedded unit of analysis
was examined by reviewing existing literature related to the development of DSR. The review specifically focused on the development of the dominant industry to determine how it affected the company houses. Despite what may have appeared to be an obvious paternal relationship, it was possible that the company houses were operated as an independent capital opportunity. An examination of existing literature would indicate if the company houses were operated as adjuncts of the resource extraction operation, or as an independent capital opportunity made available by the existence of the dominant industry.

The Housing Profit embedded unit of analysis was examined by first investigating the employees' perception of profitability, and then conducting a financial analysis of the company houses. The perception of profitability was examined by grouping core themes to determine the employees' perception of the profitability of the company houses. The informants were selected utilizing a snowball approach rather than a random sample. Four categories were established to reflect the varying degrees to which the employees believed the company houses produced a capital return and the informants were categorized accordingly.

Table 3: Perception of Profitability, provides a tabular illustration of the core themes used in the content analysis.

<table>
<thead>
<tr>
<th>Category</th>
<th>1st: Not profitable</th>
<th>2nd: Doubtful</th>
<th>3rd: Unsure</th>
<th>4th: Profitable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of theme</td>
<td>Interviewees who believe the dominant industry did not make a profit</td>
<td>Interviewees who were skeptical that the dominant industry produced a profit</td>
<td>Interviewees who were unsure or did not have an opinion on the issue</td>
<td>Interviewees who thought the dominant industry did produce a profit</td>
</tr>
<tr>
<td>Example</td>
<td>&quot;no they didn’t make anything out of them&quot; &quot;No. ...by the time they paid for the upkeep...&quot;</td>
<td>&quot;I would doubt it, I would doubt it, no&quot; &quot;I don’t think they made any money at all&quot;</td>
<td>&quot;I don’t really know&quot; &quot;don’t know, don’t think so&quot;</td>
<td>&quot;Oh, I think they made a little bit&quot; &quot;oh I imagine they must have&quot;</td>
</tr>
</tbody>
</table>
The content analysis was extended to include the quality of construction and maintenance because they were significant determinants of profitability. In order to ensure uniform understanding of the quality of construction and maintenance categories, all of the informants were given uniform definitions prior to the formal interviews. This removed any ambiguity that could result from one individual’s understanding of a particular category from another’s. The quality of construction and maintenance categories were defined as follows:

**Quality of Construction**

<table>
<thead>
<tr>
<th>UNLIVABLE</th>
<th>not suitable for human habitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>POOR</td>
<td>construction of the unit would be comparable to a flimsily constructed ply wood cabin</td>
</tr>
<tr>
<td>FAIR</td>
<td>in need of major repair work; extremely poor standards of construction</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>not the top or the bottom conditions; spartan; bare essentials but reasonable conditions</td>
</tr>
<tr>
<td>ABOVE AVERAGE</td>
<td>not perfect but generally good workmanship to above normal workmanship</td>
</tr>
<tr>
<td>VERY GOOD</td>
<td>step below new; good quality; no visible signs of work to be done</td>
</tr>
<tr>
<td>EXCELLENT</td>
<td>brand new or custom made housing; top dollar paid for all material used</td>
</tr>
</tbody>
</table>

**Maintenance**

<table>
<thead>
<tr>
<th>POOR</th>
<th>little or no maintenance done; in need of major repair; described as old, worn down, and sad condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVERAGE</td>
<td>can see wear and tear, but reasonably well maintained considering the time that it was built</td>
</tr>
<tr>
<td>GOOD</td>
<td>well maintained both inside and out; some small repair needed but no signs of deferred maintenance</td>
</tr>
</tbody>
</table>

SOURCE: Roger Forchuck – Senior Market Appraiser, Canada Mortgage and Housing Corporation Toronto (1997)

The actual profitability of the company houses was examined using an accounting formula that calculated the present value of annuity or the discounted value. Using the discounted value formula, three alternative scenarios were developed to explore the different financial possibilities and their implications for the company houses. These three scenarios were: i) worst case scenario, where the highest assumptions were used to produce the longest period of financial recovery; ii) the
best case scenario, where the lowest assumptions were used to produce the shortest period of financial recovery; and iii) the most likely scenario, where the most likely assumptions were used to produce the most realistic period of financial recovery. The values for all three assumptions were explored using the discounted value formula to determine the temporal requirements for paying off the initial investment in the company houses. Table 4: Financial Scenarios, provides the values that were used to determine each of the three scenarios. Chart 2: Discounted Value Formula, illustrates the discounted value formula.

Table 4: Financial Scenarios

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Worst</th>
<th>Best</th>
<th>Likely</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tr</td>
<td>total revenue</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>calculated from discounted value formula</td>
</tr>
<tr>
<td>Tc</td>
<td>total cost</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>calculated from discounted value formula</td>
</tr>
<tr>
<td>C</td>
<td>cost of building unit</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>Eileen Goltz, PhD, 1989</td>
</tr>
<tr>
<td>R</td>
<td>annual rent revenue</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>data gathered from interviews</td>
</tr>
<tr>
<td>I</td>
<td>rate of inflation</td>
<td>8.00%</td>
<td>2.00%</td>
<td>4.50%</td>
<td>Robert Chan, CMA, 1997</td>
</tr>
<tr>
<td>Rt</td>
<td>rate of increase for maintenance</td>
<td>0.33%</td>
<td>0.20%</td>
<td>0.30%</td>
<td>Roger Forchuk – Senior Market Appraiser CMHC, 1987</td>
</tr>
<tr>
<td>F</td>
<td>original maintenance factor</td>
<td>5.00%</td>
<td>1.5%</td>
<td>3.50%</td>
<td>Roger Forchuk – Senior Market Appraiser CMHC, 1987</td>
</tr>
<tr>
<td>Y</td>
<td>year of operation</td>
<td>†</td>
<td>†</td>
<td>†</td>
<td>values begin in year 1 (1916) to 45 (1961)</td>
</tr>
</tbody>
</table>

* varies depending on unit
† varies according to year of operation

Chart 2: Discounted Value Formula

\[ Tr = R \times \left( \frac{1 - (1 + I)^{-Y}}{I} \right) \]

\[ Tc = (F \times C) \times (1 + I)^{-1} + (F \times C) \times (1 + Rt) \times (1 + I)^{-1} \times \left( \frac{1 - (1 + Rt)^{-Y} \times (1 + I)^{-Y}}{1 - (1 + Rt) \times (1 + I)^{-1}} \right) \times (1 + I)^{-1} \]

Discounted Value = Tr - Tc

Source: Robert Chan, CMA (1997)
Content analysis of the interview data was the primary means for examining the Social Control embedded unit of analysis. The analysis focused on the tenant approval process and the employment hierarchy because these two aspects were important components in the use of company housing for social control. The core themes used in the tenant approval process attempted to determine who was selected to live in DSR's company housing and how they were approved. The following are some of the phrases that were used in the analysis of the tenant approval process:

"those that had key positions"

"only key staff lived in the village"

"name on list, but staff members made ultimate decision"

"controlled through the office"

The analysis of employment hierarchy focused on themes that provided evidence of a spatially enforced social hierarchy using the company houses and based on the household's employment status. The following are some of the phrases that were used in the analysis of the employment hierarchy:

"south end was for higher up..."

"south end of village was mostly for people that had salaried jobs"

"labourers mostly lived at the north end in the single units"

While grouping core themes revealed former residents' perception of a social hierarchy, an examination of the
company houses according to location within the village and employment status determined if there really was an enforced social hierarchy.

Content analysis and grouping core themes was used to reveal empirical patterns in the Labour Control embedded unit of analysis. There were two areas of importance in the analysis of labour control: dominant industry’s attempt to influence employees’ voting behavior; and the use of company housing to coerce employees during labour disputes. The analysis of the political process focused on themes that indicated whether or not DSR attempted to influence the residents’ voting behavior. The following are some of the themes that were used in the analysis:

“you voted the way you wanted”

“[DSR] never suggested how to vote”

The dominant industry’s eviction practice was examined because the threat of eviction was a significant intimidator that could be used during labour disputes. The central aim of analyzing this variable was to determine if the company houses were used as a labour control mechanism, thereby providing an incentive for DSR to maintain its housing investments. The following are some of the phrases that were used in the analysis:

“never threatened to evict or increase rent”

“never used company houses to influence”

“They didn’t ask him to leave [the company house] immediately”

“wasn’t forced out [of the company house] immediately”
4. DATA RESULTS

The Data Results chapter begins with a historical review of the resource extraction industry. The main intent of the review is to determine if the development of the resource extraction operation had an impact on the maintenance of company housing. Section 4.2: Resource Extraction Industry, will integrate the historical review with the theoretical patterns to determine the relationship with the company houses. This is followed by the data results for the Housing Profit, Social Control and Labour Control embedded units of analysis.

4.1 History of Deloro Smelting and Refining

The name Deloro is derived from the two Spanish words Del and Oro meaning "of gold." Although the Village of Deloro had its beginnings in gold mining, cobalt was the resource that connected it to the world stage. Up to the early 1920s the principle use of cobalt was in the ceramic trade for decorating china, but demand for cobalt ore was low because of limited usage (Marmora Herald, July 29, 1920). In 1901 the Bureau of Mines noted that the market for cobalt oxide will likely remain depressed unless new uses were developed because one year of production would meet several years of supply. In 1903 the price of cobalt was $2.50 per pound and by 1910 it had dropped to $0.75 per pound (Bowles, 1982).

Three key developments in the early 1900s provided the foundation for Deloro's prosperity: the invention of stellite; the Kirkpatrick-Kirkgard process; and the advent of the bull weevil. It is not exactly clear which year, but between 1907 and 1912 Elwood Haynes from Kokomo, Indiana invented stellite which was a combination of
cobalt, tungsten and chromium (Peacock, February 3, 1979 & March 28, 1979; and Bowles, 1982). Stellite proved to be an extremely durable metal that was useful in precision machine equipment (Marmora Herald, July 29, 1920). The chief ingredient in stellite was cobalt and the only place to get it in large quantities was Deloro, Ontario (Marmora Herald, July 29, 1920; Young & Young, 1967). In 1912 German steel makers made large purchases of cobalt and in the same year DSR began manufacturing stellite under contract to Haynes (Young & Young, 1967; Bowles, 1982).

The central problem with cobalt ore coming from Deloro was that it had high arsenic content and the United States government imposed heavy penalties on importing arsenic ores (Boyce p. 110). Dr. S. E. Kirkpatrick a professor at Queen’s University in Kingston, developed a method to separate arsenic from cobalt ore thereby making it profitable to export to the United States (Young & Young, 1967). Arsenic also became an important resource because of the progression of the bull weevil in the United States where it was used to produce pesticides and fungicides (Peacock, March 28, 1979).

At the beginning of World War I, DSR manufactured the first commercially produced cobalt metal in the world (Peacock, February 3, 1979; and Bowles, 1982). World War I created a demand for industrial output, hence the materials needed to supply the manufacturers. At the beginning of the war DSR had already established a physical plant with good transportation links, energy supply, and an experienced labour force. The Deloro plant shipped large quantities of stellite to the allied powers between 1915 to 1919 (Peacock, February 3, 1979). In 1918, DSR increased stellite production to 21,000 pounds per month to meet the
demands of munitions factories. At the end of the war, demand dropped and there was curtailed production (Bowles, 1982). Thus, because of DSR’s established capabilities at the outbreak of World War I, the Village of Deloro was connected to world events.

A dwindling world market in the 1920s led to layoffs and a massive slowdown (Boyce; History - Deloro Village; History of Deloro; Sunter, August 27, 1960; Wisti & Airhart, 1975; and Bowles, 1982). During this period the Deloro plant was used as a processing centre which enabled the village to ride out downturns in the economy when demand for their resources were low (Peacock, March 28, 1979). In 1924 DSR was the leading producer of cobalt. The peak came around 1926, but then Katanga (a Belgian company based in the Belgian Congo) entered the world market and began to undersell DSR. After Katanga ran into processing problems, DSR bailed them out with the agreement that the world market be split up. That lasted until World War II when the United States government, as chief consumer, did not allow it (Young & Young, 1967 p. 175). When silver mines closed in Cobalt, Ontario after 1929 the ore was shipped to Deloro for processing (History of Deloro; and Sunter, August 27, 1960). This created a stockpile which kept the company going even through the depression until 1939 when once again world demand for cobalt boomed (Sunter, August 27, 1960; Wisti & Airhart, 1975; and Peacock, February 3, 1979).

Throughout World War II and the Korean war, the Deloro smelter was one link in the strategic materials program (Bowles, 1982). Stellite was used for weapons which made Deloro a prime concern for the allied powers. Thus, the fortune of Deloro was again dependent on world demand for
stellite (Peacock, March 28, 1979). When Katanga was overtaken by the Germans in 1940, DSR became the only source for cobalt in North America (Boyce; Young & Young, 1967; and Wisti & Airhart, 1975).

From 1947 to 1950, the company and the village went into another slump to be saved this time by the Korean war (Sunter, August 27, 1960). The Korean war again showed Deloro's ties to the global scene (Wisti & Airhart, 1975). The American government, tired of being caught without cobalt in wartime, contracted with DSR for a stockpile that kept the plant operating full strength to 1958 (Boyce; History of Deloro; Sunter, August 27, 1960; Young & Young, 1967; and Peacock, February 3, 1979). Peak operation of the plant was around 1955 when 500 people were employed by DSR of which 100 lived in the village (Boyce; History of Deloro; and The Ontario Intelligencer, November 7, 1962).

Belgian competition, falling world prices, and the decline of silver mining in the cobalt area dealt the company a crushing blow. There were no longer any substantial customers for DSR (Boyce; and Wisti & Airhart, 1975). Beginning in 1950 the operation was gradually moved to Belleville which was closer to technical schools, transportation, and in an urban area attractive enough to help recruit skilled labour (Young & Young, 1967). In the late 1950s DSR was struggling against impossible economic odds. Cobalt was being processed in Belgium for the same price that it cost to dig the ore out of the ground in Canada. From $2.50 per pound in 1957, the world price dropped to $1.50 per pound in 1960 (Sunter, August 27, 1960). Closure of DSR also came as a result of the production of cobalt as a by-product of large smelters (Bowles, 1982). Near the end of the plant's operation most
of the cobalt being processed at Deloro came from Morocco (History of Deloro; and The Ontario Intelligencer, November 7, 1962). DSR closed its Deloro operations in 1961 and sold off its forty-five company houses (Boyce; History - Deloro Village; and Wisti & Airhart, 1975).

Perhaps one of the best indicators of a dominant industry’s activity is the size of its labour force at any given time. When the dominant industry is prosperous it will increase its labour force, and the converse is true during periods of low activity. Chart 3: Deloro Smelting and Refining Labour Force: 1923 - 1945, illustrates DSR’s labour force, hence its periods of activity, between 1923 to 1945. Most notable are: the Great Depression, where there were fewer employees; and the outbreak of World War II, when many people were employed to fuel the demand for war materials.

Chart 3: Deloro Smelting and Refining Labour Force: 1923 – 1945
4.2 Resource Extraction Industry

Two key points came to light in determining the relationship between the resource extraction industry and the company houses. The first was that the company houses were built once cobalt production was identified as a viable enterprise in the area. Therefore the initial development of the company houses was dependent on the identification of a capital opportunity and was not a capital opportunity in itself. Secondly, it was clear that the company houses were sold once the resource extraction industry ceased activity. Once again this showed that the resource extraction industry was the primary capital opportunity. It seems that the continued operation of the company houses was dependent on the existence of the resource extraction industry and when there was no longer a demand for the resources being produced at the location, the dominant industry disposed of its housing investments. Thus, Industry Profits was a primary factor in the matching theoretical pattern. What was not clear, however, was the role of the company houses within the dominant industry’s strategic operations. The following sections explore the purpose for which DSR intended its company houses within the context of profitability, social control and labour control.

4.3 Housing Profits

The notion of housing profits was examined because it was a significant factor in the continued operation of company housing. Moreover, many of the sub-variables in the financial analysis of company houses provided an indication of the dominant industry’s approach towards employee shelter provision. This section of the study
describes the results of the housing profits analysis in four parts: perception of profitability; quality of construction; maintenance of company houses; and financial analysis.

The perception of profits was examined to provide a comparative analysis between the employee's perception and the actual profitability of the company houses. The methodology section outlined the data collection and analysis for examining the perception of company houses' profitability. Four categories were defined which reflect the varying opinions on the issue: negative, doubtful, unsure and profitable. The former residents, or informants, were grouped according to these categories and their responses examined to provide an overview of the perception of profitability. Appendix G: Content Analysis, illustrates the results of the analysis.

The first category, negative, refers to the informants who believed the dominant industry did not produce a profit from their housing investments. Of the sixteen informants, five were of the opinion that DSR did not produce a capital return from their company houses. Two of the five informants cited maintenance as the primary reason for the company houses' lack of profitability, while one informant pointed to low rental rates.

The second category, doubtful, refers to the informants who were skeptical that the dominant industry produced a profit from their housing investments. These informants were separated from the previous category because they believed profits were a possibility however unlikely. Thus, the informants in this category were not as negative as ones in the previous category. A total of three informants fell into this category. Similar to the
first category, the informants in the doubtful category believed that the high level of maintenance was the primary reason for the lack of profitability.

The third category, unsure, was composed of the informants who were neutral to the idea of the dominant industry producing a profit from their housing investments. Four of the sixteen informants fell into this category and the opinions within this category varied as well. Two of the four respondents were skeptical, but by and large did not have an opinion on the matter. Another respondent pointed to low rental rates, but was also undecided on the issue. The last informant was slightly more positive and believed that DSR could not have lost money because dominant industries are inherently profit driven. This informant, however, was also undecided on the issue of profitability.

The final category, profitable, was composed of the informants who believed DSR did produce a profit from its housing investments. Four of the sixteen informants fell into this category, but all four respondents also believed that profits were marginal. Most of the informants in this category pointed to the cost of maintenance as the reason for marginal profits. One informant mentioned that DSR had made some improvements to the company houses that would have taken away from any rental revenue. Despite the installment of washrooms and internal plumbing in 1941, DSR maintained the same rental rates on their company houses.

An examination of the perception of profitability results as a whole revealed that the employees were doubtful that DSR produced a profit from its housing expenditures. By and large, the employees believed that profit was not a high priority in the initial development
and continued maintenance of the company houses. Many of the informants pointed to the high level of maintenance and related costs for the company houses' lack of profitability. The general consensus was that the primary reason for maintaining company housing was to retain key employees, and to act as an incentive for advancement in the dominant industry's employment structure. A cross-examination of the data results show that there was no relationship between the varying opinions on profitability and: the length of residency; period of residency; and employment status. All of the informants had mixed opinions in this regard.

The quality of construction was an important variable to examine when studying the overall profitability of company housing because it provided an indication of the dominant industry's approach towards employee shelter provision. A poorly constructed house suggests that the dominant industry provided shelter as basic protection from the elements and considered it an expense that was to be kept to a minimum. A well constructed company house suggests that the dominant industry regarded its shelter investments as a vehicle for attracting a sufficient labour force and an interest in employee comfort. A dominant industry that spends more time and capital on developing its shelter provisions would seemingly be more involved in its employee's lives outside of the work environment. A well constructed company house also suggests the dominant industry is making a long-term investment in the built environment which could have a number of implications for the social dynamics of the community.

Of the fifteen informants that were interviewed only one thought that the company houses were of poor quality
construction. The vast majority of the informants, 14 out of 15 informants, believed that DSR's company houses were of average quality construction or better at the time that they resided in them. Appendix G: Content Analysis, illustrates the results of the analysis. The interview results showed that there was no relationship between the quality of construction and: the location of the company house within the village; employment status of the household; or the period of occupancy. The general consensus was that the company houses were well built regardless of proximity in the village, employment status, or period of occupancy. From a construction perspective it does not appear that DSR aimed to provide mere protection from the elements. The quality of the company houses suggests that DSR considered its units as long term investments in the built environment and employee comfort was a consideration.

Similar to the quality of construction, the maintenance of the company houses was examined because it provided an indication of the dominant industry's approach toward employee shelter provision. If the company houses were poorly maintained it suggest that the dominant industry considered its shelter investments an expense that was to be kept to a minimum. If the company houses were well maintained it suggest that the dominant industry considered its units as long term investments and employee comfort was a consideration. More importantly, however, the level of maintenance directly affected the profitability of the company houses because it was a considerable expense that offset any rental revenues. All three scenarios in the financial analysis of the company houses depended on a number of assumptions, one of which
was the maintenance factor. The financial assumptions for the most likely scenario were adjusted to reflect the results from the survey analysis of the company houses' maintenance. This assisted in developing a scenario that reflected the most likely conditions for financing the company houses.

The results from the analysis of the maintenance of company houses were similar to those for the quality of construction. Of the fifteen informants that were interviewed twelve (80%) believed that the dominant industry maintained their houses at the level of the highest category, good. The remainder of the informants believed DSR aimed their shelter investments at an average level while none of the informants thought that the units were poorly maintained. Appendix G: Content Analysis, illustrates the results of the analysis. Several informants testified that DSR did whatever repairs that were necessary upon request. It seems that all of the repairs for the company houses were done using staff tradesmen. The results of the analysis were further enforced by the testimony of a former resident who worked as a carpenter for DSR from 1927 until the plant's closing in 1961. This person was in an excellent position to provide a general indication of the dominant industry's approach towards the maintenance of the company houses. The informant stated that DSR never attempted to reduce the cost of operating its shelter investments by keeping maintenance to a minimum. Maintenance of the units was considered one of the necessary expenses of operating the community so the company houses were kept in the best possible condition. The high level of maintenance for the company houses was yet another indication that DSR
considered its shelter as long-term investments. DSR consistently made an investment into the built environment by maintaining its company houses and employee comfort was a consideration.

The financial analysis of the company houses was developed within the framework of three scenarios as outlined in section 3.5, Data Analysis Techniques. Appendix H: Discounted Value Scenarios, illustrates the results of the discounted value analysis for all three scenarios. The worst case scenario incorporated the most pessimistic financial assumptions using a high inflation factor, rate of increase for maintenance and original maintenance factor. Under the worst case scenario the majority of the units recovered the cost of developing within seven to eleven years of operation. By 1926, the eleventh year of operation, 77% of the company houses in Deloro had paid off their initial cost of development. Generally speaking, the units at the south end of the village appeared to recover the initial investment within seven to nine (1921 - 1924) years of operation, while the units at the north end of the village took four years (1926) or longer. This was likely due to the marginal difference in the cost of developing the units in the north compared to the units in the south. The units at the south end of the village had a few more amenities and this was reflected in the slightly higher rents charged. However, both the units in the north and the south cost roughly the same to build, but the units in the south paid marginally higher rents thereby requiring less time to recover their initial costs. Under the most pessimistic financial assumptions some of the company houses in the north end of the village took extremely long periods to recover their
costs; even up to 1961 when the units were sold upon closure of the plant. It should be noted, however, that the informant who supplied the data for these units was unable to remember the exact rental rates so an estimate was provided. This brings into question the accuracy of the data for these units, especially since they took an unreasonable long period of time to recover their costs of development.

The best case scenario incorporated all of the most optimistic financial assumptions to produce the quickest possible period of recovery for the housing investments. Under this scenario the vast majority of the units recovered their initial cost within the fifth and sixth (1920 & 1921) years. By 1921, the sixth year of operation, fully 77% of the company houses had recovered their initial cost of development. By 1926, the tenth year of operation, all of the units in Deloro had recovered their initial investments. Similar to the worst case scenario the best case scenario showed that the units at the north end of the village took longer to recover their initial costs while the units in the south paid themselves off relatively quickly. Under these optimistic financial assumptions there was a marginal difference of only five years between when the first units were paid off and the last, whereas the spread in the worst case scenario was a period of thirty-nine years. The smaller spread under the best case scenario suggests that it may have been more realistic from a financial perspective than the worst case scenario.

The most likely scenario used the most realistic financial assumptions for recovering the initial cost of developing the company houses. This included an inflation rate of 4.5% over the period that the company houses were
in operation, a 0.30% rate of increase for maintenance, and a 3.5% original maintenance factor. The Senior Market Appraiser at Canada Mortgage and Housing Corporation suggest a 0.25% increase for maintenance and 3.00% original maintenance factor to reflect the average home, but the interview data suggest that the company houses were maintained at above average standards. Consequently, the increase for maintenance was adjusted to 0.30% and the original maintenance factor to 3.5% to reflect the most likely scenario.

Under the most likely scenario the majority of the company houses recovered their cost of development within the sixth and seventh (1921-1922) years of operation. By 1922, the seventh year of operation, fully 77% of the company houses had recovered their original cost of developing. All of the units were paid off by the twenty-first (1936) year of operation. Similar to the previous two scenarios the most likely scenario showed that the units in the south end of the village paid off their original cost of investment faster than the units in the north.

All three scenarios utilized different financial assumptions to reflect three possible outcomes for DSR's company houses. Regardless of which assumptions were used, however, each scenario suggested that the units in the south end of the village paid off their initial investment faster than the units in the north. This conflicted with existing literature that suggested dominant industries made more money from the company houses that were rented to employees who were lower in the employment structure (Goltz, 1989). The three scenarios showed that DSR recovered the initial cost of development from the units in
the south faster than the units in the north, thereby extracting more profits from employees who were higher in the dominant industry's employment structure. It should be noted, however, that the three large houses that were occupied by DSR's executive staff were not included in the financial analysis. This was because the rental rates for these three units were not available making it impossible to examine their profitability.

To answer the question if DSR produced a capital return on its housing investments; in two of the three scenarios the answer was yes. The best case and most likely scenarios showed that the company houses paid off their cost of development within a few years of operation and then a steady, albeit small, profit thereafter. The notion of profitability was further enforced when depreciation was factored into the total cost. Using straight-line depreciation over a 40 year period virtually negates the cost of maintaining the company houses. Consequently, the period for recovering the cost of development in all three scenarios was further reduced by an additional four to nine months. So regardless of the fact that the company houses were sold at below market value, the sales of the units were entirely profitable. The company houses were paid off many years before DSR sold them in 1961 upon closure of the plant.

Although profits were marginal the company houses did produce a steady capital return within a reasonable time frame as well as from the sale of the units in 1961. The real gains for the dominant industry were from the perception of profitability. Most of the informants believed that DSR was providing good quality, well maintained, and inexpensive accommodations for the benefit
of its employees. This was evident from the results of the quality of construction and maintenance analysis. The quality of construction and maintenance of the company houses indicated that DSR considered its units as long-term investments and employee comfort was a consideration. The fact that the company houses were long-term investments provided the framework for employer paternalism in the Village of Deloro.

Similar to Goltz’s (1989) study of Copper Cliff, Ontario the DSR case study showed that there was a misguided image of dominant industries providing accommodations at a loss and this was largely due to misleading analysis of low rental rates (Goltz, 1992, pp. 42-69). The analysis of the employees’ perception of profitability showed that most of the residents believed that the company houses did not realize a profit because of the high level of maintenance and low rental rates. The financial analysis, however, suggested that DSR expected a return on its housing investments because of the time period required to recover the cost of development was reasonable. Thus, profits were a factor in the continued maintenance of the company houses. The fact that DSR sold its houses at below market value showed that profitability was not a high priority, at least not at the time the plant was closing in 1961. Alternatively, DSR may have considered its housing investments a liability therefore selling them at below market value to be rid of them.

What was clear from the financial analysis of DSR’s company houses was that they were not developed and maintained at a loss. The comparative analysis of the employees’ perception of profitability was in direct conflict with the reality and was actually where the
dominant industry made most of its gains. While the employees believed that the houses were developed and maintained for their benefit, DSR actually profited from their existence. Thus, the real gains were intangible because it was difficult to measure the public relations benefits from the company houses' profitability.

The quality of construction and maintenance of DSR's company houses also conflicted with what was described in existing literature. While most of the existing literature described company houses as poor quality construction and maintenance, DSR's company houses were quite the opposite (Pearson, 1965; Allen, 1966; and Warwick & Littlejohn, 1992). The examination of former residents indicated that employee comfort was a consideration. It should be noted, however, that many of the employees lived in accommodations not owned by DSR within close proximity to the village so poorly kept accommodations would not be competitive or be an incentive for advancement. The survey analysis showed that DSR was not single minded in its pursuit of a capital return from its housing investments, but profits were nonetheless an important factor that could not be overlooked. In this regard housing profits were an auxiliary factor in the matching theoretical pattern because it alone could not justify continued investment.

4.4 Social Control

Similar to the financial analysis of company housing, the examination of social control was developed in a comparative analysis of perception versus actual employer paternalism. The main aspects that were explored in this section were derived from issues identified in the literature review. This chapter presents the results of
the analysis including: racial segregation, accessibility to company houses and social hierarchy.

When questioned about the ethnic makeup of the village, former residents thought that there were predominantly Anglo-Saxons of Canadian and British descent as well as the odd Irish and French. Generally speaking, the ethnic makeup of the village was consistent with the rest of Hastings County. It seems that the ethnicity of the Village of Deloro remained static throughout the period of DSR's operation. None of the informants believed that there was racial segregation within Deloro and this was evident in the testimony of one former resident, "everyone mixed with everyone." What was interesting to note was that the informants did not consider the bunkhouse, which housed newly landed immigrants, as part of the village. Therefore it may be the former residents' interpretation of the village boundaries that led them to believe Deloro was predominantly Anglo-Saxons of Canadian and British descent and that there was no ethnic segregation in the community. Even more interest was the fact that several informants made reference to the term "hunky". This referred to the large number of Ukrainian immigrants that were brought to Deloro in the early 1900s.

Between 1910 to 1930 DSR recruited newly landed immigrants from Montreal and brought them to work in Deloro as laborers. The term "hunky" is a derivative of the word "bohunk" which is used to describe immigrants of eastern European descent. DSR housed the workers, who were primarily of Ukrainian descent, in a bunkhouse which was located adjacent to the plant facilities and apart from the rest of the village. The occupants of the company houses referred to the bunkhouse area as "hunkytown", which is a
term that also appears in other literature on company towns (Crawford, 1995, p. 69). At one point the bunkhouse provided meals, recreational facilities, and shelter for up to 300 single men. This was the first evidence of deliberate residential segregation carried out by DSR. Whether the bunkhouse residents were separated for practical purposes or as a result of deliberate ethnic segregation such as in Coppercliff, Ontario was unclear (Goltz, 1989). Past literature has indicated that dominant industries separated single men from family residences because they were seen as incompatible land-uses (Neil et al., 1982). Thus, DSR may have deliberately separated non-English speaking residents by actively segregating residential living spaces, but there was insufficient evidence to determine if this was actually the case.

The ethnic component of the community was not only prevalent in the residential dwellings, but in the employment structure as well. Several informants testified that the bunkhouse residents were recruited largely to work in the oxide plant where DSR processed arsenic. The conditions in the oxide plant were extremely hazardous and there were many cases of employees dying of lung cancer (informant, 1997). One former resident of the village mistakenly believed that the bunkhouse employees were better suited to work in the oxide plant because they could withstand the arsenic vapors, whereas western Europeans could not. Although this view was not shared by all of the informants, it was nonetheless reflective of the prejudicial misconceptions of the community.

Not only did the bunkhouse employees work in hazardous conditions, but they were also the first to be laid off during times of low activity. A former senior staff member
testified that DSR reduced the work week for village employees during the depression, but the bunkhouse workers were laid off completely. This position was reinforced by the testimony of another former employee, "I remember the depression when everything went flat in [1929 and 1930] and the whole thing shut down and all of those hunkies were left without a job you know. And according to rumors they were so damn used to eating arsenic they couldn’t get along without it." The evidence from the interview data suggests that DSR exploited its non-English speaking employees by giving them the worst jobs, hazardous working conditions and segregated living accommodations.

Although there were a number of informants who believed patronage was the primary factor in gaining access to the company houses, most thought that residency was based on merit and selection criteria. Interestingly, the former residents who were skeptical that there was patronage also agreed that the village was largely composed of employees who were essential to the resource extraction operation. Key personnel such as managers, technical staff, and professionals were given priority access to the company houses. There was a two part explanation for this: i) company houses as a benefit; and ii) selective labour control.

DSR recognized that there were far more employees than company houses, but despite low rental rates there was no great demand for the units. Throughout the period of DSR’s operation the company houses sheltered between 9% to 28% of the employees. The remaining DSR employees found shelter in the surrounding towns of Marmora, Madoc and Eldorado. Therefore the company houses were used as incentives as opposed to being essential for working in the resource
extraction operation. DSR gave key staff members preferential access to the company houses as an incentive for advancement in the employment structure.

The second part to the explanation suggests employer paternalism as an extension of free market economic behavior carried out by the dominant industry and its operators. Because managerial, technical, and professional staff were essential to the operation of the plant it was important that they were kept happy as well as under the control of the dominant industry. So while the dominant industry promoted the company houses as a benefit, they also utilized them as a form of selective labour control. What better way to ensure loyalty and dedication among key employees than to provide low cost, well maintained shelter. The use of company houses as a tool to control the labour force is discussed in greater detail in section 4.5: Labour Control.

It was the general manager along with other key staff members who decided who was allowed to live in the company houses. DSR's management acted as the gate keepers for the village and consciously approved employees whom they thought would be ideal residents for the village. This was evident in the words of one former resident, "There was an official list but staff members made the ultimate decision and everything was controlled through the office." It seems that the Village of Deloro was not a free access community where anyone could reside by virtue of being employed by DSR.

In the later years of Deloro's existence, greater access to automobiles and the development of the surrounding urban areas gave the employees more choice in terms of shelter. The company houses became less desirable
and DSR's paternalistic powers decreased accordingly. By the time the company houses were sold in 1961, the low rental rates were the only reason why the units were still fully occupied.

The interview data showed that the majority of the former residents did not believe DSR imposed a social hierarchy based on employment status. There were, however, some informants who thought that there was a spatially enforced social hierarchy. The general view was that the south end of the village was reserved for employees who were higher up in the employment hierarchy, while the north end was reserved for employees who were lower. Further examination of the interview data revealed that the informants who did not believe there was a social hierarchy came from households that were higher up in the employment structure. This suggested that the residents who were at the lower end of the employment structure were more conscious of existing social hierarchies then those who were at the upper end.

There was also evidence of a social hierarchy in the testimony of one former resident, "I mean there were parties. My mother didn't get invited to the parties but her sister did because she was married to a superintendent. A superintendent of one of the departments and [my aunt] used to borrow [my mother's] dishes, but my mother wouldn't be invited..." There was no evidence to suggest DSR enforced a social hierarchy through the village's educational institutions. One of the informants was a teacher in Deloro from 1949 to 1951 and stated that he did not recognize any class division between the schools. Attendance was based on personal preference and religion regardless of the household's employment status.
Social activities in the village included lawn bowling and tennis, but baseball was by far the most popular sport. DSR actively recruited players from Queen's University in Kingston to participate in its baseball team. It was in 1926 that the Deloro ball club, after 24 games in the playoffs, was presented with the Ontario championship trophy in Oshawa (Sunter, August 27, 1960, p. 5). An annual new year dance was held for the entire village which was one of the most anticipated social events of the year. Christmas was also a special occasion where gifts were handed out to the children in the village and each family received a turkey courtesy of DSR. Perhaps one of the more significant discoveries was that the residents were encouraged to make their purchases at the general store out of loyalty to the community's benefactor, DSR. Although the prices at the general store were competitive, the fact that the residents were expected to make their purchases there was evidence of paternalism.

An overview of the village residents and their occupations showed that there was no evidence of a social hierarchy based on employment status and implemented using the company houses. Appendix I: Employment by Location, illustrates the results of the analysis. It seems that in Deloro, the social hierarchy was enforced through other means. The only evidence of a spatially enforced social hierarchy was the presence of three large executive houses at the southern end of the village. The three executive houses were located at the junction of the two main roads adjacent to the hospital, school, general store and the office. Barring these three units, skilled and unskilled employees were located throughout the village without any identifiable spatial patterns. The village residents
included foremen (supervisory), skilled tradesmen, technicians, clerical/office staff as well as laborers. It was evident, however, that most of the residents held positions that were vital to the day-to-day operations of the plant. There were very few laborers residing in Deloro considering the nature of the industry. Almost all of DSR's vital staff members lived under its employer paternalism at a considerably lower cost than private housing in the surrounding area.

Perhaps the most important finding in the analysis of the Social Control embedded unit of analysis was that DSR encouraged the residents to support the community's general store. So while it appeared that DSR provided low cost shelter as a benefit to a selection of its employees, DSR actually extracted the most out of these individuals. The dominant industry paid its key employees living in the village, but recovered most of the capital through living expenses while at the same time ensuring a high degree of loyalty and exercising social control. In this regard Social Control was an auxiliary benefit in the theoretical pattern because it alone could not justify the continued maintenance of the company houses.

4.5 Labour Control

Labour is a significant determinant of profitability in any capital venture but especially so in a resource extraction operation which tends to be labour intensive. Thus, labour control can be an incentive for dominant industries to continue to invest in company houses. The DSR case study examined company housing to determine if it was used to control the labour force and if so, to what extent. The analysis focused on two key issues: i) the
dominant industry's eviction practice; and ii) the use of company houses to influence voting in political elections. Both issues were examined by grouping common themes derived from the interview data.

The dominant industry's eviction practice was a key element that would identify the company houses as a tool for labour control. An examination of the interview data showed that DSR did not allow employees to remain in the company houses once employment was terminated. All of the informants testified that if you ceased employment with DSR you were expected to move out, usually within one months time. This attached an employment condition to the occupancy of the company house that made it difficult for employees to leave DSR because doing so would involve a change in residency as well as employment. Thus, the threat of eviction ensured greater loyalty among the employees who resided in the village who tended to be vital staff members.

Among the interview group were two informants who ceased employment with DSR while residing in the company houses. One of the informants even ceased employment on unpleasant terms as a result of a dispute with management. Although it was understood that they could not continue to reside in the company houses, neither of the informants was evicted immediately after ceasing employment. None of the former residents interviewed thought that DSR used the company houses to control the labour force.

Existing literature has shown that dominant industries have used company houses to influence labour disputes (Walker, 1953; Horsfall et al., 1974; and Warwick & Littlejohn, 1992). The use of company houses to influence a labour dispute is not only indicative of employer
paternalism, but exemplifies how dominant industries will utilize any means at their disposal, without moral responsibility to the community, to ensure free market survival. In the DSR case study, the use of company housing as a form of labour control was examined in the context of the Mine, Metals, and Smelter union strike in 1951. The strike in Deloro was connected to the development of Bethlehem Steel's mining operation in Marmora which was only five kilometers from the Village of Deloro. The president of the Mine, Metals, and Smelter union attributed the strike to DSR's low wages relative to similar operations in other parts of the country. When Bethlehem Steel, an American company, established itself close to the Deloro operation and paid considerably higher wages, the employees at DSR became dissatisfied. Hence, higher wages was the primary issue in the Mine, Metals, and Smelter union strike.

Prior to the Mine, Metals, and Smelter union strike employee-management relations at DSR were good. An employees' council acted as a liaison between employees and management, but this unit had no real power and was little more than a front for management. In addition to poor wages, safety was a major concern for DSR's employees. The working conditions were generally considered hazardous, especially in the oxide plant where arsenic was refined for use as pesticide in agriculture. The key point is, the 1951 strike presented an excellent opportunity for DSR to use the company houses to control its labour force. Existing literature has shown that dominant industries commonly evicted employees in strike or lockout situations (Warwick and Littlejohn, 1992). There was no evidence to show that DSR used the company houses in a similar fashion.
The most convincing evidence comes from the former president of the Mine, Metals, and Smelter union during the 1951 strike. This individual was also of the opinion that DSR never used the company houses to influence the labour dispute.

DSR may have chosen not to use the company houses during the labour dispute because only a small portion of its labour force resided in the village. Thus, the negative possibilities outweighed the potential effectiveness of utilizing the company houses in this particular situation. No doubt the dominant industry ensured greater loyalty among its vital staff members because shelter provision was conditional upon employment. So while company housing was widely viewed as a benefit for key employees, it was used to selectively coerce DSR’s most valued personnel. It should also be noted that the 1951 strike in Deloro was short, ending in four weeks, so it was not necessary to use the company houses to influence the labour dispute. If the strike had continued for a longer period of time DSR may have been compelled to use any means at its disposal to ensure continued production.

In addition to the examination of labour control, the DSR case study also looked at the dominant industry’s influence over the political process. In the Village of Deloro, the office of reeve was given to the plant superintendent by acclamation. This was a tradition that began when the village was first incorporated until the closing of the plant in 1961. The residents of Deloro never voted to elect their reeve, but this was not a highly coveted position even after DSR left the village.

There was no evidence to suggest that DSR attempted to influence the residents' voting behavior in provincial or
federal elections. This was evident in the words of one former resident who was questioned about voter influence, "No, people made up their own minds and voted the way they wanted to." Deloro was only a small portion of the electoral riding's voting population so the negative consequences of attempting to influence the political process outweighed the potential gains from doing so.

Although labour was a significant determinant of production it appears that the dominant industry did not use the company houses to control its labour force in the DSR case study. An examination of DSR's eviction practice showed that the company houses were not used to coerce employees residing in the village during labour disputes. This was largely due to the fact that only a portion of the employees lived in the village, so the use of company housing as a method of labour control would have been ineffective. The Mine, Metals, and Smelter union strike also showed that the company houses were not used to control the labour force. By selectively approving all residents of the village DSR exerted passive pressure to ensure a high degree of loyalty among its vital staff members. From this perspective DSR did use the company houses to control the labour force albeit indirectly and in a strategic manner.

By and large, there was no evidence to show that DSR attempted to influence the residents' voting behavior. This would have been a futile exercise because the village's population comprised only a small portion of the electoral riding's voting population. In essence labour control was a relatively small factor in the continued maintenance of the company houses because there was little incentive to do so. The size of DSR's labour force
relative to the number of units available made the company houses ineffective as a method of labour control. It seems that labour control in the DSR case study came about as an auxiliary benefit as oppose to a reason for continued maintenance. Labour control in itself provided little if any incentive to continue investing in the company houses. Thus, Labour Control was a null factor because it was empirically irrelevant to the theoretical pattern.
5. CONCLUSION

5.1 Synthesis

The examination of the DSR case study showed that the development and continued maintenance of company housing was dependent on the prosperity of the resource extraction operation thereby making it the primary reason for continued investment. It appears that DSR developed company housing to assist the resource extraction operation by maintaining a sufficient labour force. All of the other major factors affecting the maintenance of company housing were subordinate to the continued operation of the resource extraction industry. Profitability of the resource extraction operation was not, however, the sole reason for continued investment in the company houses.

The financial scenarios showed that the company houses produced a capital return within a short period of time so it was reasonable to assume that DSR expected a profit from its housing investments. The company houses were not developed and maintained at a loss as was claimed by the dominant industry and believed by its employees; company housing was beneficial to the dominant industry financially, in terms of public relations, and by ensuring the loyalty of key employees. The real gains, however, were from the perception of profitability. While the employees believed that the dominant industry was providing good quality, well maintained, and inexpensive shelter, DSR actually benefited from the houses' existence. Although the profitability of company housing was a factor, producing a capital return was by and large insignificant to the continued maintenance of the units. This notion was further enforced by the fact that DSR sold the company houses at below market value in 1961. Rather then acting
as an incentive for maintaining company housing it seems that profitability was an auxiliary benefit, or utilized to reduce the financial burden of a necessary expense.

Despite employees' perceptions, there was no evidence to suggest that company housing was used to enforce a social hierarchy in Deloro, but by actively approving residents DSR controlled the social fabric of the community. Social control by itself did not provide any incentive to maintain the company houses and seems to have been an auxiliary benefit made available by the existence of the units. Barring negative public relations, the dominant industry exercised employer paternalism if it assisted in survival in the free market and encouraged greater capital returns. DSR did not, however, maintain its company housing to exercise social control over the village residents.

There was no evidence to suggest that DSR directly utilized the company houses to control its labour force. The dominant industry's eviction practice was generous, giving the employees ample time to leave after they ceased employment, and it appears the company houses were never used to coerce employees during labour negotiations. By actively approving vital staff members to reside in the company houses DSR was able to ensure a greater degree of loyalty among its most valuable employees. Complete control of the labour force was not possible because only a portion of DSR's employees resided in the company houses. In this regard the Village of Deloro was not a closed company town in the truest sense. Nevertheless, labour control could only be considered an auxiliary benefit because it alone did not provide a sufficient reason to continue maintaining the company houses. Therefore the
primary reason for the continued maintenance of the company housing was as a support service to the resource extraction operation and all of the other factors came about as auxiliary benefits. It was clear, however, that the dominant industry benefited from the existence of company housing more than the employees.

5.2 Limitations of Research

The case study analysis of the Village of Deloro has contributed to existing knowledge on company housing, but it is necessary to outline the limitations of the research. To begin with, the DSR case study was restricted to one case study so there were limitations to drawing generalizations from this single investigation. Moreover, the DSR case study did not explore all of the factors involved in the continued maintenance of company housing and therefore lacked a comprehensive overview of the decision making process. Although the DSR case study chose to explore what were deemed the most important factors, the other major factors that were not examined in this study could also have affected the overall net benefits of maintenance. The major factors: Legislative Changes, Corporate Ownership, and Corporate Management must be included in future research to provide a fuller understanding of the phenomenon of company housing.

It should also be noted that the financial information used to determine the company houses' profitability was estimated and therefore subject to possible error. Direct access to the dominant industry's records was not available so cross verification of informant data was the only alternative. Much of the financial data did not exist because the company houses were maintained as an integral
part of DSR. For instance, all of the repair work was done using plant staff thereby leaving no evidence of transactions to determine the cost of maintenance. Future research on the profitability of company housing should utilize financial data obtained directly from the dominant industry.

It is difficult to achieve objectivity in case study research because the researcher's judgement is required throughout all of the stages in the research process. Thus, it is difficult to separate personal bias because the direction of the research is heavily dependent on the researcher's interpretation. The DSR case study was no exception to this bias so it is possible that a future researcher will produce different results depending on their train of logic.

As a final note, much of the data for the DSR case study was dependent on the memories of fairly senior informants going back several decades. Therefore, the accuracy of the data may be questionable in that people's memories deteriorate.

5.3 Significance of Research

Company towns are in a sense micro models of how private interests are able to control spatial living environments if left unchecked by regulatory policies to counter-balance their position; and company houses are their primary means to achieve their objectives. Stocks and mutual fund units that are held by the general public further remove ethical business practices from the place of production as investors pressure management to produce greater capital returns. This is conducive of an opportunist situation that will exploit employees,
utilizing any means at their disposal, in the pursuit of higher capital returns. Although DSR was wholly owned by a single private interest, the company houses were nevertheless a product of this opportunist situation. Moreover, the DSR case study illustrated how benefits or incentives that are offered to high ranking employees may actually be passive labour control mechanisms.

The DSR case study has shown how residential real-estate markets in communities that are overly dependent on a single industry, are vulnerable to global events related to the market for the locally produced product. Housing, and indeed whole communities, can be temporary urban settlements dependent on the market for the locally produced product.

5.4 Future Research and Policy Implications

There is a limited amount of research that focuses specifically on company housing. Future research should include more single case studies or perhaps multiple case studies to assist in the identification of general patterns. A more comprehensive examination can be achieved by exploring all of the major factors affecting continued maintenance. Future studies should included: Corporate Ownership, Corporate Management, Public Relations and Legislative Changes as major factors. Future research can also be expanded to include comparative analyses between company housing from different types of resource communities and varying geographic locations. Finally, it would be interesting to examine company housing within the context of Bradbury's (1993) periods of town planning.

The DSR case study has shown there is a need to develop policy initiatives to address company housing in
relation to employer paternalism. Advancements in Canadian society which are reflected in our laws make it more difficult for employers to exercise paternalistic powers, but there is still a need to ensure company housing is not utilized to exploit employees. As long as dominant industries are pressured to produce greater capital returns they will use any means at their disposal to ensure survival in the free market. A policy initiative is the first step to ensure that there are equivalent forces to counter-balance dominant industries' paternalistic tendencies.
Appendix A: Regional Map of Deloro

Source: American Automobile Association Map, 1996
Appendix B: Village of Deloro Company Houses

Single-detached unit. Approximately 1,200 square feet (108.216 m²)

Semi-detached duplex unit. Approximately 900 square feet (81.162 m²)
Appendix C: Village of Deloro

DELORO SMELTING & REFINING CO. LIMITED
APPROX. SCALE
MAR. 1931

KEY

SUBSIDIARY BUILDINGS

1. Laboratory
2. Superintendents
3. Offices, Inspection
4. Docking

Source: Pemberton Smith & Co. Ltd., Insurance, 1941
Appendix D: Questionnaire

Derrick M Wong - graduate student
DEPARTMENT OF GEOGRAPHY
University of Windsor
401 Sunset Avenue
Windsor, Ontario, N9B 3P4

August 6, 1997

Dear Sir/Madame:

My name is Derrick Wong and I am a graduate student in the DEPARTMENT OF GEOGRAPHY at the University of Windsor. I am conducting a study on the houses that were built by Deloro Smelting and Refining in the Village of Deloro. More specifically, I am interested in locating people who either lived in the company houses when Deloro Smelting and Refining owned them, or anyone who purchased a unit in 1961.

Attached is a questionnaire that is designed to identify people who would be useful participants in the study. Participation is strictly voluntary and you may refuse to answer any questions or withdraw from the study at any time. The questionnaire is to be completed by the head of the household where possible. Please circle the appropriate answer. A postage paid return envelope is included to allow for easy and convenient return of the questionnaire.

The information on this questionnaire is strictly confidential and will be used for research purposes only. The questionnaire may be followed up with an interview. Please indicate if you would be willing to participate in such an interview. The results of the study will be made available to anyone who requests it. If you have any questions or if you wish to contact me then I can be reached at the following address:

Derrick M Wong
94 Banstock Drive
Willowdale, Ontario, M2K 2H6
ph: (416) 223-8520 fax: (416) 223-5556 email: dwong@relaymail.net

My academic supervisor can be reached at:

Dr Anna Vakil
University of Windsor - DEPARTMENT OF GEOGRAPHY
401 Sunset Blvd
Windsor, Ontario, N9B 3P4
ph: (519) 253-4232 ext 2180 email: vakila@uwindsor.ca

Yours truly,

Derrick M Wong
A1 Did you occupy any of the houses in the Village of Deloro before 1961?

YES

NO

B1 Do you know anyone who occupied a house in the Village of Deloro before 1961?

YES IF "YES": GO TO B2

NO IF "NO": SKIP TO C1

B2 Please provide us with a means of contacting this person(s). If you do not have their complete information then please provide us with the information that you have.

Name
Street
City/Town
Phone number
Postal Code
Last contacted

Name
Street
City/Town
Phone number
Postal Code
Last contacted

Name
Street
City/Town
Phone number
Postal Code
Last contacted

C1 Do you own the house that you are currently living in?

YES IF "YES": GO TO C2

NO IF "NO": SKIP TO E1

C2 Did you purchase your house from Deloro Smelting and Refining in 1961?

YES IF "YES": SKIP TO F1
D1

Please provide us with a means of contacting the previous owner of your house. If you do not have their complete information then please provide us with the information that you have.

Name
Street
City/Town
Phone number
Postal Code
Last contacted

D1

E1

Please provide us with a means of contacting your landlord. If you do not have their complete information then please provide us with the information that you have.

Name
Street
City/Town
Phone number
Postal Code

E1

F1

Could you provide us with your personal information:

Name
Street
City/Town
Phone number
Postal Code
Number of years at present address _____

Date of Birth

Number of occupants in household _____

Age of occupants in household:

<table>
<thead>
<tr>
<th>Occupant</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
</tbody>
</table>

Would you be willing to participate in an interview?

YES

NO
Appendix E: Advertisement

Source: Marmora Herald, Vol. 120 No. 38, Saturday September 20, 1997
Appendix F: Interview guide

A1 Please describe your job(s) or position(s) at Deloro Smelting and Refining. If you held more than one position at Deloro Mining and Smelting then please provide us with the time period that you functioned at each position.

<table>
<thead>
<tr>
<th>Position</th>
<th>Duties</th>
<th>Period of function</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B1 Please identify the house(s) that you occupied in the Village of Deloro while in the employ of Deloro Smelting and Refining. (Use map if necessary)

<table>
<thead>
<tr>
<th>House Number</th>
<th>Period of Occupancy</th>
<th>Rent Paid</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C1 Did you purchase a house from: Deloro Smelting and Refining?

<table>
<thead>
<tr>
<th>YES</th>
<th>IF &quot;YES&quot;: GO TO C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>IF &quot;NO&quot;: SKIP TO D1</td>
</tr>
</tbody>
</table>

C2 Do you remember how much you paid for the unit?

D1 In your opinion do you think Deloro Smelting and Refining made money from their company houses?
**E1** I would like you to think back to when you lived in a Deloro Smelting and Refining company house. Bearing in mind the period that the houses were constructed and relative to privately constructed houses in the area, how would you rate the quality of the units?

<table>
<thead>
<tr>
<th>UNLIVABLE</th>
<th>not suitable for human habitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>POOR</td>
<td>construction of the unit would be comparable to a flimsily constructed play wood cabin</td>
</tr>
<tr>
<td>FAIR</td>
<td>in need of major repair work; extremely poor standards of construction</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>not the top or the bottom conditions; spartan; bare essentials but reasonable conditions</td>
</tr>
<tr>
<td>ABOVE AVERAGE</td>
<td>not perfect but generally good workmanship to above normal workmanship</td>
</tr>
<tr>
<td>VERY GOOD</td>
<td>step below new; good quality; no visible signs of work to be done</td>
</tr>
<tr>
<td>EXCELLENT</td>
<td>brand new or custom made housing; top dollar paid for all material used</td>
</tr>
</tbody>
</table>

**F1** Again bearing in mind the period that the houses were constructed and relative to the house in the area, how well did Deloro Smelting and Refining maintain the unit(s) that you occupied?

| POOR            | little or no maintenance done; in need or major repair; described as old, worn down, and sad condition |
| AVERAGE         | can see wear and tear, but reasonably well maintained considering the time that it was built |
| GOOD            | well maintained both inside and out; some small repair needed but no signs of deferred maintenance |

**G1** What was the dominant ethnic background of Deloro Smelting and Refining company employees?

**H1** Did the ethnic make-up of Deloro Smelting and Refining's employees change over the years?

**I1** Please describe some of the social activities of the community. For instance, where there bridge clubs, religious events, dances, lawn bowling, et cetera?

**J1** Could you describe any sort of social grouping either by ethnicity of employment status in Deloro that was enforced or reflected in its housing allocation, schools, social clubs, et cetera?

**K1** How did Deloro Smelting and Refining decide who got to live in the company houses?
L1 Can you think of an instance where the Deloro Smelting and Refining influenced your voting behavior in municipal, provincial, or federal elections? For instance, in company letters, memos, meetings, or newspapers.

M1 Do you know of anyone who quit Deloro Smelting and Refining?

<table>
<thead>
<tr>
<th>YES</th>
<th>IF &quot;YES&quot; GO TO M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>IF &quot;NO&quot; SJIP TO N1</td>
</tr>
</tbody>
</table>

M2 If you cease to be employed from the company how much longer could you reside in the company houses?

N1 Were there any labour disputes between the employees and management of Deloro Smelting and Refining? For instance, wage disputes, safety concerns, outsourcing, et cetera.

N2 If there were labour disputes did management use the company houses to influence your decisions or actions when attempting to work out a compromise?

O1 Please verify the following information:

Name __________________________________________
Street __________________________________________
City/Town ___________________________ Postal Code __________
Phone number ___________________________
## Appendix G: Content Analysis

### Perception of Profitability

<table>
<thead>
<tr>
<th>Definition of theme</th>
<th>1st: Not profitable</th>
<th>2nd: Doubtful</th>
<th>3rd: Unsure</th>
<th>4th: Profitable</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewees who believe the dominant industry did not make a profit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informants</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Percentage</td>
<td>31.2%</td>
<td>18.8%</td>
<td>25.0%</td>
<td>25.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Quality of Construction

<table>
<thead>
<tr>
<th></th>
<th>UNLIVABLE</th>
<th>POOR</th>
<th>FAIR</th>
<th>AVERAGE</th>
<th>ABOVE AVERAGE</th>
<th>VERY GOOD</th>
<th>EXCELLENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informants</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Percentage</td>
<td>0%</td>
<td>7%</td>
<td>0%</td>
<td>20%</td>
<td>40%</td>
<td>20%</td>
<td>13%</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Maintenance

<table>
<thead>
<tr>
<th></th>
<th>POOR</th>
<th>AVERAGE</th>
<th>GOOD</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informants</td>
<td>0</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Percentage</td>
<td>0%</td>
<td>20%</td>
<td>80%</td>
<td>100%</td>
</tr>
</tbody>
</table>
## Appendix H: Discounted Value Scenarios

<table>
<thead>
<tr>
<th>Address</th>
<th>Type</th>
<th>Building Price</th>
<th>Selling Price</th>
<th>Monthly Rent</th>
<th>Worst Case: Year Paid</th>
<th>Best Case: Year Paid</th>
<th>Most Likely: Year Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Deloro St</td>
<td>lg single detached</td>
<td>$1,000.00</td>
<td>$6,000.00</td>
<td>$12.00</td>
<td>1921</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>9 Deloro St</td>
<td>lg single detached</td>
<td>$1,000.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1921</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>4 O'Brien St</td>
<td>single detached</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>1 O'Brien St</td>
<td>split duplex</td>
<td>$600.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>3 O'Brien St</td>
<td>split duplex</td>
<td>$600.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>6 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>7 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>8 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>9 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>10 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>11 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>12 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>13 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>14 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>15 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>16 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>17 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>18 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>19 O'Brien St</td>
<td>split duplex</td>
<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>20 O'Brien St</td>
<td>single detached</td>
<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>21 O'Brien St</td>
<td>split duplex</td>
<td>$500.00</td>
<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>22 O'Brien St</td>
<td>split duplex</td>
<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>23 O'Brien St</td>
<td>single detached</td>
<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
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<tr>
<td>24 O'Brien St</td>
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<td>$12.00</td>
<td>1922</td>
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</tr>
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<td>$1,200.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>26 O'Brien St</td>
<td>split duplex</td>
<td>$600.00</td>
<td>$2,000.00</td>
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<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
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<td>$600.00</td>
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<td>$12.00</td>
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<td>1920</td>
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<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
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<td>1920</td>
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<td>1922</td>
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<td>1921</td>
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<td>split duplex</td>
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<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
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<td>$12.00</td>
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<td>split duplex</td>
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<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
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<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
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<td>1920</td>
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<td>35 O'Brien St</td>
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<td>1922</td>
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<td>$12.00</td>
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<td>1920</td>
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<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
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<td>1920</td>
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</tr>
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<td>39 O'Brien St</td>
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<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>40 O'Brien St</td>
<td>single detached</td>
<td>$600.00</td>
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<td>1922</td>
<td>1920</td>
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<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
</tr>
<tr>
<td>42 O'Brien St</td>
<td>single detached</td>
<td>$600.00</td>
<td>$2,000.00</td>
<td>$12.00</td>
<td>1922</td>
<td>1920</td>
<td>1921</td>
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</table>

83
### Appendix I: Employment by Location

<table>
<thead>
<tr>
<th>Address</th>
<th>Employment Position</th>
<th>Period of Occupancy</th>
<th>Employment Position</th>
<th>Period of Occupancy</th>
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<tbody>
<tr>
<td>5 Deloro St</td>
<td>executive</td>
<td>1916-1961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Deloro St</td>
<td>executive</td>
<td>1916-1962</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 O'Brien St</td>
<td></td>
<td>1926</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 O'Brien St</td>
<td>executive secretary</td>
<td>1950-1961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 O'Brien St</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 O'Brien St</td>
<td>labourer</td>
<td>1934-1938</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 O'Brien St</td>
<td>labourer (warehouse)</td>
<td>1930-1936</td>
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<td></td>
</tr>
<tr>
<td>11 O'Brien St</td>
<td>mechanic</td>
<td>1926-1931</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 O'Brien St</td>
<td>lab technician/ chemist</td>
<td>1919-1950</td>
<td></td>
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</tr>
<tr>
<td>13 O'Brien St</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>14 O'Brien St</td>
<td>foreman</td>
<td>1929-1941</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 O'Brien St</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>16 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 O'Brien St</td>
<td>labourer</td>
<td>1933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 O'Brien St</td>
<td>labourer (blast furnace)</td>
<td>1916-1939</td>
<td></td>
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</tr>
<tr>
<td>23 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 O'Brien St</td>
<td>executive secretary</td>
<td>1933-1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 O'Brien St</td>
<td>clerical (cost accountant)</td>
<td>1946-1951</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 O'Brien St</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>31 O'Brien St</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 O'Brien St</td>
<td>mail carrier, electrical maintenance</td>
<td>1931-1950</td>
<td></td>
<td></td>
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<tr>
<td>33 O'Brien St</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34 O'Brien St</td>
<td>clerical (time keeper)</td>
<td>1932</td>
<td>survey draftsman</td>
<td>1955-1959</td>
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<tr>
<td>35 O'Brien St</td>
<td>labourer/ machine shop operator</td>
<td>1922-1934</td>
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<tr>
<td>36 O'Brien St</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>37 O'Brien St</td>
<td>labourer (filtered cobalt)</td>
<td>1955-1961</td>
<td></td>
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<tr>
<td>40 O'Brien St</td>
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</tr>
<tr>
<td>41 O'Brien St</td>
<td>labourer (mold dumper)</td>
<td>1941-1943</td>
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<tr>
<td>42 O'Brien St</td>
<td>labourer/ chemist technician</td>
<td>1939-1951</td>
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<tr>
<td>8 Private Rd</td>
<td></td>
<td></td>
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</table>
References

"Deloro Stellite Used In British Aeroplanes," (February 20, 1941) The Marmora Herald: 1.


History - Deloro Village. from file box in the Village of Deloro's library, unknown date.

History of Deloro. from file box in the Village of Deloro's library, unknown date.


Peacock, Roy. (February 3, 1979) "Deloro Smallest And Likes It," The Marmora Herald.: 1.


Wisti, Anita, and Jim Airhart (1975) Glimpses of Marmora. Tri-County Publishing Ltd.


Young, Scott, and Astrid Young (1967) O'Brien From Waterboy to One Million A Year. Toronto: Ryerson Press.
VITA AUCTORIS

Derrick M. Wong was born in February 7, 1971, in Montreal, Quebec. He graduated from Brabeuf College School in Toronto, Ontario in 1990. From there he went to the University of Waterloo where he obtained a Honours Bachelor of Environmental Studies degree in Urban Planning in 1994. In 1998 the author graduated with a Master of Arts degree in Geography (Planning) from the University of Windsor.