A Feasibility Study Report

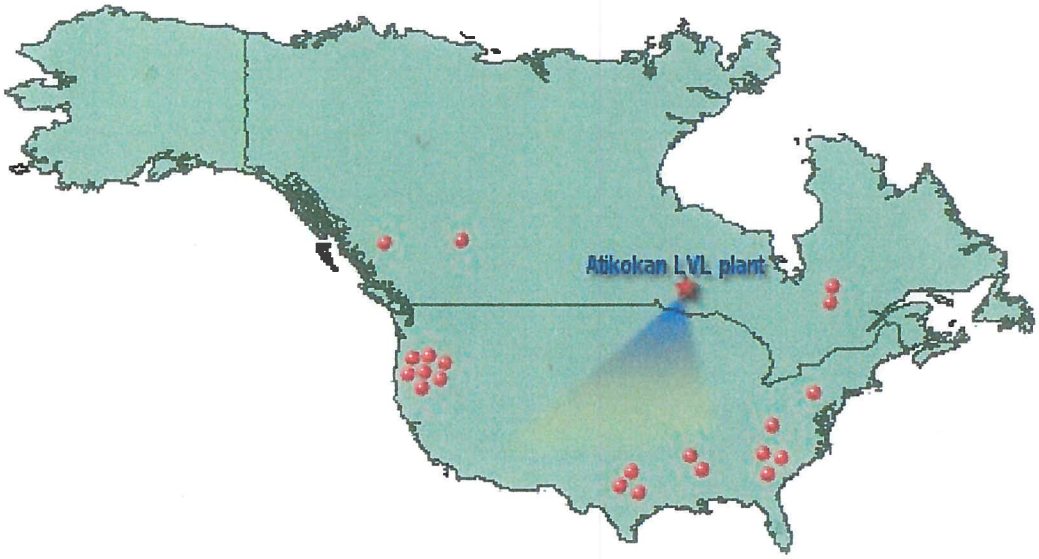
for the

Atikokan Economic Development Corporation

A Laminated Veneer Lumber (LVL) Facility

& Associated Value Added Component Facility

for the Town of Atikokan



Boreal Resource Strategies

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Executive Summary

The purpose of this Feasibility Study is to determine the opportunity for a Laminated Veneer Lumber (LVL) manufacturing facility to be located within the Atikokan area, using under-utilized wood species.

There are 5 critical issues to research and provide results upon, to determine the extent of the opportunity. These issues are:

1. Raw Material Availability
2. Current and Projected LVL Market
3. Cost Competitiveness
4. Proposed Financing
5. Profitability

The research into these issues has concluded and the results are positive.

The data reveals that this proposed facility would be a profitable venture, with a projected Return on Equity (ROE) of 59%, with a Gross Profit Margin reaching $19.8 M from total sales of $58 M in Year-5. The capital cost to establish the facility is estimated at $52 M for the equipment and buildings; with an additional $14.6M of installation/construction/start-up costs. This cost can be further reduced by assuming the proposed synergies available.

The total number of direct jobs created from the establishment of this facility is estimated to be 240.

Raw Material

The Raw Material, white birch and other under-utilized species are readily available, and economical to deliver to this facility, and more than enough volume exists to supply a 24/7 operation, that equates to 230,000 m3 of LVL grade logs. Confirmation is provided by provincial data as recent as July 2005, and backed-up by field data. Half of the proposed mills' requirements are available as unallocated wood from crown lands, and the remainder would come from a combination of business to business SFL supply arrangements, and private sources. Discussions were underway by the Town of Atikokan at the time of publishing this report to acquire these volumes. The past 5 years shows a planned harvest volume of 4.4 M m3 of white birch in northwestern Ontario, with only 684,000 m3 actually harvested. The province has stated that it would sanction these arrangements.

Current and Projected Market

Our market research shows a favourable demand for the raw LVL product, which incidentally will be an LVL with the highest strength properties world-wide from using the white birch species. The Atikokan area is well-positioned directly north of the large mid-west U.S. market. We are also promoting that a Value-Added opportunity to further boost returns exist in the booming Modular Housing sector, through on-site component manufacturing. This concept requires further customer research and was outside of the scope of this Study.

Cost Competitiveness
The results of our research show that this facility would be a leader in cost efficiency, having lower costs than competitors in wood, manufacturing, energy, and transportation. An added bonus for this facility is the synergy with the existing Fibratech Oriented Fibre Board facility, which lowers each plant's costs considerably. Cost reductions from this synergy can be found in administration, freight, fibre sources, energy, and site development.

Proposed Financing
At the time of publishing this report, the Town of Atikokan is coming to terms with the province's intention to close its coal-fired power station. The result being that the province has committed to replacing the lost jobs and tax base. For this reason, an opportunity exists to seek funding from the province for this project to mitigate the impact from their closure decision. As well, this opportunity is essential for Fibratech and the community as it solidifies Fibratech's long-term future from the synergies associated with this proposed LVL project. Fibratech has already stated its intentions to arrange the required investment, coupled with support from the province and federal funding for northern Ontario.

Profitability
Our data based on a conservative approach shows that this facility will, as already reported provide a ROE of 59% before taxes and financing in Year 5. Profitability begins in month 13 of the project as the mill ramps–up from the commissioning phase.

Conclusion

This project is the right project at the right time, for the community of Atikokan, and northwestern Ontario. An economical wood base exists that the province has, up until now been unsuccessful in locating a consumer for this under-utilized species. The market has an appetite for the raw LVL product and future Value-Added LVL Modular Housing component products, and the price positioning of the product is competitive. The timing for the community is appropriate for government funding support. The expected profit of $19.8M at capacity is an extremely good return for potential investors. The climate for this project is seen as an opportunity, by all the potential stakeholders that have been in discussions about the potential.

This project will be seen as an answer to a number of regional issues, and therefore creates a positive investment climate.

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- *Spin-offs from this report lead to further studies being required on potential co-generation opportunities created by the LVL facility potential, as well as further Value-Added opportunities derived from this LVL facility that would benefit the entire region.*

- *The authors of this Study have a combined 60 years of forest products experience, which includes managing veneer/plywood, and LVL facilities, as well as fibre procurement, and sales and marketing expertise.*

Report Overview

The purpose of this report is to satisfy the Town of Atikokan's Economic Development Corporation's (AEDC) requirement to research the opportunity for a laminated veneer lumber (LVL) manufacturing facility in the Atikokan area which would utilize previously underutilized species.

This Feasibility Study addresses issues of raw material supply, current and projected market for LVL, cost competitiveness, proposed financing, and profitability.

To answer the AEDC's requirements, this Study quantifies the opportunity for a laminated veneer lumber facility in the Atikokan area, and development of this LVL facility will:

- Provide a commercially viable use for white birch and other species that have traditionally been ignored or under-utilized;
- Provide sustainable employment in an area of historically high unemployment and under-employment, with further government imposed unemployment impacts in the near future;
- Contribute to improved forest harvesting and management processes and practices;
- Support and compliment existing enterprises in the forest product sector; and,
- Provide additional Value-Added processing opportunities in the forest product sector.

Boreal Resource Strategies (BRS) has answered, in its opinion, the 3 major areas that will lead to a major part of the potential Investor's decision as to whether this project has merit. These areas are;

- **Raw Material** – an adequate, economical, and sustainable volume of under-utilized species exists that can be machined into LVL, and also be accessed through commitments for the facility;

- **Marketing and Sales** – a cost competitive appetite for LVL and LVL Value-Added Components for the Modular Housing sector exists that creates profits for the Investor;

- **Financial Projections/Profitability** – our research outlines that this facility will in fact provide an adequate long term return on investment for the various potential stakeholders.

As well as addressing these 3 main factors, BRS has also researched and reported on;

- **Human Resources**
- **The Manufacturing Process/Equipment Recommendations**
- **Synergies with existing forest products manufacturing**
- **Community Impact**
- **Environment**
- **Energy**
- **Funding Sources**

Raw Material – Wood Fibre Supply

Overview

Boreal Resource Strategies has determined that there is a sufficient, under-utilized, sustainable, economical, and suitable log supply to feed an LVL facility operating on a 24/7 schedule.

A committed sustainable Fibre Supply for the LVL project is the first step to realizing the opportunity. The log supply drives the project, and this is where the original concept began.

The reason this opportunity exists at all is due to the fact that white birch, the chosen species for the LVL product is extremely under-utilized in the province. The fact that white birch is under-utilized is exactly why there is limited data available regarding inventories. In the northwest, all the SFL Forests are only averaging a 10% usage over planned harvest in white birch. As you will see in subsequent tables, the actual volume of planned white birch harvest over the past 5 years was 4.4M m3, with only 680,000 m3 harvested, and this occurs with the SFL Manager trying to limit the amount of birch that gets planned in the first place!

Coupled with this fact, and knowing that the MNR white birch volume tables listed by SFL Forest is not an exact science at best, leads one to question the volumes, as they are so large, and available.
There are a number of factors that make arriving at the required inventory difficult to ascertain, however, our findings substantiate the MNR volumes due to inventory abnormalities with the white birch species that lead to under - estimating inventories.

These factors are associated with a limited provincial knowledge on white birch:

1. Industry does not use white birch and therefore do not recognize the potential, resulting in not concerning themselves with inventory data.
2. Forestry staff doesn't understand the species.
3. Processing birch is difficult to debark for pulp/OSB facilities, resulting in higher costs to land in their wood-yards.
4. Processing difficulties lead to quality concerns through batch contamination and/or fire and panel quality downgrading in OSB facilities.
5. Birch characteristics lead to inaccurate data collection due to high number of multiple stem, or coppice trees.

There are a number of items to address to verify the volume requirements needed for the LVL facility.
To outline the white birch opportunity, the following Log Supply issues will be discussed:

- White Birch Characteristics
- Historical usage
- Why the opportunity exists
- LVL Log Requirements
- Where the white birch opportunity exists
- Fibre Supply Sources/criteria
- Fibre Supply Schedule
- Fibre Costs
- Access to the required volumes
- Fibre Supply Summary

White Birch Characteristics

The white birch tree species is found throughout Canada, and extensively in Ontario as a component of two forest areas, the Boreal and Great Lakes-St. Lawrence Forests.

White birch is associated with a variety of other species and is most common as a mixed-wood species. White birch is typically found with White Spruce, Balsam Fir, Jack Pine, and Aspen Poplar. The species is considered a "pioneer species", as it thrives after a disturbance, either natural through fire, or by human intervention through harvesting. It is a species that depends on these disturbances to expand its base, thus guaranteeing its own sustainability.

As birch is associated with many tree species throughout the north, it is also found to be thriving on a variety of soil types, from shallow rock to deeper loamy sites. These soil conditions play a major role in determining the tree-form, through diameter and tree height.

White birch reproduces both from seed and vegetatively following disturbance, such as harvesting. Regeneration by seed is the most important means of regeneration. White birch seed is relatively light and is readily dispersed by wind. Best germination occurs on partially shaded, moist seedbeds of mixed mineral soil and organic material. Disturbed mineral soils and recently burned areas also provide good seedbeds. Following germination, full sunlight is required for survival. Best birch stem quality occurs in seed origin trees found in more mixed forest units. White birch is a fast growing, relatively short-lived species maturing as early as 60 years of age, but often surviving up to 140 years of age. In general, however, tree vigour and quality decline rapidly with age, resulting in crown die-back and mortality, usually between the ages of 70 and 100 years.

History of white birch utilization in northern Ontario

White birch has primarily been used by plywood and veneer mills in Ontario over the years. Typically up to the 1970's, the white birch trees were high-graded, by cutting and removing only the butt logs of larger, straight trees, and converted into veneer to sell as over-lays to upgrade appearance – grade plywood panels, or in the case of the Nipigon plywood facility, birch was used to produce hockey stick shafts, or industrial-grade panels.

The Nipigon facility actually pioneered the procurement of white birch from a high-grading style of logging to a by-product of other logging operations. As the Nipigon plywood mill eliminated its Company logging crew in 1980's, the mill had to depend on contractors to add birch to the other products they were harvesting.

Nipigon found some dedicated specialized loggers that took advantage of the roads and landings already established by the pulp and paper companies that couldn't be bothered with birch volumes, as they were not using birch at all in the 80's and 90's. It was soon realized that this method of accessing birch was profitable as long as the mill's woodlands staff kept ahead of the contractors by keeping up with the pulp and paper company harvests to pass along to these specialized loggers of the areas having the most concentrations of birch.

It was extremely important to keep close to the larger pulp/paper harvesting operations, as once they completed a cut-block; there was a push to prepare the block for regeneration. Once the blocks were "site-prepped", they were shut out of the block and the birch was wasted.

These memories stayed with the author as he continued to see white birch left behind. The Nipigon mill stopped using birch and the old mill in Sault Ste. Marie closed and no longer needed the logs. These closures and a lack of need of birch logs made the need to find a product to use these birch trees that are left to die and wasted even more apparent.

Currently there is only the Rutherglen mill near North Bay that is actively pursuing birch through one or two specialized loggers. The OSB mills have started to use birch but as you will learn later in this section, birch is a species they would prefer by-passing.

Why the opportunity exists?

Birch is still seen today as an obstacle to the SFL harvester's harvesting process. Stands are increasingly mixed, and therefore more and more birch is encountered. The standing birch tree prevents the harvesting equipment access to the desired trees, slowing down, and increasing both the initial harvesting costs, and also the regeneration efforts, as these trees are occupying space. The birch trees are left behind, knocked own or even thicker concentrations are by-passed, which also leaves other more desirable species left standing, un-cut. Also, some misguided forest management strategies have only birch used as wildlife snag trees, even though their future is short-lived as they will die the next year, after the stand is opened – up.

These birch trees left standing are short-term orphans on "tree's death-row". There are a number of reasons why white birch will not withstand the opening up of a mixed forest stand-type. The most common understood are:

1. Climate shock – no adjacent trees left to shelter against wind/cold/heat.
2. Embolism – as birch is known to absorb large quantities of water, once they are the only tree left standing, the tree actually gorges itself on water and floods itself, causing mortality, and should this occur before freeze-up, the tree freezes itself and dies.

A trip to a recent cutover anywhere between North Bay and Fort Frances will show evidence of dead birch trees, either still hanging – on, but most likely rotten from the sudden exposure, or already lying on the forest floor. What a waste.

A very gradual increase in birch utilization has now shifted back to the historical typical type of mixed-wood harvest, that avoids birch due to the higher costs associated with accessing, processing in the bush, debarking, and the associated quality concerns for the pulping and OSB facilities. The pulp mills specifically are in survival mode and are now concentrating their harvest activities in only the desired species that lower their costs. Any harvest block that is heavily mixed is avoided to lower costs.

This trend to lowering harvesting and mill processing costs will force the SFL Manager to leave mixed- wood stands un-touched if there is not a strong market opportunity to harvest the birch. This trend will further show the opportunity to use birch is strong if a market can be established such as an LVL facility.

Forest products companies typically base their value on the following species in order of preference.

1. Black Spruce
2. White Spruce
3. Jack Pine
4. Fir
5. Aspen Poplar
6. White Birch

Inventory values are adequate for the top 4 species due to the demand. Every forest products company is fighting over these species. Aspen poplar, at one time received the same treatment as white birch, as there was no demand for it. This has changed as pulping technologies driven by cost/availability/ lower chemical requirements has driven competition for aspen poplar into either OSB or pulp.

White birch was starting to be considered by pulping operations and by the OSB industry, due to competition for the species that they desire. However with continual downsizing in the pulp and paper sector, preferred conifer and aspen volumes will become available, and this is already occurring, as realized with the Cascade Thunder Bay/ Abitibi-Kenora closure, machine closures at Norampac/Red Rock, the Neenah Paper Terrace Bay operation under threat, and the recent announcement that the Nipigon plywood facility is up for sale with a closure looming.

The main reason that pulp mills and OSB facilities avoid birch is due to barking inefficiencies created by the process that are related to their processes. Veneer processes are the only means to fully de-bark white birch as the process rounds-up the log and then peels the log, totally removing the unwanted birch bark which is in 2 layers, the outer paper portion and the inner cambium layer. Other less specific reasons the species is avoided is associated with the pulping sector that experiences foaming issues with their pollution equipment when birch is used.

Figure 1- fall 2005, mixed – wood cutover with white birch remaining (Sapawe Forest)

Figure 2 fall 2005, Mixed-wood cutover with white birch remaining (Crossroute Forest)

Typical photos of mixed-wood harvesting operations in northwestern Ontario. The white birch remaining is the typical situation encountered. The SFL holder does not require the fibre, and ultimately the trees will die and be wasted if there is not a definite future use such as an LVL product creating a market for the harvesting firm. Also you can see other trees that are mixed-in with the birch that are not processed as the concentrations are too high to permit the harvester to get beside the desire trees to attempt to harvest.

The Forest Manager has invested in the roads to access the desired species, and now must regenerate the remaining forest. This current situation impacts regeneration efforts, with the birch concentrations occupying the area, not being regenerated and again there is a lost opportunity to maintain forest diversity.
The white birch concentrations in the photos were surveyed and they produce on average (4) LVL (6 foot) grade logs per tree, with an average diameter of 8 inches. Each tree averaged 36 feet in length.

Our findings show the following information from the average of the Forests that were surveyed.

Average diameter of a log in a merchantable white birch tree was 8 inches.
Average number of logs per tree to a 5 inch top was 4.
Average length of the tree from butt to significant branching is 36 feet.

LVL Log Configuration Requirements

Log configuration determination is a key factor for our financial model input. Costing feeds off this decision as the log size determines lathe size choice as well as the amount of veneer sheet composing required. Output from the green-end of the facility, which feeds the remainder of the mill, is derived from the log yield.

Based on the author's knowledge of the White birch species in northwestern Ontario, the opportunity for this under-utilized resource exists in a log configuration that does not conflict with the common veneer or saw-log consumers, which is typically a straight, sound log with little knot tolerance, and a minimum diameter of 9 inches, or 22 cm, and maximizes the stem yield.

The log length that best represents the available, under-utilized birch resource is one that reduces log sweep, which is common in northwestern Ontario White birch. The standard log length other than a saw-log is typically 8 feet, or 2.7 meters. To compensate for the common sweep and crook associated with this White birch, we have chosen to process 6.2 foot, or 1.89 metre birch. This requires a lathe sized at 6 feet with 2 inches of trim allowance.

To accommodate harvesting, logging, and hauling equipment, the log resource will be purchased in a tree-length form which my studies show an average of 36 feet, or 9.75 metres.

As the 6.2 foot/1.89 metre lathe will be a spindle-less lathe, which creates a 1 ¾ inch core size, the average tree would be topped at 5 inches, or 12.7 cm, and the average log size will be 8 inches or 20.3 cm.

The average number of 6.2 inch bolts available per tree is 4, as seen in the next table.

Table 1 N.W.O. Log diameter survey and average LVL grade logs per tree

Log Diameter survey/bolts per tree					
Forest	Average Log diameter		Length of tree		LVL logs per tree
	inches	cm	feet	metres	
Black Sturgeon	11	28	38	11.6	5
Lakehead	10	26	34	10.4	4
Spruce River	10	26	38	11.6	4
Sapawe	9	24	36	11	4
Lake Nipigon	10	26	34	9.1	5
English River	8	20	30	9.1	3
Abitibi Freehold	8	20	34	10.4	3
Average	8	20	36	11	4
	10	*26*	*MNR Average*		

As you can see the findings of BRS and the MNR Northwest Region data are almost similar, when you take into consideration the different Forest utilized in the survey. This data formalized the input to be supplied to the operation model for the LVL facility. **The equipment and financial model requires a log criteria of a 7 inch log diameter average, with a minimum 10% sweep. Our data shows an 8 inch diameter range, so we have some built-in conservatism, in our costing model.**

The average bolts per tree calculate out to 4 LVL-grade logs over 5 inches or 12.7 cm in the birch trees sampled

Table *2 NW Region white birch volume sampling data*

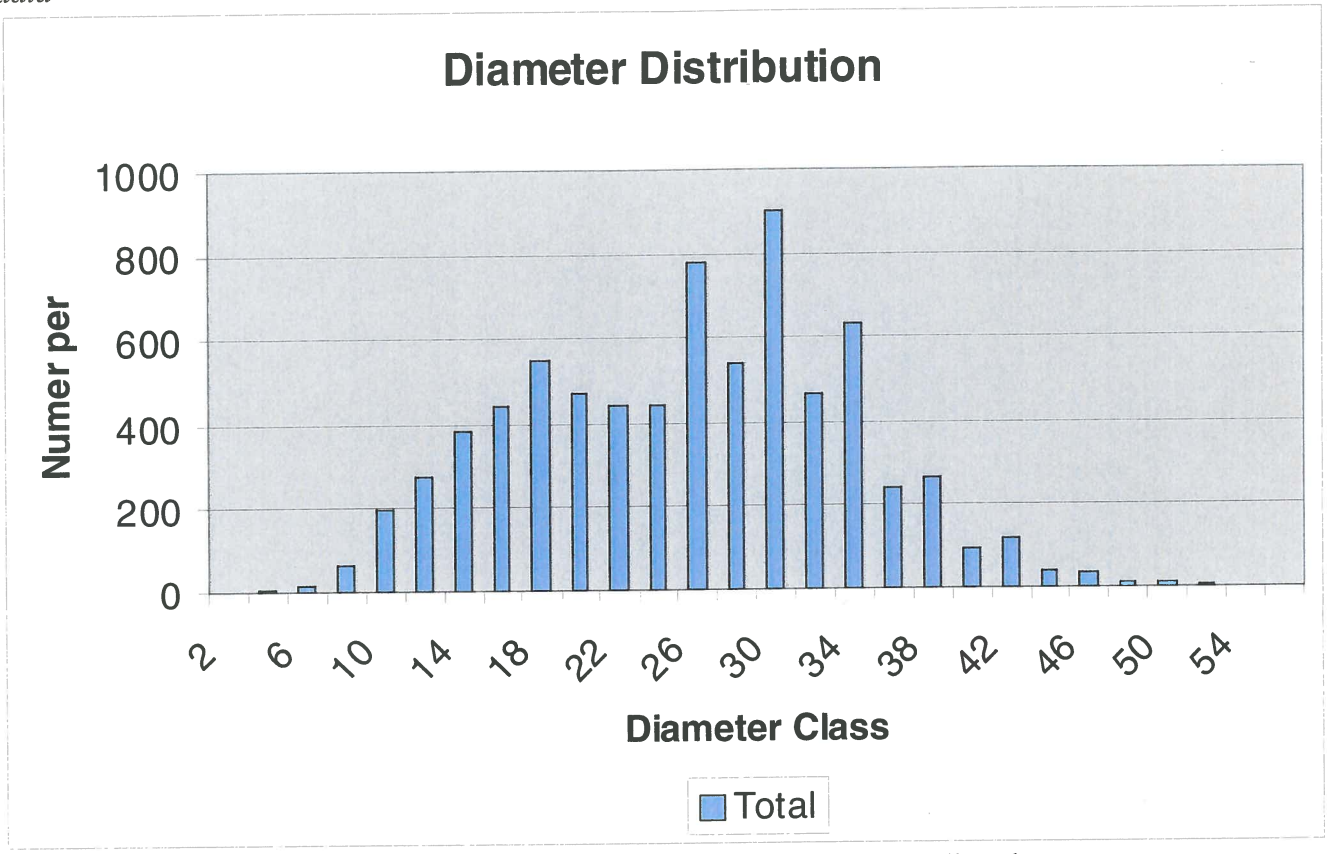


Table - MNR Regional Forest Measurement White Birch Volume sampling data

The MNR sampling results show that a 26-28 cm or 10-12 inch log diameter is the average log size in white birch. Our sampling shows an 8 inch log average for the Forests that were surveyed and proposed for the LVL supply.

The above MNR data originated from the following SFL Forests:

Sapawe
Spruce River
Lakehead
Lake Nipigon
Black Sturgeon

Log characteristics and the equipment choice to successfully peel white birch

The amount of sweep or crook was factored into our model and resulted in certain equipment choices to accommodate the sweep. When the author visited numerous veneer/LVL mills in Europe this past spring, he encountered equipment successfully dealing with crooked birch logs. The equipment employed by Europeans is factored into the equipment choices made for this proposed facility.

The first equipment decision made for the LVL facility to deal with sweep/crook is the use of a 6-foot lathe that was chosen over the traditional 8-foot lathe. The decision to install a 6-foot lathe will increase the volume of peel-able logs as the sweep can be processed-out. The logs as explained in greater detail in the mill process section will be purchased on average as 26 foot logs containing 4, 6 foot peel-able logs. The quality control of purchased logs is crucial to the mill recovery. The log buyer will have to ensure that logs supplied have the 4 peel-able logs in the tree. The supplier will have to do their part to maximize the peel-ability of each tree.

The tree-length will then be slashed in the wood yard into 12 foot or 3.6 metre multiples, and then de--barked. The longer the stem is that is introduced to the de-barker, the better the de-barker performs, as there is constant pressure placed on the log by the ring de-barking process. The log levels through the debarking process, and there is less jumping by the log which adds to un-debarked portions.

Factors associated with the decision to propose tree-length:

1 Ease of loading, less handling
2 No bush slashing – cost reduction, better log length quality in controlled yard conditions, and less mechanical log damage
3 Contractor more willing to pursue White birch if less handling required
4 Bolt length slashing creates multiple piles and load stops to compile a load
5 Tree-length purchase provides additional co-generation energy conversion material to offset facility energy costs
6 Tree-length ages less due to longer lengths

The proposed log specifications that would be utilized by the Fibre Manager follow on the next page. The capacity of the Fibre Manager to train log suppliers to adhere to these specification is essential to provide the required logs in the budget. A substantial increase in the required logs would be an outcome of not training suppliers, thereby dramatically increasing log costs.

Proposed log specifications:

table 3

Atikokan LVL Log Specifications	
1	*Log lengths will be tree-length to a 13 cm top diameter*
2	*Branches cut flush to stem*
3	*No crotches - top prior to crotch*
4	*Butt-back rot of 50% - prefer sound cores to lathe*
5	*Top at 13 cm or before pronounced sweeep or forking*
6	*No multiple crook - looking for straight 1.89 multiples*
7	*Ash, maple, and aspen poplar acceptable if sound core*
8	*No mechanical damage/splits, or cracked butts*
9	*Only live trees, haul within 3 months*
10	*Butts to cut square, not angle cut*

The yard slasher will further process these trees into 12 foot logs, keeping in mind that the choice of where the slash cut is made can further eliminate sweep and crook prior to sending these logs to their conditioning chambers.

Once the logs are entered into the mill, they are then further slashed down to an exact 6.2 inch log. Once this log reaches the lathe, the log charger that holds the log against the lathe knife will employ technology such as an "X/Y charger that centres the log on the charging or holding mechanism and further maximizes the recovery of each log. This lathe will be a spindle-less lathe with lathe chucks that grip the ends of the logs, and allow the log to spin, will allow peeling down to a 1 3/4 inch core.

This technology is another crucial step to maximizing the ability to use small diameter and logs containing sweep. The goal of our model is to produce 2 full sheets per log and the partial sheets are further composed into full sheets.

Of the veneer sheets required by the LVL process, 15% will occur with defects from sweep. This sweep, although factored to be taken care of with the equipment choice, is still at the mercy of the species characteristics, especially if it is prone to sweep or crook. Composing or re-attaching the partial sheets factors the sweep into the process, and takes this potential sweep loss and puts it back into full sheets for the process. There is an un-retrievable loss caused by sweep or crook in the rounding-up step where the log is peeled into a perfectly round cylinder prior to veneer peeling.

As mentioned from the author's visit to Europe and specifically to Latvia, the Latvijas-Finieris mill uses small diameter European birch exclusively and is very successful at using these logs. This mill used the latest peeling, or "Smart Peel" technology from Raute Inc. The same mill also implemented Raute's automated composing equipment. One of the beauties of LVL is that lesser grade veneer can be placed within the core of the panel that contains up to 24 layers of veneer, with "face grade" veneer used for the face and back of the panel for appearance, and white birch does provide the opportunity for an appearance desired LVL panel.

Where does the Opportunity exist?

The Study sampled a number of Forests to achieve sufficient volume to feed the LVL facility on a 24/7 operating schedule.

Based on criteria developed to choose the best fit of Forests (see table), the Forests chosen can supply ample amounts of white birch or other non-desirable species.

The procurement will originate from SFL holders such as Buchanan Forest Products, Bowater, and Abitibi Consolidated primarily. The exact combination of Forests that will eventually make up the fibre supply will require negotiation and satisfying the"what's in it for me" by the SFL Manager.

The tables supplied by the MNR Northwest Region show the volumes of birch inventory, the planned harvest based on the volume available. The actual volumes harvested paint the opportunity. These Forests in the past 5-years have only utilized 10% of the volume. There is approximately 300,000 m3 available on crown land for this project.

BRS is recommending that the following SFL Forests, as listed in table 4 be accessed for the LVL logs requirement.

Table 4 Recommended Log Supply Sources

Proposed Fibre Sources			
Tenure Holder	SFL Licencee	Volume	Current Birch usage
Crown SFL			
Sapawe	BFP	35,000	1%
Lakehead	BFP	25,000	18%
Spruce River	Abitibi	25,000	20%
Black Sturgeon	Bowater	85,000	11%
Lake Nipigon	Norampac	15,000	9%
English River	Bowater	20,000	5%
Private Land			
Abitibi Freehold	open market	10,000	
Thunder Bay		10,000	5%
Emo		10,000	5%
First Nations		10,000	0%
Fibratech Birch	not used currently	20,000	0%
	total	**265,000**	
	require	**231,000**	

Forest Supply Sources/Criteria

The criteria used to ascertain the Forests recommended are as follows:

1. economics- proximity to Atikokan
2. quality
3. volume available
4. historic under-utilization
5. harvesting firms interested in white birch opportunity
6. First Nations harvesting opportunity
7. rail access if outside truck efficiency
8. Lack of competition for logs
9. Opportunity to market OSB length logs that are processed-out of Bw tree-length operation

Analysis of Birch Volumes Planned vs. Volumes Harvested by Management Unit in the Northwest Region

July 7, 2005

Volume Planned (m3/yr)							
Birch	1998	1999	2000	2001	2002	2003	Total
Management Unit							
Armstrong	44,000	44,000	25,000	25,000	25,000	25,000	**188,000**
Black Sturgeon	131,000	131,000	131,000	181,000	181,000	181,000	**936,000**
Brightsand	0	12,000	12,000	12,000	12,000	12,000	**60,000**
Caribou	6,000	6,000	6,000	6,000	29,000	29,000	**82,000**
Crossroute	111,000	111,000	86,000	86,000	100,000	100,000	**594,000**
Dog River-Matawin	188,000	188,000	78,000	78,000	78,000	78,000	**688,000**
Dryden	5,000	5,000	5,000	5,000	5,000	5,000	**30,000**
English River	0	0	11,000	11,000	11,000	11,000	**44,000**
Kenogami	3,000	3,000	15,000	15,000	15,000	15,000	**66,000**
Kenora	22,000	22,000	22,000	17,000	17,000	17,000	**117,000**
Lac Seul	2,000	2,000	2,000	16,000	16,000	16,000	**54,000**
Lake Nipigon	72,000	72,000	72,000	51,000	51,000	51,000	**369,000**
Lakehead	35,000	35,000	35,000	35,000	56,000	56,000	**252,000**
Ogoki	0	0	0	0	0	9,000	**9,000**
Pic River Ojibway	68,000	68,000	68,000	8,000	8,000	8,000	**228,000**
Red Lake	0	0	0	0	0	1,000	**1,000**
Sapawe	0	0	23,000	23,000	23,000	23,000	**92,000**
Sioux Lookout Crov	4,000	4,000	4,000				**12,000**
Spruce River	38,000	38,000	38,000	50,000	50,000	50,000	**264,000**
Trout Lake	5,000	14,000	14,000	14,000	14,000	14,000	**75,000**
Wabigoon	35,000	35,000	35,000	35,000	35,000	27,000	**202,000**
Whiskey Jack	0	23,000	23,000	23,000	23,000	23,000	**115,000**
Total Volume	**769,000**	**813,000**	**705,000**	**691,000**	**749,000**	**751,000**	**4,478,000**

Volume Harvested (m3/yr)							
1998	1999	2000	2001	2002	2003	Total
321	592	1,286	2,024	4,812	4,990	**14,026**
2,620	14,677	5,892	16,938	36,367	25,166	**101,660**
0	0	270	737	1,880	1,462	**4,349**
918	4,119	1,530	1,939	657	12,120	**21,282**
863	6,836	20,127	33,290	29,486	39,828	**130,431**
3,314	8,203	46,022	41,395	34,034	58,257	**191,225**
337	743	103	101	26	235	**1,545**
1,302	1,554	15,791	11,161	4,678	14,587	**49,073**
122	1,224	1,236	1,155	593	914	**5,244**
417	124	232	213	164	232	**1,382**
3,256	2,673	1,168	836	790	1,717	**10,440**
3,425	2,979	8,406	11,367	3,655	1,961	**31,792**
5,190	2,805	3,996	7,506	9,461	17,020	**45,978**
62	917	2,615	967	22	326	**4,909**
1,926	1,878	11,872	1,702	3,177	271	**20,825**
622	353	1,015	0	1	8	**2,000**
2	176	413	175	320	271	**1,356**
354	939	797				**2,090**
500	2,184	12,101	6,437	18,598	12,873	**52,693**
66	204	39	0	0	0	**309**
1,330	612	0	1	880	3	**2,824**
2	0	186	165	0	84	**438**
26,949	**53,789**	**135,098**	**138,107**	**149,601**	**192,325**	**695,870**

Percent Achievement of Planned Volume (%)							
1998	1999	2000	2001	2002	2003	5 Year Av (1998-2002)	6 Year Ave (1998-2003)
1%	1%	5%	8%	19%	20%	**6%**	**7%**
2%	11%	4%	9%	20%	14%	**10%**	**11%**
>100%	0%	2%	6%	16%	12%	**6%**	**7%**
15%	69%	25%	32%	2%	42%	**17%**	**26%**
1%	6%	23%	39%	29%	40%	**18%**	**22%**
2%	4%	59%	53%	44%	75%	**22%**	**28%**
7%	15%	2%	2%	1%	5%	**5%**	**5%**
>100%	>100%	144%	101%	43%	133%	**105%**	**112%**
4%	41%	8%	8%	4%	6%	**8%**	**8%**
2%	1%	1%	1%	1%	1%	**1%**	**1%**
163%	134%	58%	5%	5%	11%	**23%**	**19%**
5%	4%	12%	22%	7%	4%	**9%**	**9%**
15%	8%	11%	21%	17%	30%	**15%**	**18%**
>100%	>100%	>100%	>100%	>100%	4%	**55%**	**55%**
3%	3%	17%	21%	40%	3%	**9%**	**9%**
>100%	>100%	>100%	>100%	>100%	1%	**200%**	**200%**
>100%	>100%	2%	1%	1%	1%	**2%**	**1%**
9%	23%	20%				**17%**	**17%**
1%	6%	32%	13%	37%	26%	**19%**	**20%**
1%	1%	0%	0%	0%	0%	**1%**	**0%**
4%	2%	0%	0%	3%	0%	**2%**	**1%**
>100%	0%	1%	1%	0%	0%	**0%**	**0%**
0%	7%	19%	20%	20%	26%	**14%**	**16%**

Sioux Lookout Crown was amalgamated with Lac Seul in 2001.

Abitibi Sioux Lookout is not included.

Planned Volume is from Utilized Volume from FMP-23 in approved FMPs.

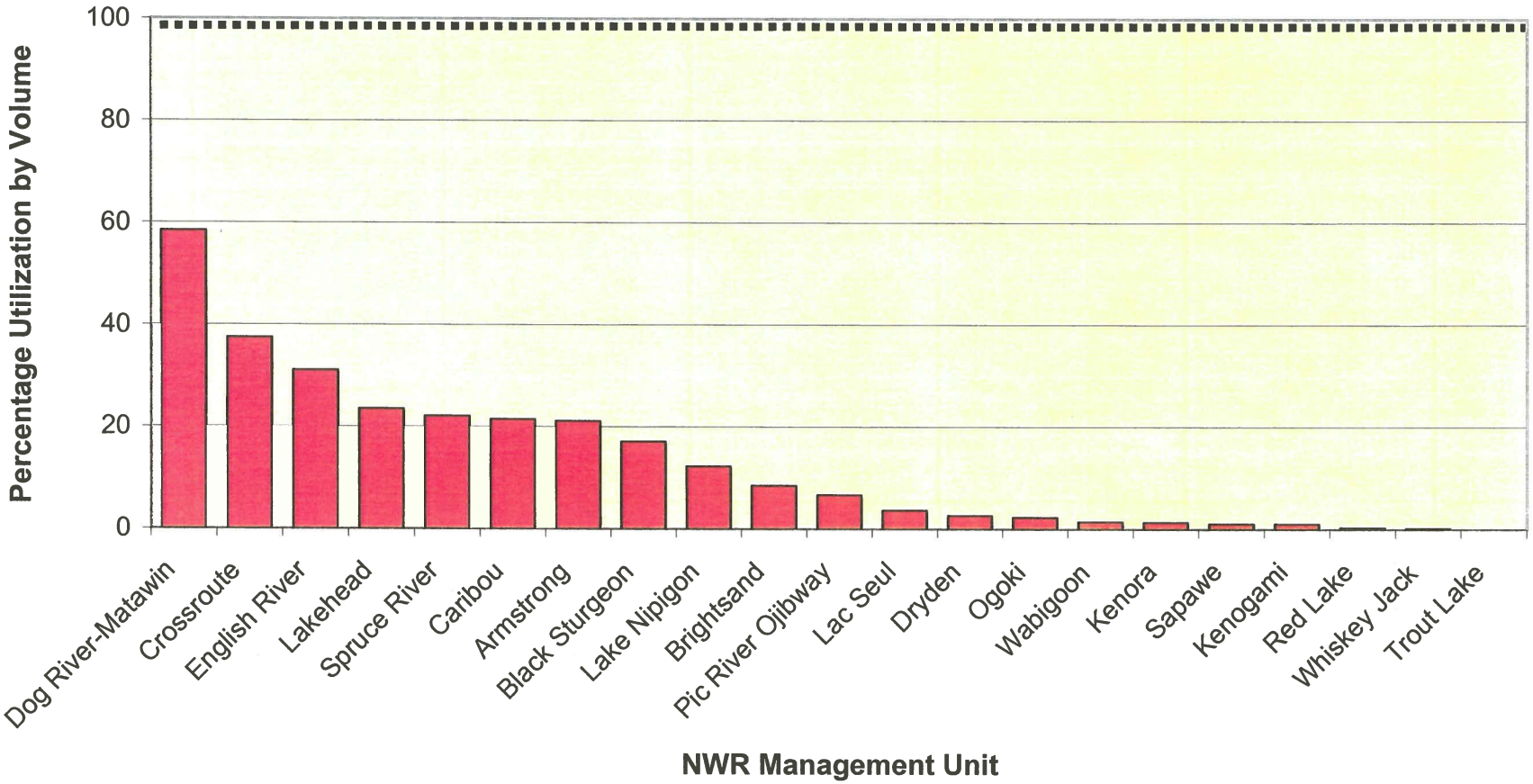
Includes undersize credit.

Includes volume from salvaged areas.

Lakehead harvest includes blowdown salvage in 2000 to 2003.

* Planned Volume was zero

Average Annual White Birch Utilization
Northwest Region



Note: Percentage utilization is calculated as the average annual wood delivered by management unit in fiscal years 2002-2003 and 2003-2004 as reported through TREES divided by the average annual available supply for the same period as determined through the FMP.

MNR Northwest Region data - July 05

2005-2006 MROL Matrix	MROL Worksheet. MROL is the approximate amount of fibre to operate a facility. This is information is subject to change at any														
White Birch Supply in 1000 m3	SFMM Term 1 (10 yrs)	SFMM Term 2 (10 yrs)	Available 05-06 FMP	BNH	Fibratech	Garden Lake Timber	Levesque Nipigon	Weyco Dryden	Ainsworth	Weyco Kenora	Bowater Pulp	Rocky Bay	Manitou	Total	Surplus/ Deficit
NWR Crown Supply															
Armstrong (05-10 FMP)	35.0	30.0	39.9	50.0										50.0	-10.1
Black Sturgeon (01-06 FMP)	154.0	128.0	181.0	120.0			1.3							121.3	59.7
Caribou (02-07 FMP)	21.0	12.0	30.0					7.0						7.0	23.0
Crossroute (02-07 FMP)	105.0	89.0	101.0						62.0				5.0	67.0	34.0
Dog River-Matawin (05-10 FMP)	183.0	178.0	175.0	169.0			1.3	0.8						171.1	3.9
Dryden (01-06 FMP)	5.0	5.0	5.0					5.0						5.0	0.0
English River (04-09 FMP)	49.0	39.0	74.7	19.0				13.3						32.3	42.4
Kenogami (05-10 FMP)	17.0	22.0	15.0											0.0	15.0
Kenora (01-06 FMP)	20.0	20.0	17.0							13.1				13.1	3.9
Lac Seul (01-06 FMP)	6.0	11.0	16.0					16.0						16.0	0.0
Lake Nipigon (01-06 FMP)	57.0	64.0	51.0									25.0		25.0	26.0
Lakehead (02-07 FMP)	74.0	74.0	62.0	10.4			0.8							11.2	50.8
Ogoki (03-08 FMP)	13.0	13.0	10.0											0.0	10.0
Pic River Ojibway (01-06 FMP)	27.0	19.0	26.0	20.0										20.0	6.0
Red Lake (03-08 FMP)	2.0	3.0	2.0							1.1				1.1	0.9
Sapawe (05-10 FMP)	30.0	30.0	37.0		20.0								5.0	25.0	12.0
Spruce River (01-06 FMP)	52.0	57.0	74.0	40.7			1.6							42.3	31.7
Trout Lake (04-09 FMP)	29.0	31.0	31.6					35.0						35.0	-3.4
Wabigoon (03-08 FMP)	28.0	25.0	27.0					27.0						27.0	0.0
Whiskey Jack (04-09 FMP)	25.0	22.0	7.1							38.3				38.3	-31.2
Total Crown Supply/MROL	932.0	872.0	982.3	429.1	20.0	0.0	5.0	104.1	62.0	52.5	0.0	25.0	10.0	707.7	274.6
Other Sources:															
Mill Residuals			278.9								278.9			278.9	
Crown Wood Tops			108.0						25.0		83.0			108.0	
Open Market			1.0			1.0								1.0	
Private Lands/Out of Province			32.2		0.0	0.5	0.0	0.0		20.0				20.5	
Total Other Sources:	932.0	872.0	420.1	0.0	0.0	1.5	0.0	0.0	25.0	20.0	361.9	0.0	0.0	408.4	
Total			1402.4	429.1	20.0	1.5	5.0	104.1	87.0	72.5	158.0	25.0	10.0	912.2	
MROL				135.3	20.0	UR	5.0	104.1	87.0	72.5	158.0	25.0	10.0		

September 20, 2005

Note: UR = Under Review

NOTES:

A) Projected Changes in Supplies from 06-11 Draft FMP's

* Draft 2006-2011 Black Sturgeon FMP reduction from 181,000 to 122,000 m3/year
* Draft 2006-2011 Spruce River FMP reduction from 74,000 to 57,000 m3/year

B) Mitigation for Existing Shortfalls in Other Species

* It is anticipated that as conifer/poplar supplies drop, Bw will be the only remaining replacement species
* Crossroute volume required for anticipated shortfalls at ACC and Ainsworth
* Dog River volume required for anticpated shortfalls with Ainsworth
* Kenora volume required for anticipated shortfalls at TrusJoist
* Sapawe volume required for shortfalls in Fibratech Po volume

C) Opportunities with Existing Commitment Holders

* Potential B2B with Bowater for Bw under Black Sturgeon and English River SFL's
* Potential B2B with Greenmantle for Bw under Lakehead SFL
* Potentail B2B with Abibiti for Bw under Spruce River SFL
* Potentail B2B with BNH for commited volumes of Bw

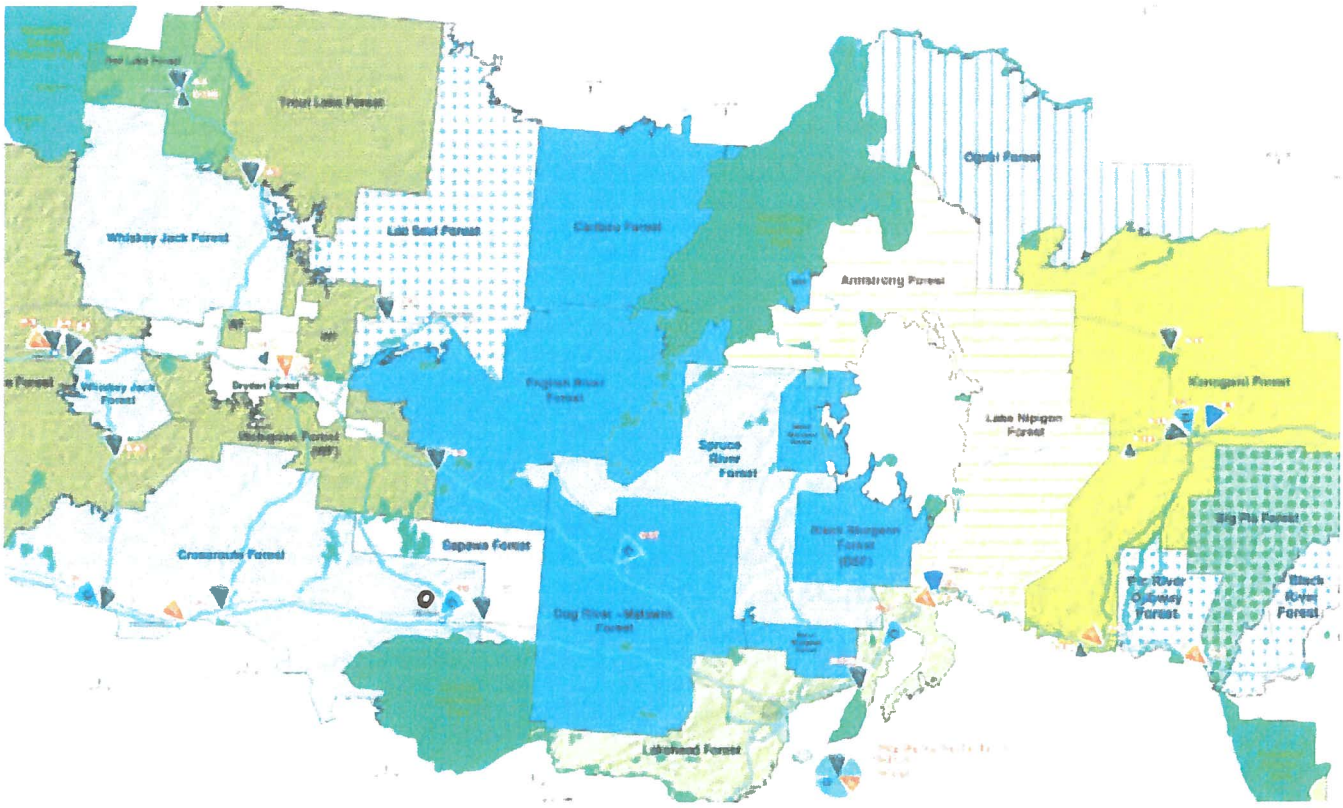


Figure 3 ***Northwestern Ontario SFL Forests***

The proposed wood basket would stretch from the far-reaches of the Pic River to the Cross-route Forest. Commitments would be requested from the Forests closer to Atikokan.

Forest Description Crown

The Black Sturgeon Forest

The Black Sturgeon Forest is operated as an SFL by Bowater, and is located between Thunder Bay and Nipigon just north of Dorion.

The Forest is comprised of 4 blocks, the Caribou East, North Parcel, Main Parcel, and Current River. White birch represents approximately 25% of the Forest, and the volume is growing. In the age class of 81-100 years birch is averaging a volume of 140 m3 per hectare. There are 16, 993 hectares of concentrated birch stand types.

Typically this forest has been under-utilized and the average 5–year harvest % of the planned harvest is **11 %.** MNR data shows a volume available of 184,000 m3. The Forest has been a supplier to the Nipigon Plywood operation when they used birch; however the mill has not used birch for over 5 years.

The author's experience with the Forest concurs with this data. There have been some minor efforts to harvest birch, but never above the level outlined by the MNR. The quality of logs is superior to other Forests and produces some of the best data in comparison.

Distance from the Black Sturgeon Forest to Atikokan is 5-hours, and would be at the maximum distance that the mill would access by truck, as the goal will be 2 trips per truck to Atikokan, and 2 loads per day would be possible during summer months. Rail is a possibility thanks to the Sturgeon Timber merchandising operation that has access to a rail siding. First Nations opportunities exist on the Forest, and would be recommended to achieve the accessible volume.

Bowater has been approached by the Atikokan Economic Development Corporation and the reaction was favourable for volume to flow from the Forest. Bowater was interested in the potential chips waste that the LVL mill would generate, as a residual waste product. The idea of clean processed chips will be of interest to other mills as well.

Competition is low on the Forest as it is too far from OSB facilities to west and east. Bowater and BFP have no plans to use the planned harvest levels. The volume projected to be supplied from this Forest is 85,000m3. There will most likely be a volume of incidental aspen poplar that would be harvested at the same time as the birch harvest.

Lakehead Forest

The Lakehead Forest is managed by Buchanan Forest Products through Greenmantle Forestry. BFP is the major shareholder of the Forest collective that has been organized.

Birch volume harvesting at 312,000 m3 planned and only 30,000 represents only 11 % of planned harvest, thereby showing great potential for the Atikokan LVL Plant. The BNH mill in Thunder Bay operated by Buchanan Forest Products has 280,000 m3 scheduled for harvest over 5 -years, and as mentioned above is only averaging 30,000 harvested annually. The Forest is irregular in shape and actually at one point the western extreme reaches to within 70 kilometres from Atikokan. On average the Forest access averages 1-4 hours from Atikokan. Birch is the 3rd largest working group species forest unit on the Forest at 56,000 hectares, and its population represents 17% of the Forest. The 61-80 age group makes up birch's majority of its represented age classes. Birch dominated stands represent a ratio of 40 m3 per hectare.

As noted in *table 1, Log diameter survey,* the Lakehead Forest birch log averages 10 inches or 26 cm per tree, and 24 feet or 10.4 metres in length. The resulting data surveyed showed a 4 LVL bolts per tree provided, which is the average surveyed in northwestern Ontario for this Study.

Competition from OSB mills is minor and the LVL Plant would not be seen as a threat to the western OSB mill due to distance.

A strong harvesting community exists on the Forest that would welcome the added market opportunity to supply the projected **25,000 m3** estimated as required for the LVL facility. This estimated volume is a conservative volume to attain.

Lake Nipigon Forest

This Forest which is located east of Lake Nipigon has been a traditional supplier of birch to the Nipigon plywood mill, however as mentioned previously, Nipigon no longer peels birch logs.

Birch utilization is only 9 %, due to lack of a birch log market. By-pass reporting, also leads one to believe that there are additional volumes available. The Town of Beardmore has lobbied for a birch facility however besides the Rocky Bay sawmill, they have not decided upon a use for birch at this time. The Towns' EDC has made some mention of a log merchandising yard facility potential study, and this LVL birch log supply can become an outcome of the study, providing another opportunity to further explore the merchandising yard opportunity.

There are different First Nation groups that would welcome the opportunity for another log market. Rail would be considered from this Forest from either Beardmore or Nipigon.

The Lake Nipigon Forest is projected to provide 15,000 m3 of logs, a readily attainable volume.

The log data surveyed from this Forest shows on average a 10 inch or 26 cm diameter, and a 34 foot or 9.1 meter log length. The average LVL bolts per tree averages 5 per tree which is higher than the northwestern Ontario average of 4 LVL bolts per tree.

The author is very familiar with the birch species on this Forest and concurs with the data surveyed that is also similar to the MNR diameter distribution volumes.

English River Forest

The English River Forest is managed by Bowater and administered the Ignace office of the MNR, and was previously a part of the Dryden District. Bowater and BFP have overlapping licences on this Forest. The Forest is bounded by Hwy 599 on the west, Graham Road to the east, Hwy 642. CN Rail represents the northern boundary. This Forest is surrounded by the following SFL Forests; Lac Seul and Caribou to the north, Wabigoon to the SW, Sapawe to the south, and Dog River to the southeast. The western portion of the Spruce River Forest is located to the east, with the Dryden Forest to the west. As you can see this Forest is geographically centered to the Atikokan LVL Plant. Ignace is the most populated community in the Forest.

The majority of the Forest is within the Boreal Forest, with a small southern portion in the Great Lakes - St. Lawrence Forest.

Wildfires are the cause of the abundance of birch species on the Forest.

The 2004-2024 MNR Management Plan shows a volume potential of 40,000m3 annually and the Study is proposing that 20,000 m3 originate from this Forest.

The Forest data from the diameter survey for the Study underscores the fact that this Forest does not have the best birch available, however the fact that the Forest is close to Atikokan makes it an important Forest to add to the wood basket required by the LVL facility. The survey revealed a lower than average diameter of 10 inches or 26 cm, with a tree length of 34 feet or 9.1 metres. There is on average 3 bolts per tree.

There are significant First Nation opportunities to be involved with this project through woodland activities of harvesting, transportation and silviculture.

Sapawe Forest

The Sapawe Forest is managed through Atikokan Forest Products by BFP, and is recommended as the most desirable Forest to access required volumes.

White birch planned for harvest between 1998 and 2003 was only 2%, even though the SFL Manager, BFP operates a birch sawmill in Thunder Bay.

The Forest consists mostly of mixed wood stands and the average 4 bolts per tree of 8 inch diameter average are typical of the Forest. There is an average of 86.8 m3 per hectare on the Forest. There appears to be a conflict with data supplied by the SFL Forest planning team and the MNR data showing 11,000 hectares of birch dominant stand types, compared to the 5,996 hectares outlined the MNR, creating more under allocating the species for planned harvest.

Foresters on this Forest have stated that "they have all the birch that we would need", and "they have no plans to use it". The volume required form this Forest is 35,000 m3.

The amount of by-pass volume is double the regional average at 15% of the planned harvest, as well as another 15% left over. This managing style is becoming typical of SFL holders that are trying to operate as low-cost as possible, accessing only the major concentrations of desired species.

By establishing an additional market for an under-utilized species, additional desired species will be accessed as the birch concentrations are harvested. The mixed wood species associated exclusively with birch on this Forest are Jack pine, white spruce, aspen and balsam fir.

Accessing the volumes on this Forest would be crucial for the LVL mill's overall wood costs. The Forest is adjacent to Atikokan and most of the volume is within 1 hour from Atikokan.

Currently the MNR is searching for a method to access some additional volumes of aspen poplar for BFP's BNH mill that was originally licensed as a birch mill; however the mill cannot saw white birch economically. A trade of aspen poplar to the BNH mill would free-up white birch volumes for the Atikokan LVL facility. This search for an answer is happening as the Study is being completed. The announced closure of the Cascade facility in Thunder Bay should free-up a volume of 100,000m3 of aspen poplar, or a similar arrangement with one of the other downsizings reported lately.

After reviewing the data from all the SFL Forests, one begins to question why there is so much birch allocated to the forest companies, especially BFP that has no plans to utilize the volumes.

Spruce River Forest

This Forest is managed through an SFL by Abitibi Consolidated; however the Fort William mill is on the block with no suitors currently leaving one to question the future commitments on the Forest. Columbia Forest Products has a 1600 m3 of a veneer log commitment attached to its Nipigon mill; however they do not utilize the volume; however the Rutherglen facility is making use of the volume as opportunity wood. BFP has a commitment of 40,000 m3 of tree length volume, however, again is not utilizing the commitment.

The Spruce River Forest represents a typical Forest representing white birch. There is ample birch volume, some utilization, and an opportunity to use the volumes for a new market.

White birch represents 10% of the forest cover. 8 % of this forest cover in birch especially is in the mature to over-mature age class, which is the best suited for white birch merchantability.

The birch on this Forest is found in a range of soil textures from gravelly sands to loams and organic soils.

25,000 m3 of white birch logs are estimated as potential for the LVL facility. The Forest averages 20% of the planned harvest actually utilized; showing 52,000m3 harvested over 5 years or 10,000 annually from the 50,000 available annually. The 25,000 m3 required is therefore fairly conservative, and obviously attainable. Discussions with company officials see this birch volume as purchase wood, available to which ever firm is willing to purchase it. There are First Nation opportunities on this Forest to be actively involved with the project through harvesting/ transportation or regeneration activities.

Non – Crown Supply Areas

Private Land - Abitibi Freehold

Abitibi Consolidated manages 7 private blocks of forest that are marketed annually. These forests are also on the market for sale, so negotiations for fibre will have to be conducted with a new owner. The eventual owner of these blocks is not known at this time and the pending owner and their potential birch requirement is therefore is also not known at this time.

Discussions with Abitibi foresters explained that their white birch volumes that average 20,000 per year are supplied through an open-market system. These blocks are located off highway 17 north of Atikokan and would be a definite supply opportunity for the LVL facility. Abitibi maintains a strong stable group of logging contractors with long-term experience in merchandising to the customer's requirements.

It is felt that the LVL facility would be able to compete with the current competition for birch logs from these blocks that comes from the western OSB mill.

The Study is forecasting to access half of the birch volume available and will include 10,000 m3 of birch volume. Incidental poplar will also be available for purchase; however we have not included this volume currently.

Thunder Bay Private Land

There is an abundance of private land in and around Thunder Bay, which contain a considerable volume of white birch, in either pure or mixed-wood stands. The surveys show that the diameter and length of tree is higher than average as compared to other crown-managed forests. The availability of accessing these volumes depends totally on the private land-owners intentions, and is best accessed when logging firms are seeking additional species, such as conifer or aspen. The concentrations of white birch will also provide incidental aspen poplar volumes that the LVL mill would procure as well as the birch.

Currently the private land activity is actively providing chip material to the local pulp mills, by in-the-bush chipping contractors.

The Study will include 10,000 m3 from Thunder Bay and area private land and we feel this is a conservative volume. There is also a considerable volume across the border in Minnesota. The areas of Tofte and south of Grand Portage would be economical to haul to Atikokan, however the Study did not research the extent of the accessible volumes, but feel that this volume would guarantee that the Thunder Bay private volume estimated at 10,000 m3 is definitely achievable.

Private land wood is considered as opportunity wood and there will be a need for the LVL Log Buyer to establish relationships with the local logging firms and landowners to make them aware that a new market exists.

Emo and the District

The area around the community of Emo is mostly farmland and mixed-wood forests. The area is large and it is expected that 10,000 m3 of LVL grade logs can be procured from this region. There is definitely competition from the adjacent OSB facility, however we feel confident that the LVL facility can compete. As we plan to procure the required volumes in tree-length, the local logging firms will see this as an advantage as of the lack of slashing involved.

Another aspect of the Emo area is the significant volumes of black ash and maple that would also be available. The local OSB facility is not actively pursuing these species so this result in another opportunity for volume, as it is a new outlet for the local loggers.

One of the outcomes of the proposed LVL facility's yard slashing of the tree-length logs into 12 foot logs is the generation of OSB grade 8 footers. This volume creates a back-haul opportunity which lowers the freight costs for both the LVL and OSB facilities. When a truck leaves the Atikokan area to pick up a load of logs in the Emo area, they will first load OSB logs and deliver them to the OSB facility on the way to Emo. A relationship can be established with the OSB facility to make these arrangements to further the back-haul opportunity. The OSB facility can actively procure LVL logs and trade them for OSB.

First Nations Land

An opportunity to access LVL grade logs from the various First Nations located throughout the proposed LVL wood basket is seen as a positive by not only the individual First Nations, but a the federal and provincial governments as well.

There are certain First Nations locations that are engaged in harvesting and trucking operations and would welcome additional markets for logs.

The Seine River, Lake Helen, Rocky Bay, and Armstrong area First Nations have associated harvesting firms that have expressed interest in providing LVL logs.

The volume projected will amount to 10,000 m3.

Fibratech Birch Volume Commitment

Fibratech has a birch volume commitment that amounts to 20,000 m3. As Fibratech would be a benefactor of any green or dry waste generated, and would therefore be willing to negotiate a long-term commitment for this volume. Obviously, as Fibratech is arranging to be the proponent for this project, the volume would be available for the LVL facility, with input from the MNR

The 20,000 m3 commitment is located on the Sapawe Forest.

Fibre Supply Schedule

The LVL facility will require as previously mentioned, a supply of 231,000 m3 of logs as it reaches cruising speed on a 24/7 operating schedule. The facility however will start-up with a requirement much smaller and the ramping up of the mill to full volumes provides adequate time for the mill to develop fibre supply relationships. This is an excellent opportunity provided to the LVL Log Buyer, as the development of new log supply relationships is crucial to the success of the facility. The LVL log specification will be new to the fibre supply market, and this ramp-up period provides adequate time to train the harvesting personnel on exactly what the facility will require.

The same training requirement in the field will have to be duplicated in the wood yard as well. The projected ramp-up provides training time to yard operators as well. There is a merchandising feature of the wood yard to provide the best peel-able logs to the mill, and again, this takes additional training time.

As outlined below, the ramp-up to the maximum required volumes will occur over 5 years, starting with a first year requirement of only 61,920 m3, or 5,600 m3 per month. The required volume doubles the following year, Year 2, and then increases approximately 5 %, the following 2 years, and as the mill reaches the 24/7 operating schedule the requirement jumps by 25% to the 231,000m3 level.

Table 7 *Projected Log Supply ramp-up schedule*

Log Supply Requirements Fibre volume requirements projection from start-up to full capacity					
	shift schedule	hrs/yr	m3/hour	mill m3 req	log input req
Year 1	1, 8 hour shift@ 5-days/week	2150.0	24.0	51,600.00	61,920.00
Year 2	1,10 hour shift@ 5-days/week	4800	24.0	115,200.00	138,240.00
Year 3	2,10 hour shifts@ 5-days/week	5760	24.0	138,240.00	165,888.00
Year 4	3,8-hour shifts@ 5-days/week	6221	24.0	149,304.00	179,164.00
Year 5	24/7	7488	24.0	179,712.00	231,000.00

Table 8 *Current Regional Log Supply costs*

Current Regional Fibre Costs hardwood		
	$/m3	
Feller Buncher	3.40	cut and topped at forking
Forwarding	4.15	placed on skid
Load	2.00	
Haul	16.00	(avg rate for region coverage) as per procurement schedule
roads	1.00	
Mgmt fee	4.20	average for region
Stumpage	4.20	(tops credit will lower below $4.20)
profit	1.50	5%
total delivered	**36.45**	

Fibre Costs

Harvesting Costs

Fibre costs as outlined above show a delivered to Atikokan price of $36.45 per m3. This price has been discussed with regional Harvesting firms and they were satisfied with the delivered cost. The decision to go with the tree-length log vs. a slashed log provides more final stage quality control by the LVL mill and their wood yard crew. The removal of the slashing step reduces the delivered log cost by $8/m3, and also reduces further log breakage and handling by the trucking or harvesting firm. The removal of the slashing step speeds up the log movement process for the logging firm, resulting in quicker payment.

Freight Rate

Freight rates were established with local trucking firms that currently haul 8 foot logs and tree-length logs in the region. The freight rate projected in the above model is the average cost per m3 for a harvesting operation in the centre of the proposed wood basket. The timeline of the acceptance of the fright rates coincided with the most recent fuel price spikes.

Management Fees

The management fee, which is paid to the SFL holder that holds responsibility to manage the forest, is an average provincial rate. The SFL holders adjacent to Atikokan are currently charging this amount.

Stumpage fees

Stumpage fees as listed have not been negotiated with the province, as an LVL mill does not currently exist in the province. However it is reasonable to expect that the province will recommend that the stumpage level used by the Kenora - Trus Joist facility will be the model used. As in the case with "tops credits", the Crown Timber Act states a minimum diameter by species that logs must be processed to. To encourage the use of smaller diameter logs, the MNR pays a "tops credit" which is a credit back to the facility. In the case of the LVL facility, the break-off point will be 20 cm, and as the facility will use logs down to 12.7 cm, and the end-result being a credit that will lead to a 50% reduction in overall stumpage payments.

Accessing Required Fibre Volumes

Methodology to Access the Required Volumes for the LVL Facility

The majority of the required fibre supply for the LVL facility originates on Crown land, managed by the SFL holders. The Sustainable Forest Licence contains certain legal implications, to protect the SFL holder that is making an investment in the forest they are licenced to manage, to provide security of wood supply. The volume commitments cannot be taken away simply. Forest Companies protect these rights to their associated fibre agreements.

Although the province sees this potential LVL project as a long term solution for the community of Atikokan, and also an opportunity for the SFL holders and the province to maximize fibre utilization efficiency, it is hesitant to interfere with the volume commitments of the SFL holders. The province's preferred approach for forest companies and new ventures to manage required volume requirements is through Business-to Business Arrangements (B2B).

Ultimately a B2B arrangement will see the wood flow. A forced marriage may not see the wood flow, and the government would be cast in a permanent role as referee.

These B2B arrangements are at the time of publication of this report, underway with the Town of Atikokan approaching SFL holders such as Bowater, Buchanan Forest Products, and Abitibi. The Town received a letter from the MNR sanctioning these discussions and stated that it will assist positive outcomes.

Bowater Discussions

A meeting and subsequent follow-up discussion with the Bowater Woodlands group has stated its intentions to assist the Town of Atikokan where it can. They were interested in the concept and even suggested potential volumes that could be available, mainly the Black Sturgeon Forest. Bowater was also interested in what providing the required, or a portion of the volume would mean to Bowater. They would be interested in the approximately 35,000 of green birch chips. The fact that these chips are clean and ready for them to use is of interest, if they continue to use a small amount of birch. Recent events in the forest products industry in the northwest would lead one to believe that they will back-off birch trials.

Buchanan Forest Products

A meeting was also arranged by the Town with BFP principles, and it was reported by BFP that they have the birch and that if the Town could assist with the Buchanan Northern Hardwood (BNH) mill in achieving sufficient additional Aspen poplar supply, then there could be a trade of volumes freeing up birch logs for the LVL facility. The BNH mill is licenced as a birch mill, however the birch is not saw-log grade, and for a number of reasons, such as Bowater needing aspen poplar chips, the mill's prime diet is aspen poplar. The mill does not have an adequate supply of aspen poplar currently.

The Town's Position

The Forest Companies /SFL holders that have the un-utilized volumes can make the fibre available for this project, and an enticement may be required to see a commitment signed-over. The Town does not have any volumes of fibre to trade for a commitment of white birch, however if needed, the proponent can sign a commitment for residuals to the supplier willing to enter into a long term commitment for volume. What the Town does have is a political focus from the province, to mitigate the province's decision regarding the Atikokan Power Generating Station.

The supply of the required birch will not be difficult or painful to the Companies holding the rights and not using the volumes. A mechanism must be created to make a trade possible. The province is working on this file, and the closure and downsizing of local mills will free-up other volumes to trade for birch

Fibre Supply Summary

The data explored by the author of the Study conclude that there is an ample available volume of birch logs to sustain an LVL facility of this size, requiring 231,000 m3 when the mill reaches its capacity within 5 years. The location of this resource is economical to transport to Atikokan, and the volume of logs available will meet the requirements of the equipment choices recommended, and this particular equipment was witnessed by the author to be successfully providing a superior product with similar logs.

To access these logs, negotiations will be required with the assistance of the provincial government. The logs are available due to the fact that forest companies in the northwest are avoiding the species.

As outlined in the Minister's Council on Forest Sector Competitiveness, May 2005, *"the Forest Industry has been a mainstay of the Ontario economy for almost two centuries. There are still bright prospects for the sector in this new century. It has the potential to continue as a major engine of wealth and job creation if action is taken to overcome or reduce key barriers to competitiveness, particularly in the fundamentals - wood supply, delivered wood costs, energy, the investment climate for modernization and value-added product development, and cooperative ways of resolving problems. Ontario needs a strong and viable industry to capitalize on the emerging opportunities that will fuel growth and prosperity in this sector for the future".*

Other Raw Materials

Resin and other chemicals

The LVL facility will utilize a phenolic formaldehyde resin originating from Dynea Resins in Thunder Bay. This resin is exactly what the Fibratech facility consumes in its Oriented Fibreboard production. The required resin is priced accordingly, as of November 2005.

This resin, which is already available in Thunder Bay at Dynea will not be an added burden to Dynea, as they have expanded their facilities and have the extra capacity available. The cooking kettles exist to produce the resin. They will have to increase certain logistics and freight positions to meet the additional requirement.

The LVL facility at full capacity will consume approximately 4-5 tanker truckloads on a weekly basis.

There will most likely be a requirement for some conditioners and binders, as resin additives which can be procured form Winnipeg.

Sales and Marketing

- LVL has had the biggest proportional growth of all Engineered Wood Products in the last decade.
- The prospects for Engineered Wood Products in general and LVL in particular are bright as timber issues, construction modalities and new technology combine to promise a surge in volume over the next decade.
- In North America, LVL is mostly used for structural applications and usage in construction applications is at around 20% of its potential.
- Large and virtually unlimited dimension LVL can be made from logs with diameters as small as 6 inches.
- The Atikokan project will have a non sensitive position at 2.5% of total North American production capacity.
- The White Birch wood fibre high density will result in high mechanical value for the LVL produced. This could give advantages to the product.
- The Atikokan project will benefit from a strategic geographical location for the central US market which will be its main target.
- LVL is sold through distribution channels. Long term supply agreements need to be developed. Technical support of the product is essential. Selling price of LVL is rather stable.
- The key factor in marketing and sales strategy will be *flexibility*.
- High Canadian currency value has a negative impact on profitability. Contingencies need to be used.
- The Atikokan project has a real market opportunity. Especially if product development is aimed at fabricating structural components which could increase the selling price by 25-30%
- Certification is a long process and needs to begin at project implementation to avoid delays in selling structural LVL after start-up.
- Forecasted sales scenario is aggressive. Intensive marketing and sales efforts are required and a presale strategy would be beneficial.

SCOPE OF THE STUDY

This Laminated Veneer Lumber (LVL) market feasibility study deals with the opportunity of developing a Laminated Veneer Lumber plant in the municipality of Atikokan in Ontario, Canada. The study clarifies the present production situation and markets and focuses on the future of the Atikokan project.

This study contains detailed information about the end uses and technical specifications of LVL as well as the competitive situation of the production.

This study concentrates specifically on LVL products and product definitions. LVL standards, as well as the standards and certification processes are presented with short explanations and reviews.

This study includes information on the present trade situation and provides consumption and production figures.

The current price levels of LVL are also provided in this study.

Future LVL production and consumption have been estimated up to the year 2010.

The business opportunity with regard to the starting up and manufacturing of LVL in

Atikokan is given, together with specified success factors and requirements.

HISTORY

LVL was first used during World War II to make airplane propellers, and since the mid-1970s, has been available as a construction product for beams and headers where high strength, dimension stability, and reliability are required.

During the late '60s and early '70s, environmental pressures and government regulation began to influence the forestry industry. Manufacturers of wood products were forced to evaluate their utilization of wood fibre and seek ways to optimize production yield. This pressure increased to this date and will continue as quality (size) of logs decreases. This led to the development of environment-friendly, engineered wood products.

LVL production began in earnest during the late Sixties in the USA. The pioneers in the business were Weyerhaeuser Corporation and TrusJoist Corporation. Shortly thereafter, McCausey Lumber Co., Roseville, MI, partnered with FinnForest Corp., Metsa, Finland, to develop a version of Laminated Veneer Lumber. Today, there are more than twenty LVL producers worldwide.

For most North American manufacturers, production is focused on LVL wood beams for residential and commercial construction. A small number of producers are focusing on components and industrial applications.

DESCRIPTION OF LVL

"Engineer Wood Products" is the name used for various wood based products used in construction and for other purposes which meet certain standards, building codes and official regulations. Engineered Wood Products include the following wood based products:

- Plywood
- LVL (Laminated Veneer Lumber)
- PSL (Parallel Strand Lumber)
- LSL (Laminated Strand Lumber)
- OSB (Oriented Strand Board)
- Waferboard
- Glulam beams
- Wood I-Joists

The term "Engineered Wood Products" is used officially in the North American standards. The term is also used elsewhere in the world in reference to the wood products and product groups mentioned above.

In the USA, Structural Composite Lumber (SCL) is the common name for a group of products which includes LVL, PSL and LSL. In terms of volume produced, LVL is by far the most popular of these products on the market.

LVL is similar to plywood in that it is constructed from multiple plies of veneer. However, in LVL, the veneers are glued parallel to the grain direction. Cross bands may be inserted to satisfy local codes of product specifications. The finished product can be made in large dimensions, 8 x 80 feet, in which case it is considered an LVL beam, and also in smaller dimensions, i.e. as small beams, planks and in commodity lumber sizes.

LVL has been divided into two groups according to its end-use:

- Structural LVL

- Non-structural LVL

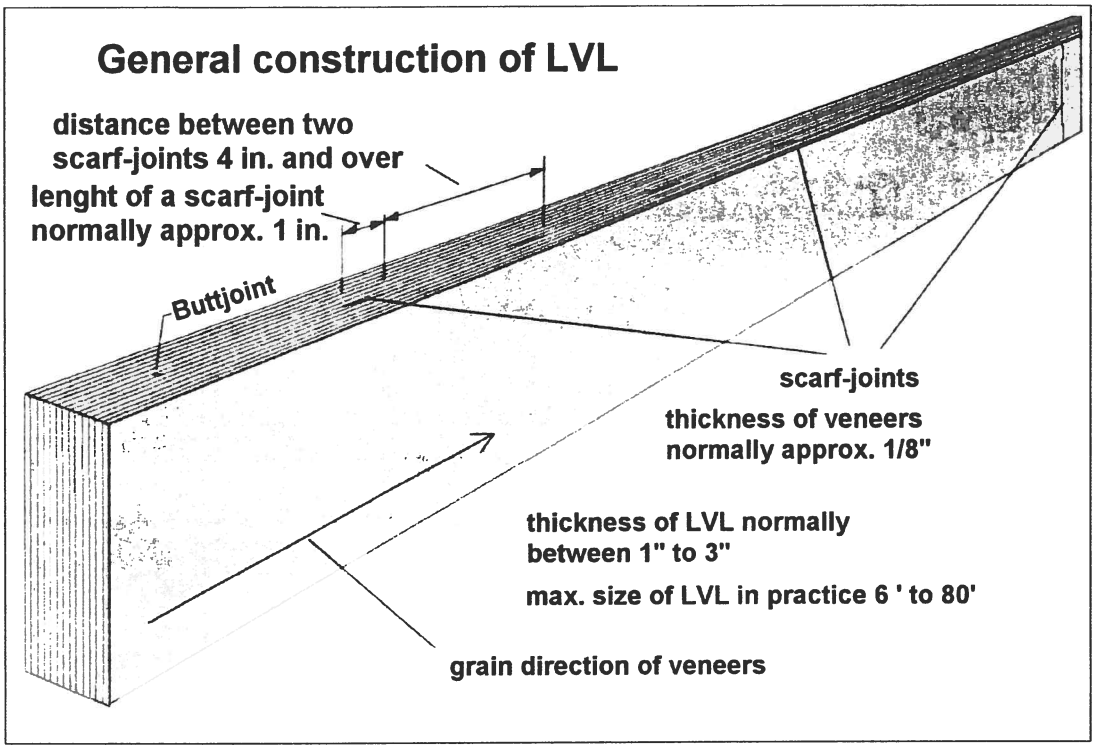
When used in structural applications, LVL must satisfy the requirements of specific building codes and standards which vary from one country to another. Typical end uses for LVL include different kinds of structural support beams and I-joists, as well as headers, trusses, rafters and purlings. Structural LVL competes with other construction materials such as lumber, glulam beams, steel and concrete.

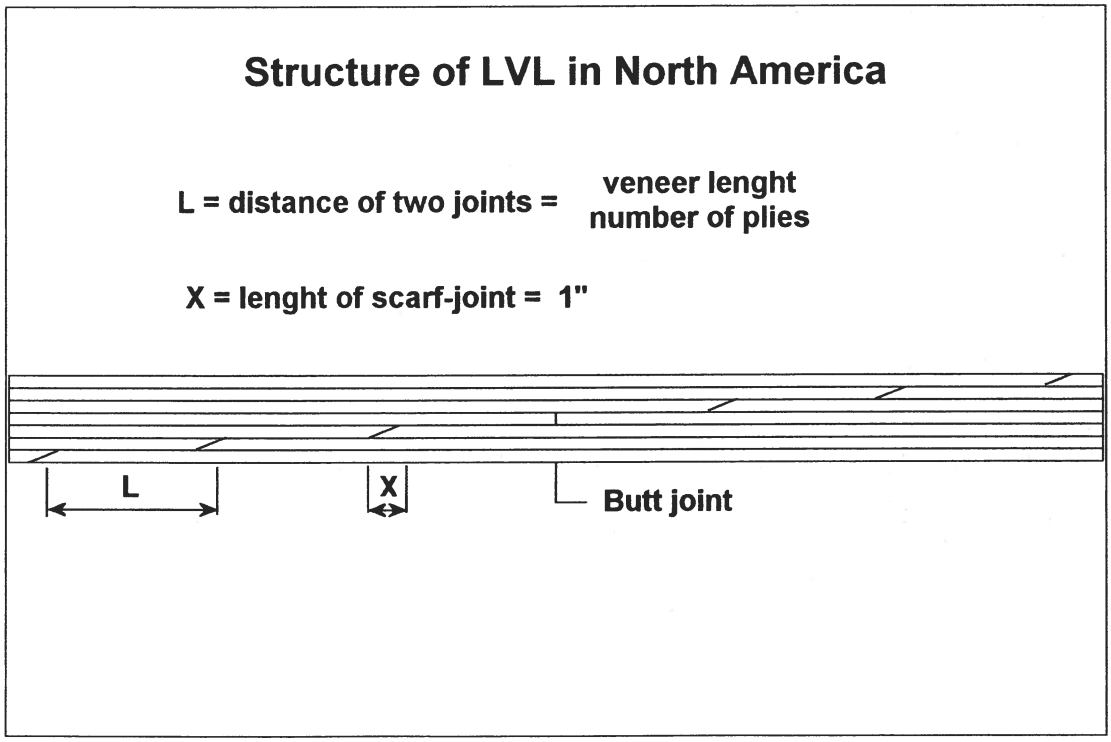
Non-structural LVL is used in window and door frames, stairs and furniture components. The aesthetic requirements of non-structural LVL can be achieved by using decorative veneers as face material or by painting the outer veneers.

The idea behind LVL is to make a panel employing, principally, the plywood manufacturing process, by gluing together veneers lengthwise in the direction of the grain parallel to the length of the product. The resulting product, which competes in strength and other properties with lumber, glulam and also with other construction materials like steel and concrete, was developed by making long length, wide dimensioned panels in a continuous method.

The term LVL was coined during the 1960s in the USA by the Weyerhaeuser Company who developed the product and established a LVL production line. The idea of gluing veneers in a parallel manner in order to get better strength properties in one direction has been known among plywood manufacturers for a long time. In Japan, for instance, plywood mills have made LVL for non-structural purposes for many years, although the product was not called LVL in the early stages of its life.

Some characteristics of typical LVL construction are shown in the following figures. The scarf-jointing of veneers is typical. Overlapping of veneers in the lay-up is also used widely. Butt-end joints are used in the middle layer of LVL.


General construction of LVL
distance between two scarf-joints 4 in. and over
lenght of a scarf-joint normally approx. 1 in.
Buttjoint
scarf-joints
thickness of veneers normally approx. 1/8"
thickness of LVL normally between 1" to 3"
max. size of LVL in practice 6 ' to 80'
grain direction of veneers


Structure of LVL in North America
L = distance of two joints = veneer lenght / number of plies
X = lenght of scarf-joint = 1"
L
X
Butt joint

ADVANTAGES OF LVL

LVL has obvious advantages when compared with other wood products.

- Homogenous structure and dimensional stability

Laminated veneer lumber is made of veneer sheets glued parallel to the length of the billet. Additionally, its construction is symmetrical when the lay-up is assembled such that the veneer is laid tight side up or down. Knotty veneers can be used as core material in the middle layers. The presence of knots will not unduly affect the strength properties of the LVL as they are randomly spread throughout the product's cross-section among 13 or more plies.

The natural defects found in wood, such as twisting, springing, bowing, cupping and cracking are usual in lumber depending on the wood species but are not present in LVL.

In LVL, these natural defects are engineered out and are all but eliminated. Light cupping can occur in large LVL beams after pressing. However, this can be minimized by turning the veneers tight side up or down in the lay-up so that the construction will be symmetrical on both sides of the centre ply. Being composed of wood, LVL shrinks and swells according to the moisture content. Protection against rain is therefore important during the installation phase.

- Optimized strength properties

Knots lower the strength properties of lumber. In the production of LVL, knots have no affect on the strength of the finished product because they are evenly distributed among the many plies of the product. Thus the influence of knots on the strength properties of LVL will be minimal. By sorting the veneers according to density and by using higher grade veneers in the surface and lower grade in the core the raw material is utilized in an optimum manner.

Stresses for LVL in bending and tension parallel to the grain are nearly double compared with those of lumber. In compression parallel to grain, LVL has nearly 60 % better allowable stress than lumber. The modulus of elasticity (M.O.E) is about 50 % better and shears strength (as a beam) around 75 % better than those of the stress graded lumber.

- Dimensional flexibility

The large range of sizes available in LVL is one of the product's most important advantages. If the maximum LVL size is, for example, 1.8 m (6 ft.) x 25 m (80 ft.), smaller sizes from beams to furniture parts are available. The sawn sizes can be standard or special sizes made in a LVL mill or the user of the LVL can cut a standard size to a smaller size according to his special requirements, such as in I-joist mills and door factories.

Standard LVL is typically produced in thicknesses from 25 mm (1 in) to 75 mm (3in). This is not however the limit to the product's thickness as it can be doubled by gluing two LVL beams together to make larger beams or columns. This procedure does, however, require some special equipment.

- Machining and processing

LVL can be machined in the same way as lumber. The shaping, gluing and nailing of LVL beams presents no special obstacles. Machining of LVL on the job site is also possible and simple. Holes for cabling and conduit and other machining requirements must be made in accordance with the designer's instructions.

LVL can be painted and lacquered in the same way as lumber or wood based panels. It can be treated with preservatives and fire retardants using conventional pressure-treating processes. It is very difficult and, in some cases, impossible to treat the heartwood of some wood species. With LVL's multi-ply construction, this can be done successfully due to the fact that in the peeling process the veneer is subject to micro-checking. Micro-checking better facilitates the absorption of the chemicals in the pressure-treating process.

- Raw material size, base and recovery

The diameter and length of the logs being used as raw material does not influence the final dimensions of the LVL.

Large and virtually unlimited dimension LVL can be made from logs with diameters as small as 6 inches.

This enables LVL to be made from small diameter, low cost plantation wood for instance. When comparing the recovery rate of different competing wood products LVL has the best results. This is one of LVL's important advantages because the cost of the wood raw material in all the competing EWPs is the most significant cost factor.

GENERAL MARKET DATA

The consumption of wood based panels has nearly tripled during the last 30 years from a level of 54 million m^3 to 155 million m^3 in 1997. The consumption of wood based panels has been at an even growth level during the last few decades. The recessions and upswings in the world economy can also be clearly seen in this consumption curve. The growth in consumption of wood based panels exceeds that of sawn lumber.

This development is a result of a decrease in wood resources worldwide, especially during the past decade. The use of wood waste, sawdust, chips, small round wood, logging waste and plantation woods has given wood based panels the opportunity to be competitive when compared with other construction materials. Product development has also created special uses for new wood based panel products, such as interior use for particleboard and MDF as well as exterior and structural use for plywood, OSB and LVL.

During the past thirty years, new wood based products like OSB, MDF and LVL have appeared on the market and have quickly increased their volume and consumption levels. At the same time, products such as hardboard and soft board have experienced a slight decline.

After 1987, LVL has had the biggest proportional growth. Then come MDF and OSB with a fairly strong growth. The situation of particleboard and plywood has been stable but stagnant. Sawn wood (coniferous and non-coniferous together) and fiberboard (hardboard and softboard together) have lost their market share.

The USA and Canada are the largest producers of structural LVL. Actual production in 1998 was 1.21 million cubic meters (42.7 million board feet). Production and consumption have been in balance because around 15-20,000 m^3 have been exported annually to Asia, primarily Japan, and to Oceania during recent years, while the same amount has been imported, mainly from Europe, as well as from some other areas.

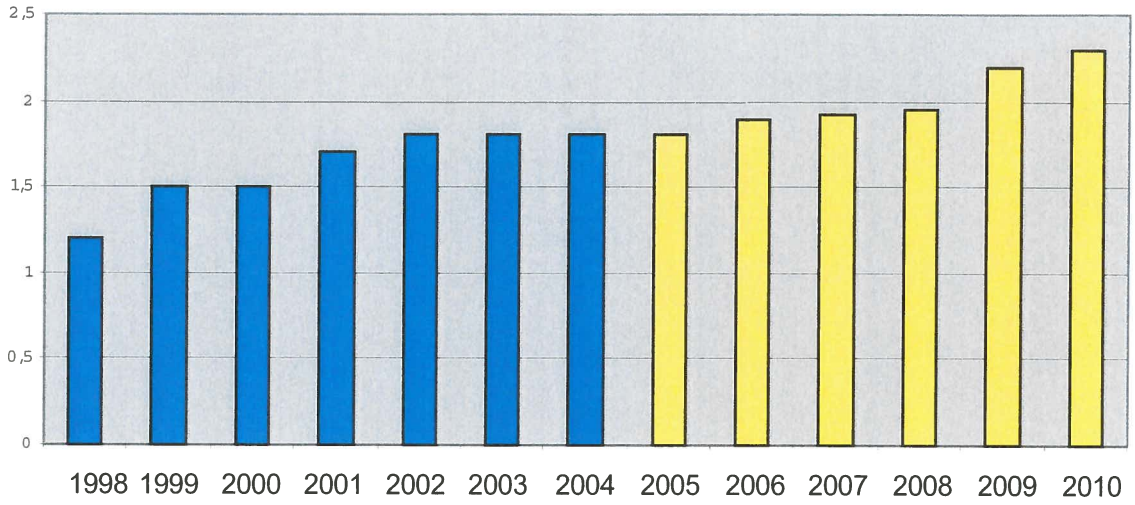
Overall LVL production in North America had a steady growth since the early '90s. As the quality of harvested logs reduces and environmental pressure has become permanent, Engineered Wood Products usage growth curve is constant. The closing of a number of lumber sawmills and more recently the natural disasters in the south of United States will also greatly impact the demand for EWP and more specifically LVL in the coming years.

LVL is a high value product and inventories are generally kept at low level. Consumption level is therefore generally matching production level and vice-versa.

The following figure shows factual production levels from 1998 to 2005 and projected production up to 2010. These projections could very well prove to be too low due to accrued demand impacted by recent natural disasters in southern United States. For example, for New Orleans only, it is estimated that 160 000 homes will have to be build as replacement of destroyed or damaged

ones. This new demand will create great pressure on all EWP production facilities throughout North America.

LVL PRODUCTION IN NORTH AMERICA
(in million m3)

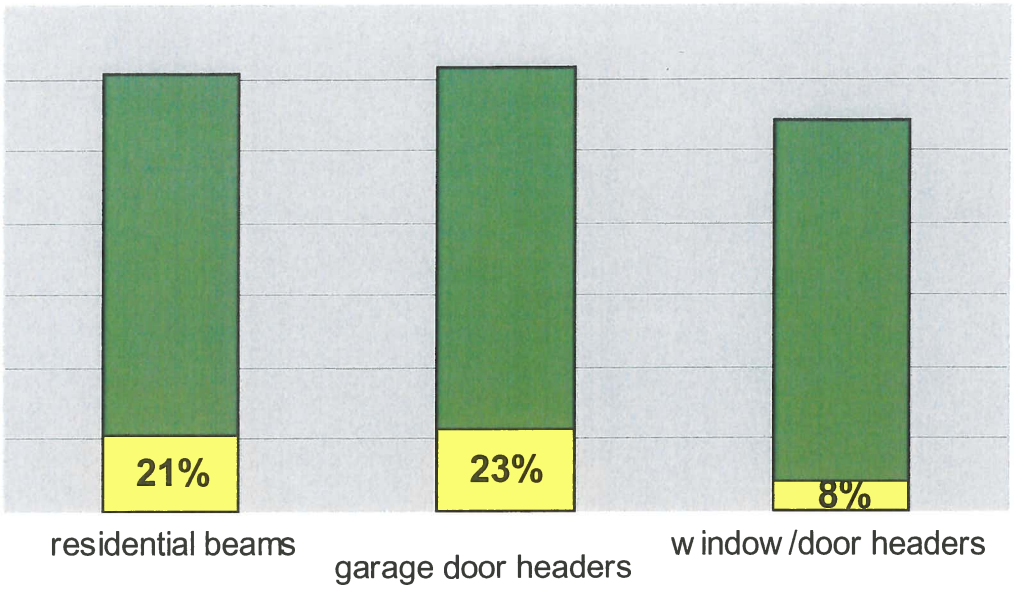


- **In 2004 LVL production was at 1,8 million cubic meter**

Approximately fifty percent (50%) of LVL production is used in the fabrication of I-joist in North America. However, this number tends to decrease as usage of lumber for flanges is increasing since a few years. The following figure shows the major usage of LVL in the North American construction market. We can see that this product is far from its saturation point and demand will keep its growth for the next decade.

New product offer (production) is generally well absorbed in the market.

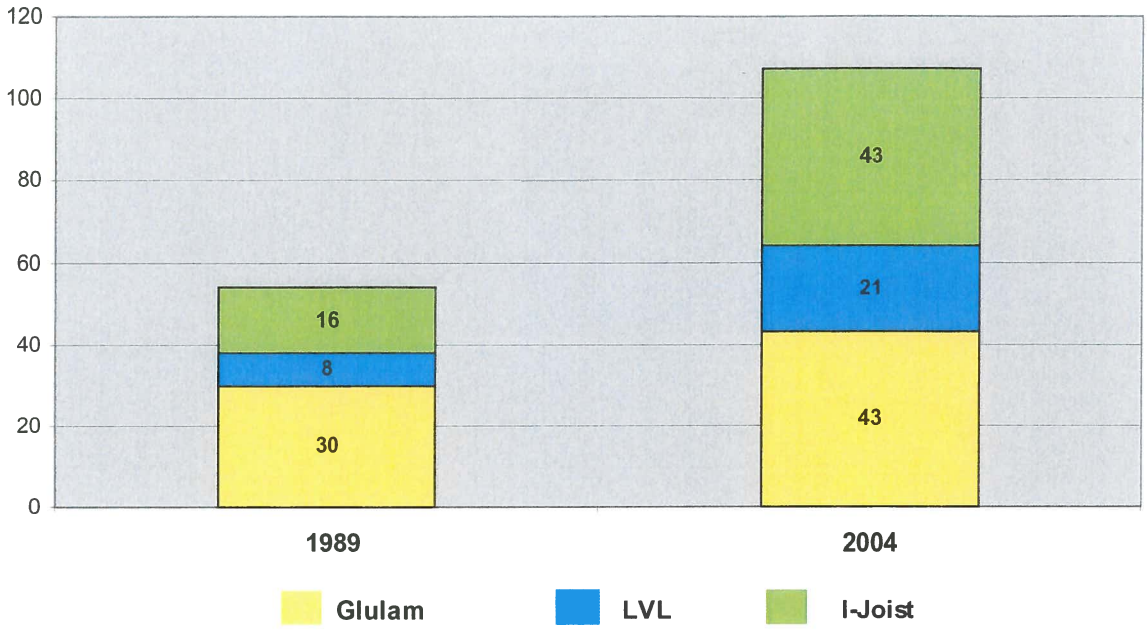
USAGE OF LVL IN CONSTRUCTION



Some economic factors will specifically pressure demand for wood and EWPs in residential construction in time: average size of new homes is larger and larger, it has doubled between 1950 and 1999 (source: RISI). Stronger than expected immigration will be lifting housing demand for at least the next decade (source: Census Bureau). There is a strong demand for custom homes and secondary dwellings (source: Census Bureau).

Should LVL be used for all door, windows and garage door headers, a small home would require between 10 m^3 (350 cu.ft.) to 14 m^3 (500 cu.ft.). Main structural beam, rim beams and in some cases roof trusses can be potentially added to this.

EWP plants in North America between 1989 and 2004



source: APA

Furthermore, production of structural and non-structural LVL components, finished and ready to install, is virtually non existent in the North American market. With the eventual development and introduction of such products in the market, demand will dramatically increase. Those specialized products represent real market opportunities.

The Atikokan LVL project will aim its production at the generic LVL mass product to create production stability and make its place in the market. However, the opportunity to cut and size LVL into structural component products and sell to specialized industrial producers such as manufactured home sector will be taken in consideration in this study.

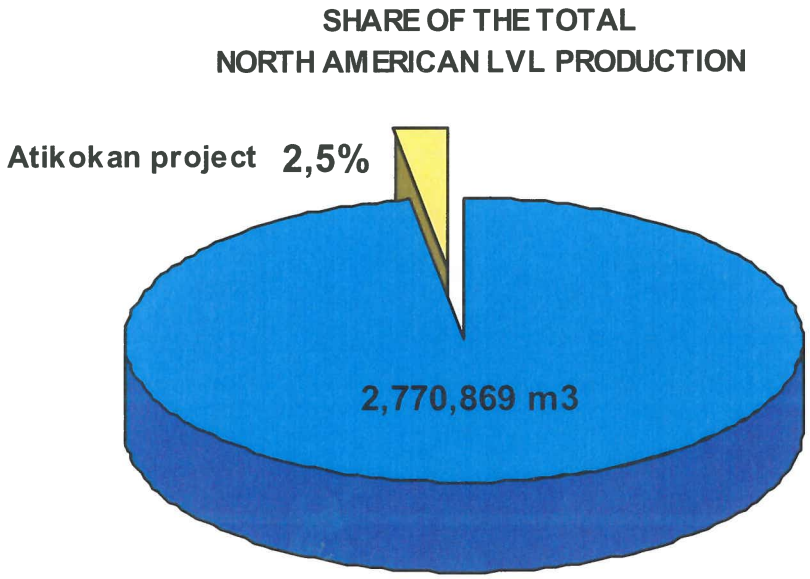
LVL demand could more than double over the next 10 years to over 3 million cubic meters. The prospects for EWP in general and LVL in particular are bright as timber issues, construction modalities and new technology combine to promise a surge in volume over the next decade.

INDUSTRY ANALYSIS

The consumption and production of structural LVL has been mainly concentrated in North America and Europe. In Asia and Oceania, the main application for LVL is in non-structural applications.

In North America LVL production is currently at approximately 1,8 million cubic meters. This number will slightly increase in the coming years as the new Tembec plant in Quebec will introduce its product in the market. This plant has a 127 000 cubic meter capacity.

The Atikokan project, with a 70 000 m3 capacity, will represent a 2,5% share of the current total North American production. Thus, not a sensitive position.



LVL producers in North America are concentrated in the US North Western and South Eastern regions. There are four plants in Canada. Atikokan will have a strategic position to serve the North and mid central markets of United States.

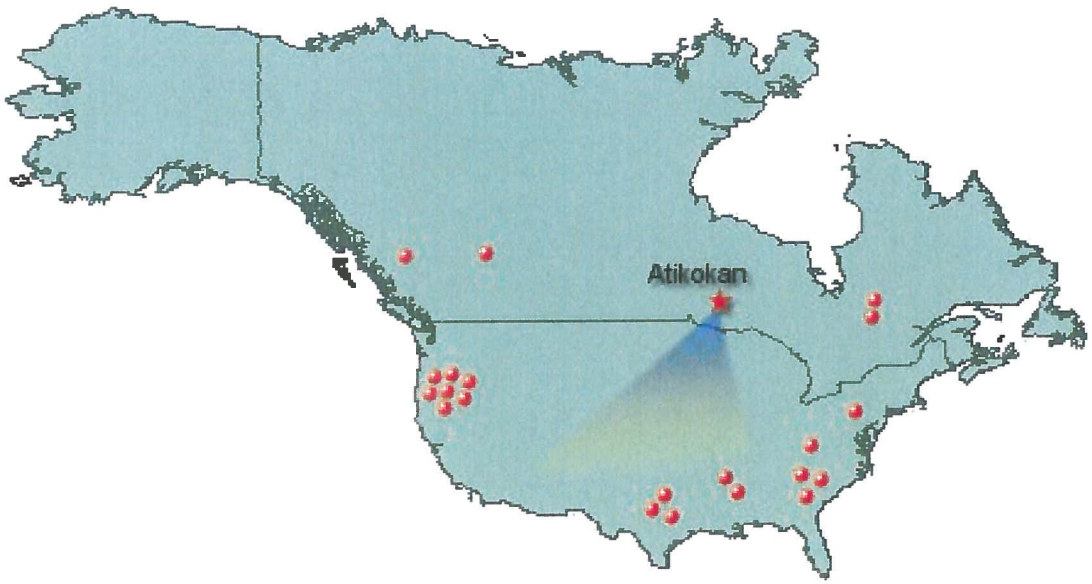
PRODUCER	LOCATION	MACHINERY	CAPACITY (m3)	%
Weyerhaeuser	Buchhannon, WV	Others	59,428	
	Eugene, OR	Others	146,501	
	Evergreen, AL	Others	59,428	
closed	Junction City, OR	Others	0	
	Millesburg, OR	Raute Wood	53,487	
	Millesburg, OR	Raute Wood	25,470	
	Natchitoches, LA	Others	237,710	
	Simsboro, LA	Raute Wood	74,417	
	Stayton, OR	Others	64,898	
	Valdosta, GA	Others	118,855	
closed	Winston, OR	Raute Wood	0	
Total Weyerhaeuser			**840,193**	**30,3%**
Boise Cascade	Lena, LA	Raute Wood + Pathex	471,766	
	White City, OR	Raute Wood	278,200	
Total Boise Cascade			**749,967**	**27,1%**
Louisiana Pacific	Burns, OR	Dieffenbacher	169,376	
	Golden, BC	Raute Wood	108,672	
	Wilmington, NC	Raute Wood	136,155	
Total Louisiana Pacific			**414,202**	**14,9%**
Roseburg Forest Prod.	**Dillard, OR***		**220,770**	**8,0%**
Tembec	Amos, Quebec	Raute Wood	132,953	
	Ville-Marie, Quebec	Raute Wood	25,357	
Total Tembec			**158,310**	**5,7%**
Georgia Pacific	**Roxboro, NC**	**Raute + Rauma**	**127,917**	**4,6%**
Pacific Wood Tech (CIPA)	**Burlington, WA**		**103,804**	**3,7%**
West Fraser (Weldwood)	**Alberta**	**Dieffenbacher**	**77,853**	**2,8%**
International Paper	**Thorsby, AL**	**Dieffenbacher**	**77,853**	**2,8%**
Total for NA			**2,770,869**	**100%**

Total plant capacity in North America is slightly below 2,8 million cubic meters. Actual production which is slightly below 2,0 million cubic meters never equals total plant capacity for various reasons (efficiency factor always lower than 100%. Plants very seldom run seven days per week, lack of raw material, etc). Even though it is true for part of it, the difference between the total plant capacity and the actual volume sold is a normal situation and does not necessarily represent a real potential in production increase. Actual volume sold in the market is at 65% of total plant capacity for North America.

TARGET MARKET

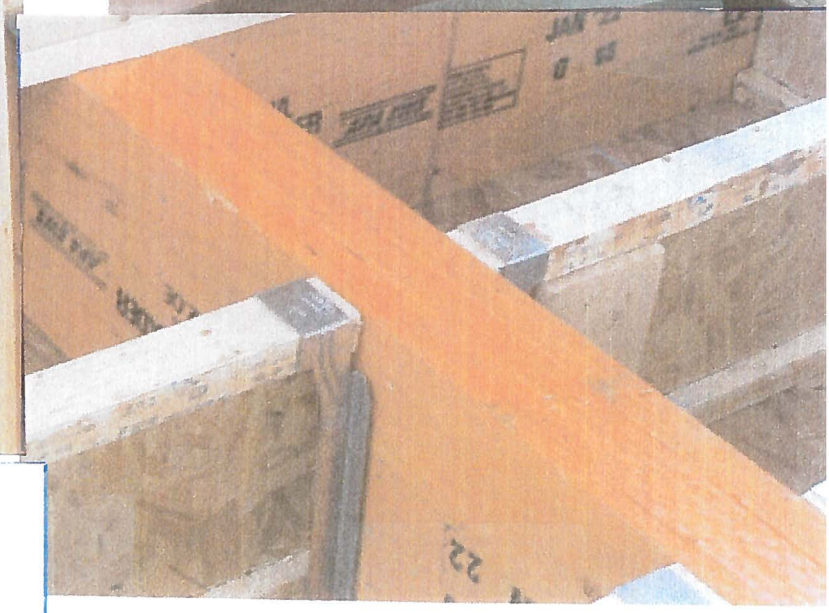
The first market opportunity is to produce a generic LVL product aimed at structural usage in residential construction. It is from far the largest usage of LVL in North America and the growth potential is great for the foreseen future. The main market is of course United States, and more specifically due to the geographical location of Atikokan, the central states.

Interestingly, the majority of production facilities are concentrated outside of this area. The Atikokan plant will have access to an immense market nearby, at lower transport costs.



LVL travels well. The value of material on one truck load is approximately 30,000 CND therefore; the ratio "cost of transport/value of the load" is rather small. For example, with a 2360 CND transport cost we can ship a truck load from Atikokan to Kansas City, KS. This transport cost represents 7,9% of the total value shipped.

LVL is sold at a price that includes the transport cost. The Atikokan plant will have the capacity to sell its product throughout central United States and be competitive on the price.

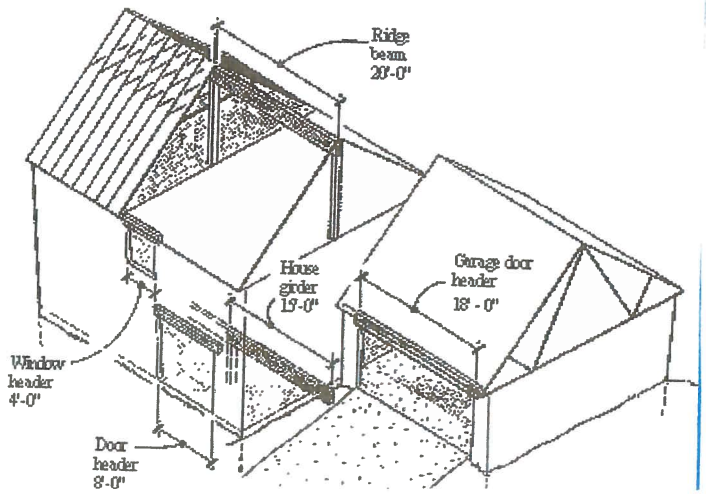


LVL Structural Applications

Top Left – main beam/perimeter beam
Top Right – Rim board
Middle Left –Door Header
Middle Left – Main Support Girder

Bottom- house applications

Sample House

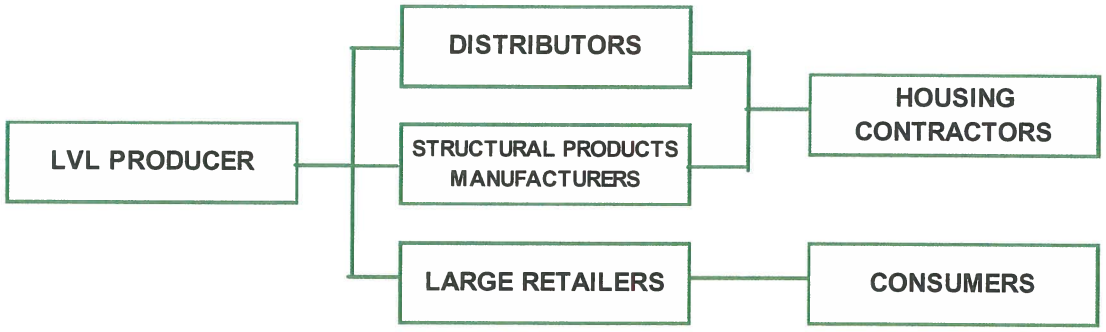


DISTRIBUTION CHANNELS AND CUSTOMER PROFILE

From the production facility, LVL is primarily sold to stocking distributors. These distributors then sell to contractor oriented retailers and to other distributors. A small volume is sold directly to some large retail chains.

Some of the specialized distributors and structural products manufacturers (ie: roof truss producers) offer structural engineering solutions to their customers, such as home structure concept, construction drawings and also supply the structural material including LVL.

The LVL producer must develop his distribution channels and offer technical support for his product.



Structural LVL offers a wide variety of end use applications because it competes in the construction sector with lumber and wood based beams. The advantages offered by LVL are that it is available in a wide range of dimensions, its shape is uniform, and it possesses excellent strength properties compared to sawn lumber made from the same wood species. It can be used:

- as a beam, header and components in construction
- as I-joist flanges
- as beam composite
- in floor construction
- in wall construction
- in roof construction
- in trusses and trussed rafters
- as long span beams and columns
- in concrete shuttering

Holes can be machined into the product for running conduit and wiring. A variety of fasteners, connectors, hangers and nailing plates can be used in connection with LVL construction, but these should be used in accordance with the instructions of a qualified designer.

All these characteristics impose to organizations handling LVL to have engineering expertise and be capable to address all technical issues relevant to structural LVL usage in construction. It is also required that the producer has the technical expertise to support its product.

COMPETITION AND MARKET PENETRATION

The Atikokan plant will compete with very large organizations that are well established in the market. These organizations have immense financial and technical resources to support their market position.

The competitive edge the Atikokan project should develop and use as its market strategy is *flexibility*. Large production facilities and organizations must aim at producing commodities on a large scale to amortize the overhead costs on volume. This behavior creates rigidity. The Atikokan project will be a "stand alone" plant and will be capable to custom fit its production to the customers needs. Not only will this bring a competitive edge but eventually it will mean an increased pricing opportunity.

LVL customers develop fidelity towards producers. An established business relationship necessitated time, efforts and investments. Due to the technical complexity of the product, intensive efforts were required before the manufacturer could successfully establish a business deal and therefore business relationships are generally stable and lasting.

Key marketing factors are product development and testing to insure that building code requirements are met for structural LVL.

The LVL market is competitive and the two major factors of influence are price and delivery conditions. The after sale and technical product support characteristics are standard and comparable for all producers.

The barriers of entry to the market are the following:

- Certification period: this will impose an after start-up period of six months to one year during which the new plant will not be able to sell structural LVL because not certified (see STANDARDS AND REQUIREMENTS chapter).
- Customer accounts are difficult to open due to fidelity and customers not currently buying LVL necessitate product education.
- Large organizations offer a variety of other structural products and could create pressure on customers in order to keep the account.
- Important discounts could be necessary to penetrate the market.

LVL SELLING PRICE & PRICE STRUCTURE

The price of typical structural LVL was at 700 CND/m^3 and above range during the late Nineties. LVL pricing is in direct relationship to the prices of competing materials, i.e., lumber, glulam beams, plywood, OSB, steel, and concrete. However, LVL price is rather stable as demand is constant. The focus of LVL manufacturers is to have the products more and more accepted by the consumer and to have stable price levels.

Current selling price for commodity LVL (structural) varies between 740 CND and 850 CND in North American markets.

LVL selling price has a complex structure. The calculation units used in production are either is cubic meter and more commonly cubic foot however, LVL is sold by linear footage with a specific price per linear foot based on the width of the beam. The following Table shows the common sizes and unit selling price. There is no variation in pricing a foot for each width as the base for calculation is either cubic meter or cubic foot.

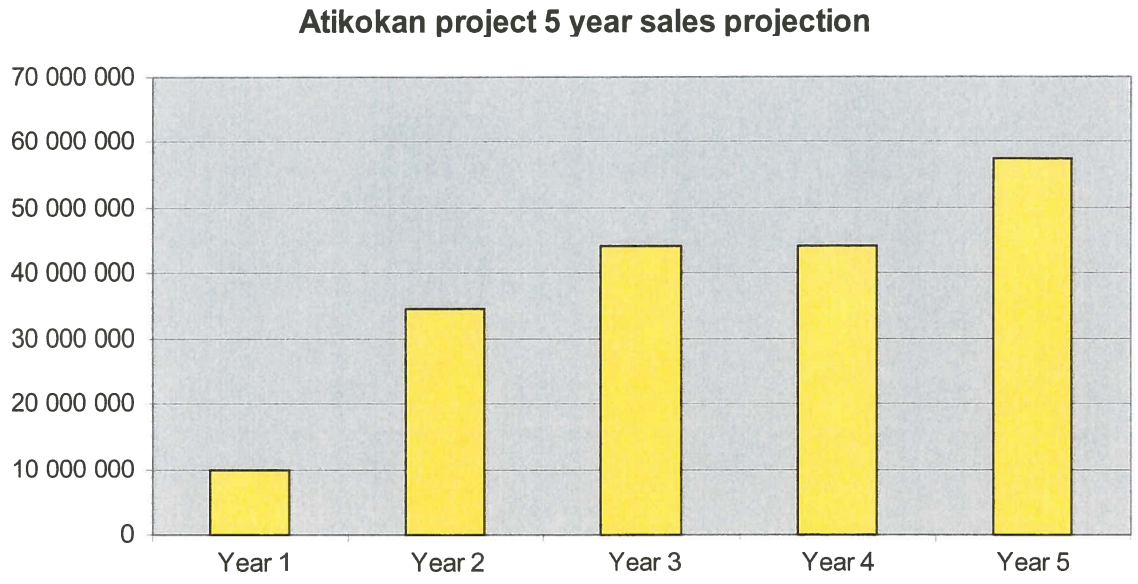
LVL - Standard Sizes at a 742 CND per m^3 base price		
mm.	**in.**	**Price per linear foot**
45 x 241	1-3/4 x 9-1/2	$ 2.43
45 x 302	1-3/4 x 11-7/8	$ 3.03
45 x 356	1-3/4 x 14	$ 3.58
45 x 406	1-3/4 x 16	$ 4.09
45 x 476	1-3/4 x 18-3/4	$ 4.79

Selling prices are generally stable in the market. A sharp variation of currency relative value will have an impact on profits for the Canadian producer exporting to USA. Current value of the Canadian dollar at $ 0.85 US means a lower value for exported LVL to US markets. The financial projections of the Atikokan project should include contingencies to take this reality in consideration. The advantage of a market penetration at a high currency relative value is that an eventual decrease of the exchange ratio will bring a greater profit margin. It was the reverse case for Canadian producers that were already in the market when the Canadian dollar value increased in the past years.

FORECASTED SALES AND STRATEGY

The sales forecast scenario in the Atikokan project financial projections is aggressive and non typical of industry standards for a startup. These sales targets are attainable providing some conditions are met:

- A presale strategy has to be put in place and distribution channel have to be open prior to plant startup.
- Intensive sales efforts need to be made during plant development allowing projected production output.
- The market opportunity for structural components described below needs to be addressed in early project development and product development in collaboration with targeted customers needs to take place.
- Presales contracts need to be signed with customers prior to startup.



There are seasonal fluctuations in sales. It will be management's decision to keep production leveled and cumulate inventory or keep inventory low and cut on production. This is a challenge for management in LVL production. The more products and customer's profile are diversified, seasonal variations will be minimized.

Generally customers know what to buy and are technically knowledgeable. Internal sales support is therefore very important. An emphasis should be made on a well structured order desk with

properly trained personnel. This structure will be essential to support customer relationship and sales task force.

The producer should develop a long term relationship strategy towards his customers. This aspect will have an important impact and facilitate sales.

PROMOTIONAL NEEDS

Promotional brochures are an essential tool for sales. More important, the technical characteristics of the product need to be published. A technical brochure will be the most important marketing tool.

Selling LVL does not require important advertisement budgets. It is first a technical sale where price will be the main selling point.

PRODUCT AND MARKETING CONCEPT

The division of LVL between structural and non-structural products is based on end-use requirements. The structural LVL manufacturer must produce an official certificate stating that his product satisfies specific codes and standards for structural use.

Characteristics of structural LVL

Structural LVL is exterior glued with phenol-formaldehyde or higher quality resin based glue. This kind of LVL is targeted towards load bearing structural purposes such as beams, trusses and other engineered products. The length of LVL can be up to 25 m (80 ft) or more. The width of the pressed product is, typically, 1,2 m (4 ft) to 1,8 m (6 ft), with thicknesses varying from 25 mm (1 in) to 75 mm (3 in). Structural LVL is normally made on high capacity lines under continuous operation. There is a wide range of cut-to-size dimensions with the typical average size being around 45mm (1.75 in) x 305 mm (12 in) x 12 m (40 ft). LVL is made generality from softwoods such as pine and spruce or sometimes hardwood. Some of the softwood species used to ~~product~~ Product LVL have a density that is in the hardwood range. It is the case of Southern Yellow Pine for instance.

The product meets the requirements for exterior quality and use; it can be used in exterior ambient conditions and has been certified by an official standards body.

LVL is available in lengths up to 24.4m (80'), while more common lengths are 14.6m (48'), 17m (56'), 18.3m (60') and 20.1m (66').

LVL is manufactured in thicknesses from 19mm (3/4") to 64mm (2 1/2"). One manufacturer also offers an 89mm (3 1/2") thickness.

The most common thickness used in construction is 45mm (1 3/4"), from which wider beams can be easily constructed by gun-nailing the plies together on site.

LVL is manufactured in billet widths of 610mm (24") up to 2440mm (96"). The desired LVL beam depth may be cut from these billet widths. Commonly used LVL beam depths, as shown in following Table, are 241mm (9-1/2"), 302mm (11-7/8"), 356mm (14"), 406mm (16") and 476mm (18-3/4"). Depths of 140mm (5-1/2"), 184mm (7-1/4") and 610mm (24") are also available.

LVL - Standard Sizes	
mm.	**in.**
45 x 241	1-3/4 x 9-1/2
45 x 302	1-3/4 x 11-7/8
45 x 356	1-3/4 x 14
45 x 406	1-3/4 x 16
45 x 476	1-3/4 x 18-3/4

Characteristics of non-structural LVL

Non-structural LVL is an appearance-oriented product and it can not be used in load bearing structural applications. Typical thicknesses vary from 5mm (0.2 in) to 50mm (2 in), widths from 75mm (3 in) to 1020mm (40 in) and lengths from 305mm (1 ft) to 6100mm (20 ft). Plywood mills are able to make this product with their existing machinery. Thus, nearly all plywood mills are, in principle, able to make non-structural LVL. The size of the press will be the limiting factor to production. For plywood producers, non-structural LVL is more like a specialty plywood product.

Plywood mills make non-structural LVL with urea and melamine formaldehyde glues. The nearly invisible glue line makes non-structural LVL suitable for furniture and decorative purposes. The outer face veneer can be chosen according to aesthetic requirements. Thus, LVL can provide the visual characteristics of natural wood which will satisfy a variety of decorating needs.

Non-structural LVL is used in housing applications, such as cover rails, staircases, door and window frames and partition columns. Other applications are furniture components, table tops, door panels, flush door plates, etc.

Furniture and fixture manufacturers especially like the stability offered by LVL and elect to use non-structural LVL for thicker dimension components which would otherwise require planks, laminated wood or lumber. Non-structural LVL which is glued with urea-formaldehyde glue is

not useable in structural applications but it can be used in interior applications, such as fittings and components, where no certified construction design value is required.

Non-structural LVL can be made on the same high capacity lines as structural LVL. Only the glue type has to be changed, requiring the need for glue preparation equipment for both glue types.

Although not very popular in North America, non-structural LVL is extensively used in Asia, more specifically in Japan.

As stated before, the strength of structural LVL is almost in direct correlation to its specific gravity. Low density species or veneer made of logs or timber stands having low density can be used, but they should be tested prior to starting production of LVL.

White Birch is the specie to be used in the projected Atikokan LVL plant, the strength of the product will be at the top of the scale of the LVL currently produced in North America in terms of fibre mechanical values.

The following Table shows the density of species commonly used for LVL in North America, or as comparison:

Species	Kg/m^3	Lbs/cu.ft.
Aspen	374	23.3
White Birch	**640**	**39.9**
Yellow Birch	559	34.9
Douglas Fir	530	33.1
Southern Yellow Pine	577	36.1
White Pine	364	22.7
Black Spruce	406	25.3
White Spruce	354	22.1

LVL is recognized in the market by its ~~Modular~~ Modulus Of Elasticity (MOE) certified value. Over ten years ago the LVL MOE value generally sold in the market was 2.0. In the first half of the '90s the 1,8 MOE was introduced and accepted by customers. This allowed use of fiber of lower mechanical values such as Aspen. At the beginning, 1,8 MOE was selling for less than 2,0 but with time the difference in price decreased. Today, 1.8 MOE is the market standard.

In fact, for spans shorter than 20 feet 1.8 MOE LVL does the job very well.

A Birch LVL will have high mechanical value characteristics. It will probably reach 2,0 MOE and over. At a comparable selling price, Birch LVL will be a better product and will offer interesting possibilities for longer spans and special uses.

The marketing of the product should take advantage of these characteristics.

Product development and testing is a must before starting LVL production. This is especially important with regard to structural LVL.

Market Confirmation

The following contacts from different channels were consulted with regarding the potential LVL facility;

- **Universal Forest Products** (major N. American building products distributor), interested in mid-west supply, and birch species (high volume LVL distributor)
- **Taiga Forest Products** (major Canadian distributor) very excited about opportunity to market birch LVL, his current supplier producing sub-standard LVL, they are also interested in private label opportunity, and a potential investor
- **Bill Porter** (US Southwest forest products sales) –huge appetite for LVL in booming southwest, can't get enough to supply demand, need car-loads of LVL
- **Ed Thaggard** (Hood Industries) – GM of southern plywood/LVL Ops., can't supply
- enough of their customer's demand with their own manufacturing, and interested in additional supply of this birch LVL
- **Johnson –Manley Lumber** (southwest US distributor and affiliated with Las Vegas distributor (Capital Bldg) Las Vegas in short supply, fastest growing US region, would take ~~care~~ CAR loads of LVL)
- **Century Homes** (major Modular Housing manufacturer) demand for quality conscious LVL, and recognize birch would be superior
- **Menard's** –major building materials box store outlets (150 US stores) interested in mid-west supplier
- **Eric Fulton** (Nat. Assoc. of House Builders –NAHB) – excited about proposed facility, especially species and geographic location

A Market Opportunity- LVL Components

LVL is not extensively used in the modular home industry. The reason is probably due to the fact that producers are generally focused on production and product development has been left to secondary manufacturers. In USA there are over 3,500 panelized home manufacturers. There are 2,200 component manufacturers selling to these panelized home manufacturers. This is one of the largest markets in North America and it is growing. There are over 1,500,000 housing starts per year in USA, not counting accrued demand created by recent natural disasters, and some estimates project that 90% of new home construction will be modular within 20 years.

The manufactured home producers need cut to size components, pre-drilled, pre-notched, ready to install material since their business is assembling more than transforming. LVL products need to be developed and offered to this market.

Some of the features of factory –built modular housing

- Reduction in the opportunity for mold development
- Lower skilled trades required = lowered costs
- Quicker on-site erection = lowered costs

In the Ontario Living Legacy report commissioned by the MNR and produced by Woodbridge Associates, in 2004; the following statement regarding value-added component and modular housing systems indicated, " In the Phase 2 reports, we concluded that one of the best value-added manufacturing strategic opportunities for Ontario, based on a combination of strengths in its construction and wood products industries is to produce and export structural building components and building systems".

Consumers are increasingly demanding "green" products and LVL and LVL components provide and satisfy this requirement. According to the National Association of House Builders (NAHB) , engineered wood products and particularly those that contribute to components for the modular or system built housing, offer green credits " as they use smaller, previously un-used trees, and not requiring the larger older trees from which sawn lumber originates. The use of components allow manufacturers to carefully plan how they use building materials, making the most of every piece of engineered lumber, eliminating the need to cut wood on the job site; further reducing waste". The NAHB also estimates that the traditional site-built with sawn lumber ,single family home that averages 2320 sq.ft; generates 7,000- 12,000 lbs. of construction waste.

As mentioned previously, the recent natural disasters further underscore the fast solution for housing, and Modular housing is where the US government is turning to re-establish housing in the southern states, and the US military is also looking to Modular housing to satisfy their growth predictions in new military housing.

This market represents a real opportunity for a project at concept stage. It is easy to plan for a transforming facility either in the LVL plant or nearby.

Such products would not only substantially increase the profit margin but would also use an important percentage of the base LVL production. Sales would then be efficiently diversified and this would secure the operation against eventual market fluctuations.

Developing these products implies that conceptual work is done with the customer's technical resources and that long term agreements are made guarantee supply consistency. The project's representatives should seize this opportunity and initiate contacts with customers at a very early project stage.

These specialized products should sell 25–30% above regular structural LVL price, and the cost of transformation will be reasonably low, allowing greater profit margin.

BRS recommends that producing LVL Components for the Modular Housing sector is the niche market that will provide long term sustainable profits for the Investors of the LVL facility.

RESEARCH AND DEVELOPMENT

Research will be aimed at developing new applications for the product, as described above. LVL market acceptability is well established and R&D efforts are not made for the enhancement of the product structural values or appearance.

The Atikokan plant personnel should concentrate on developing tailor made solutions for customers. Especially in the manufactured housing sector where there is a low utilization of LVL. Those manufacturers will welcome "cut to size and ready to install" products as sizing and material loss represents an important cost factor in their operations.

The non structural products should also be looked at in applications offering a sale price edge.

PERFORMANCE STANDARDS AND REQUIREMENTS

There are different standards in every country and official regulations which provide general instructions on how to calculate and carry out load-bearing constructions. There are also standards which define LVL as a material possessing certain predetermined strength properties. LVL either has to meet the requirements of the governing standards or the manufacturer has to prove through testing procedures that its product is suitable for use as a load bearing material in construction. The LVL producer must also undertake regular testing in order to ensure the quality of the manufacturing process and the products. This is a general rule but the standards and regulations differ to a certain degree between countries and regions.

In the USA the first actual LVL standard was published in 1993, namely, the standard ASTM 5456-96 "Standard Specification for Evaluation of Structural Composite Lumber Products". The standard refers also to several US and Canadian standards which are common to plywood standardization and testing.

A LVL manufacturer must obtain appropriate building code approvals. These approvals can be regional (BOCA, ICBO, SBCCI) or applications approved by the National Evaluation Service (NES). The procedure is the same also for foreign manufacturers who intend to sell their product in the US market.

In Canada the standardization, testing and certification of LVL is taken care of by the Canadian Standard Association (CSA).

The certification process for a new plant implies a 12-18 month process. The most important issue in this long process is that the plant has to be certified, not the product. Therefore, before final certification is given, the new plant has to produce and output has to be tested as per standard protocols.

It is highly recommended that certification procedures begin at the very start of project implementation in order to minimize after start-up delays selling certified LVL.

ORGANIZATIONS AND LABORATORIES RELATED TO LVL

USA

APA-The Engineered Wood Association

American Institute of Timber Construction

American Wood Council

American Society for Testing and Materials (ASTM)

Building Officials & Code Administrators International (BOCA)

International Conference of Building Officials (ICBO)

Southern Building Code Congress International (SBCCI)

National Evaluation Service (NES)

CANADA

Canadian Standards Association (CSA) Canadian Construction Materials Centre (CCMC)

Canadian Wood Council

RAW MATERIAL BASE AND REQUIREMENTS

As a wood based product, LVL is very similar to plywood. The raw material requirements are very similar to those required of plywood production.

Although LVL is at present generally made of softwood (pine, fir and spruce species), hardwood can also be used successfully in the production of LVL.

In respect of structural LVL, the strength properties of the raw material pass directly to the finished LVL product.

It is recommended that only one species be used at a time in the production of structural LVL to optimize the uniformity of the strength properties and quality of the LVL. The naturally-occurring softwood forests of the Northern Hemisphere, as well as the numerous coniferous and hardwood plantation species of the Southern Hemisphere are potential sources of raw materials for LVL. Tropical hardwood is also a suitable raw material, but the huge variety of species cause problems when selecting suitable species for structural LVL.

The strength properties of LVL depend greatly on the raw material, but there can be also significant variations in the properties existing within one species. Such is the case where a single species has been harvested from two different locations, e.g., lowland and mountainous regions.

The wood is also the most important factor concerning production costs. The laminated construction of LVL makes it possible to utilize relatively low grade logs which normally mean lower priced logs. The variation in strength properties of commercially differing log grades is, in practice, small.

The strength of structural LVL is almost in direct correlation to its specific gravity. Low density species or veneer made of logs or timber stands having low density can be used, but they should be tested prior to starting production of LVL.

Decay is a very serious defect. The strength of decayed veneer is nearly zero. According to the standards decayed veneers are not allowed in LVL.

The tension strength of veneer is strongly affected by knots. Because of the multi-ply construction of LVL, and the scattered occurrence of knots throughout the cross-section of the product, the strength-reducing effect of knots is minimal and is often reduced by the higher density of knotty veneers. The knots, however, may indirectly cause a weakening of the gluing.

The splitting of veneers in the longitudinal direction is a normal phenomenon in the production of veneer. The influence of splitting on the strength properties of LVL is minimal.

If short grain (the scope of grain) occurs over large areas of veneer, it can have a weakening effect on the strength of the veneer. Therefore, short grained veneers should be mixed evenly with other veneers and they should not be used as face veneers in LVL.

The moisture content of the veneer should be kept under 7 %.

The basis for most grading in the plywood process is appearance. This is the basis also when grading veneer for LVL. Good appearance is important also for structural LVL, but is most important with regard to non-structural LVL.

It is important to transfer the structural properties of the veneers to the finished structural LVL. Machine stress grading is the current method by which veneer is graded by strength class. The principle is to measure the specific gravity of veneer using ultrasonic or radio frequency measurement. These methods are not foolproof but they are useful when combined with visual grading to maximize the strength properties of LVL.

CONCLUSIONS

The Atikokan LVL project has a real market opportunity and will benefit from the constant growth of demand. The use of White Birch will result in high mechanical values and could offer advantages in the marketing of the product.

It is highly recommended that the developers of the project focus on flexibility of production and make intensive efforts in developing a structural component facility targeting the manufactured home market.

Positive factors

- Strong market
- Good product usage growth and large potential
- Demand pressured by natural disasters
- Strategic geographical positioning of the plant for the central US market
- Project will have small industry share and non sensitive position
- White Birch high density will be distinctive and bring advantages to the product
- Small diameter trees can easily be used to produce LVL
- **Fabrication of structural components for manufactured home market represents a great opportunity**

Sensitive issues

- Aggressive forecasted sales
- Need of presale strategy
- High Canadian currency value, countered by sales in $US
- Certification process

Financial Projections/ Profitability

Overview

The financial Projections/Profitability section is another critical component of this Feasibility Study.

The section is comprised of a series of tables and graphs that report on the financial feasibility of the proposed LVL facility. The methodology implemented to establish the financial outlook is extracted from an established, fully operable LVL facility, therefore providing a working model for the potential Investor. As promises as a deliverable in the prospectus for this Report, this actual model comes from a working LVL facility, with the result being a model that addresses all the normal operating costs associated with the daily management of such a facility.

The reporting is broken down into monthly reporting on all sales, production, raw material, and production costs, leading to a yearly schedule for Years 1 thorough 5 in the initial life of this LVL facility. It is expected that this facility will achieve full capacity in Years 4-5.

A summary is included for the 5-Year period and the related;

- Performance Ratios
- Recovery/Yield Calculations
- Cost Analysis
- Selling Price/Unit Cost
- Cash Generated/Net Profits
- Cost Analysis
- 5-Year Sales Forecast
- Wood Purchase Costs; and ,
- Projected Net Profit

The financial reporting is divided into 2 sections;

1. **Raw LVL product**
2. **Value-Added LVL Components Manufacturing**

BRS is promoting the establishment of a Value-Added LVL Component Manufacturing facility to further increase profitability of the proposed LVL project, however it is understood that the LVL product must stand on its own in profitability should the Investor choose not to proceed in the direction promoted. The reporting shows the component affect in the yearly summaries.

As this model is derived from a working LVL plant, BRS is confident that all costs associated with the normal running of such a facility have not been overlooked.

Financial Model Inputs

The information created in the financial projections model is fed by the Inputs outlined, and explained below;

1. **Log Supply/Cost per m3** – the required log supply is outlined by year, and sees a growth from 40,000 m3 in Year 1, to full capacity at 230,000 mm3 in Year 5. The recovery calculation, as outlined on a separate page is 2.73, as derived from the various yield losses associated with the log conversion process into the LVL product. Log costs are estimated to reach $43.50/m3, based on regional log costs averages by actual harvesting steps. The stumpage fees are estimations based on averages within the region, although this product does not have a defined stumpage rate as this would be the province's first LVL facility. Not included in the log costs are "top discounts" from the province to entice utilization of small diameter logs, and approximately 50% of the LVL logs would meet this criterion, so the log costs are over stated for the purpose of this report. Management fees are estimated based on regional averages from SFL holders.
2. **Production/Output** – the plant's production costs are reported by year, and show the costs growing to match the production requirements. The mill starts-up on a 1-shift schedule in Year 1, an additional shift is added which will be a 10 hour shift in Year 2. Year 3 sees an addition to hours per shift. Year 4 sees the addition of another shift, which will schedule the mill on 3, 5-day/week. 8 hour shifts. The mill reaches cruising speed in Year 5, operating on a 24/7 schedule of 12-hour shifts. A critical factor that drives the profitability of the entire facility is the **Press Cycle Time**. The required budget cycle time to achieve is 21 minutes per cycle to complete a pressing cycle. The start-up cycle is estimated to be 25 minutes per pressing cycle. The goal will be to further reduce the cycle down below 21 minutes, however for the Study, and upon the recommendation of the equipment manufacturer, these cycle times have been included.
3. **Equipment Choice** – the facility's limitations are contained in the press, as discussed above. The press will produce a panel or billet which is 1830 mm or 6 feet wide, 44.45 mm or 1.75 inches thick, and 18288mm or 60 feet long, in a 3 opening press. Another crucial factor in the success of the facility is the mill's efficiency. The budgeted efficiency factor to achieve is 85%, which is the industry standard. This efficiency factor is another goal of the Plant Manager, to drive the mill above this standard to 90%. An industry leading efficiency factor is achieved by eliminating the plants bottlenecks, such as improving log yield, drying efficiency, a reduction in downgrade, as some examples. This facility is estimated to operate at a 45% efficiency rating at start-up, climbing to 85% at full capacity.
4. **Sales** – Inventory financial costs are estimated to be a t a 7% interest rate. Selling price, another critical factor in the mills profitability is estimated to be at $ 494.41/m3 at start-up, which will be un-certified board for the initial 8 months of production. As this product will be used in structural applications, a stringent certification process must be completed that can take 8 months to a year to achieve. Once the plant and product is certified, the price that can be commanded in the market place jumps to $741.61/m3. BRS is promoting a Value-Added direction for 20% of the plants output, and these components will attract a price of $1200/m3. By-products or residuals generated from the plant can attract at least $9.60 per m3, depending on the end-use of the residual. The recommendation is to supply Fibratech with the residual, thereby eliminating transportation costs, however for the purpose of the Study; we have included this input revenue. Transportation costs for the product are expected to be approximately $58.79/m3 for truckloads, based on the weight of the product and its destination, which is

limited in the US. Rail costs have not been included in this study, however with component manufacturing; rail would be an opportunity if the customer has the required facilities to accept rail deliveries.

5. **Production Costs** - For the purpose of this Study; BRS has included regional wage costing. It is recommended that start –up wages lower than fully operational wages are a possibility, however not factored into these inputs. Millwright wages appear to be at the proper rate to attract trades people. A benefit cost of 25% is included. Power, and resin costs are based on November 2005 data. Co-generation discounts are not included in this Study, however recommended as an opportunity, depending on the government's appetite for energy funding.
6. **Administration Inputs-** the inputs associated with Administration are based on regional wage levels; however do not take into consideration any estimated synergy costs as reported further in the study. The synergy estimates lower administration costs by approximately $500,000 annually.
7. **Amortization –** depending on the financial set-up of this facility, the amortization may change from the inputs included in the Study. Building is at 5%, Equipment at 10%, and vehicles are amortized at 20%.
8. **Financial costs-** Input based on 70% long term financial funding arrangement. Potential various governments' appetite would have to provide some form of funding at this level to make an attractive investment.
9. **Exchange Rate –** the $US is a component of the mills' profitability, and we have purposely lowered our selling price estimates below market by 10% to offset currency fluctuations. The result being that if the $US reaches above $.083 CDN, it starts to impact the facility's profits. Forecasts, are predicting the Canadian dollar to balance out at $.080. At even a $.090CDN, the plant is still reasonably profitable, and as mentioned, synergy costs reductions are not in the reports' inputs. Also, by further increasing the component portion of the plant's output, the profitability increases. The study is only reporting a 20% component level, and 50% is achievable.

ATIKOKAN LVL PLANT PROJECT
Financial projections

Input data

Description	Calculation	Factor
RAW MATERIAL		
Log supply (m3)	Log supply volume is a calculation result of the plant input requirements. This volume is true for a given year but wood inventory in the yard will vary according to seasonnely harvested volumes. This inventory will reach a peak at the end of each winter and will decrease for the balance of the year until the next cold season. The impact of such variations is in the financial cost of supporting the yard wood inventory. Since the wood inventory variation simulation is difficult to project at this stage we have used a linear monthly calculation factor to estimate the financial cost.	
	Raw wood volume ratio (see recovery calculation)	2.73
	Yard inventory financial cost (interest rate)	7%
	Inventory, base of calculation: plant input yearly	50%
	Tree tops volume loss calculation factor	0.10
Cost per m3 (estimated)	Base purchase price (delivered)	35.00 $
	Stumpage fee	4.00 $
	Management fee	4.50 $
PRODUCTION		
Shifts	At startup an 8 hour shift is projected for 6 months, then one 10 hour shift per day. For year 2 we projected 2 shifts of 10 hours. For year 3 and 4 the projection is 3 shifts of 8 hours. Week ends are not worked. The plant has a potential to produce on 7 days which is projected on the 5th year.	
Press cycle time	At cruising speed, a conservative press cycle time should be 21 min. At start up a contingency factor sets the cycle time at 25 min. for the first 6 monts, then the 21 min. cycle time should be attained.	
Output per cycle (m3)	based on 1830 mm (6') wide x 44,45 mm (1,75") thick x 18288 mm (60') long billet in a 3 opening press	4.24
Efficiency factor (%)	growth from 45% to typical. The effiency as well as cycle time are impacted by the personnel learning curve and thus, are increasing to reach cruising values after a certain time.	85%
Material loss	Included in recovery calculation	
SALES		
LVL (m3)	equivalent to production. In reality, sales will be taken from inventory and volume will vary seasonnely. To simulate the variation of inventories a financial cost was computed in the short term financial costs.	
	Inventory financial cost (interest rate)	7%
	Inventory estimated volume (% of production monthly)	50%
Selling price / m3	Before certification (8 months estimated)	494.41 $
	After certification	741.61 $
By products		
	The projections take in consideration the selling of all dry waste at following price per m3 (at a conversion ratio of 0.64 ton per m3):	47.85 $
	and the green waste (excluding bark at the following price:	24.29 $
	All green waste (including bark) is considered as boiler fuel.	
	Volume of bark per raw wood input	12%
	Volume of green waste per raw wood input	31%
	Volume of dry waste per raw wood input	10%
Transport cost	For truck hauling in Central USA = 2 000$	
	birch has a specific density of 0.64 ton/m3, thus on a typical 48 000 lbs truck load average, cost per m3 is	58.79 $
Discounts	Volume discount =	10%
	Percentage of production impacted =	40%

Description	Unit	Cost	Note
PRODUCTION COSTS			
WAGES			
Log yard	3	21.00 $	hourly, subject to shifts
Log preparation	3	21.00 $	hourly, subject to shifts
Green end	4	21.00 $	hourly, subject to shifts
Dryer	4	21.00 $	hourly, subject to shifts
Composer	1	21.00 $	hourly, subject to shifts
Lay up & press line	12	21.00 $	hourly, subject to shifts
Shipping	4	21.00 $	hourly, subject to shifts
Heat plant	1	25.00 $	hourly, subject to shifts
Millwrights (1st shift)	4	27.00 $	hourly, not subject to shifts
Millwrights (all shifts)	2	27.00 $	hourly, subject to shifts
Electricians	2	27.00 $	hourly, subject to shifts
Knife grinder	1	27.00 $	hourly, subject to shifts
Quality control technicians	3	3,350.00 $	monthly, not subject to shifts
	44		

Fringe benefits	25%		
POWER (electrical)	4853	Kw connected	
Effective power factor	50%		
Cost per Kw	0.092 $		
SUPPLIES			
Adhesives cost	0.75 $	per Kilogram	
Adhesives consumption	80.73	Kg per m3 produced	
Maintenance supplies	14.83 $	per m3	
General supplies	14.13 $	per m3	
OTHERS			
Equipment rental	-		
Personnel training	4%	of total wages, continuous	

ADMINISTRATION COSTS

				Year 1 ponderation
WAGES				
General manager	1	10,500 $	monthly	100%
Exec. Secretary	1	3,350 $	monthly	100%
Directors	5	6,000 $	monthly	75%
Prod. Assistant	1	4,000 $	monthly	50%
Controller	1	6,700 $	monthly	100%
Accountant	1	4,000 $	monthly	100%
Order desk	1	4,000 $	monthly	100%
Sales person	2	5,000 $	monthly	50%
Buyers	2	3,750 $	monthly	50%
Programmer	1	3,400 $	monthly	100%
Clercs	4	2,900 $	monthly	50%
Secretaries	3	2,400 $	monthly	66%
	23			
Fringe benefits	25%			
Marketing materiel (brochures, etc)	2,500 $	monthly allocation		50%
Publicity production fees	1,500 $	yearly allocation, balanced monthly		30%
Advertising	2,000 $	monthly allocation		30%
Stationary & Computer supplies	1,400 $	monthly allocation		30%
Mail & courrier	600 $	monthly allocation		50%
Communications	4,200 $	monthly allocation		50%
Insurance	6,250 $	monthly allocation		100%
Taxes	33,000 $	monthly allocation		100%
Certification fees	8,000 $	yearly allocation, balanced monthly		100%
Legal fees	2,000 $	yearly allocation, balanced monthly		50%
Accounting fees	1,800 $	yearly allocation, balanced monthly		50%
Expense accounts (traveling, board & room, etc)	16,000 $	yearly allocation, balanced monthly		40%
Equipment rental	800 $	monthly allocation		50%
Personnel training	4%	of total wages, continuous		

AMORTIZATION

Building amortization	5%	20 year linear
Equipment amortization	10%	on decreasing balance
Vehicles	20%	on decreasing balance

FINANCIAL COSTS

Project financing is based on a 70% long term financial agreement with mortgage funding companies. This is on the upper limit of industrial financing but considering a government loan securement it is feasible.

Long term mortgage (% of total project cost)	75%
reimbursement factor, amorization on 15 years (computed monthly)	0.00899
Interest (long term)	7%
Interest (short term)	7%

Description	Factor

VARIATIONS IN PROJECTIONS

SALES

Sales volume has a growth curve that spreads on the first three years (see diagram).
Sales price is maintained constant as a risk contingency factor.

EXPENSES

Wages inflation factor. Annual growth impacting on all wages	1.03
Expenses inflation factor. Annual growth impacting on all expenses	1.03

ATIKOKAN LVL PLANT PROJECT
Financial projections
Unit cost analysis

Item	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
	per m3	% of sales	per m3	% of sales	per m3	% of sales	per m3	% of sales	per m3	% of sales
SALES										
LVL (m3)	15,019		46,515		59,307		59,307		77,099	
Selling price / m3	**653.85 $**	**100.00%**	**741.61 $**	**100.00%**	**741.61 $**	**100.00%**	**741.61 $**	**100.00%**	**741.61 $**	**100.00%**
By products	15.84 $	2.42%	16.25 $	2.19%	16.25 $	2.19%	16.25 $	2.19%	16.25 $	2.19%
Gross sales	669.69 $	102.42%	757.86 $	102.19%	757.86 $	102.19%	757.86 $	102.19%	757.86 $	102.19%
Transport cost	58.79 $	8.99%	60.55 $	8.17%	62.37 $	8.41%	64.24 $	8.66%	66.17 $	8.92%
Discounts	26.79 $	4.10%	30.31 $	4.09%	30.31 $	4.09%	30.31 $	4.09%	30.31 $	4.09%
Cost of sales	85.58 $	13.09%	90.87 $	12.25%	92.68 $	12.50%	94.56 $	12.75%	96.48 $	13.01%
NET SALES	584.11 $	89.33%	666.99 $	89.94%	665.18 $	89.69%	663.31 $	89.44%	661.38 $	89.18%
COST RAW MATERIAL	**130.63 $**	**19.98%**	**134.55 $**	**18.14%**	**138.59 $**	**18.69%**	**142.74 $**	**19.25%**	**147.03 $**	**19.83%**
PRODUCTION COSTS										
WAGES										
Log yard	9.02 $	1.38%	6.70 $	0.90%	6.49 $	0.88%	6.69 $	0.90%	6.89 $	0.93%
Log preparation	9.02 $	1.38%	6.70 $	0.90%	6.49 $	0.88%	6.69 $	0.90%	6.89 $	0.93%
Green end	12.03 $	1.84%	8.93 $	1.20%	8.66 $	1.17%	8.91 $	1.20%	9.18 $	1.24%
Dryer	12.03 $	1.84%	8.93 $	1.20%	8.66 $	1.17%	8.91 $	1.20%	9.18 $	1.24%
Composer	3.01 $	0.46%	2.23 $	0.30%	2.16 $	0.29%	2.23 $	0.30%	2.30 $	0.31%
Lay up & press line	36.08 $	5.52%	26.78 $	3.61%	25.97 $	3.50%	26.74 $	3.61%	27.55 $	3.71%
Shipping	12.03 $	1.84%	8.93 $	1.20%	8.66 $	1.17%	8.91 $	1.20%	9.18 $	1.24%
Heat plant	3.58 $	0.55%	2.66 $	0.36%	2.58 $	0.35%	2.65 $	0.36%	2.73 $	0.37%
Millwrights (1st shift)	15.46 $	2.36%	11.48 $	1.55%	11.13 $	1.50%	11.46 $	1.55%	11.81 $	1.59%
Millwrights (other shifts)	7.73 $	1.18%	5.74 $	0.77%	5.56 $	0.75%	5.73 $	0.77%	5.90 $	0.80%
Electricians	7.73 $	1.18%	5.74 $	0.77%	5.56 $	0.75%	5.73 $	0.77%	5.90 $	0.80%
Knife grinder	3.87 $	0.59%	2.87 $	0.39%	2.78 $	0.38%	2.87 $	0.39%	2.95 $	0.40%
Quality control tech.	8.03 $	1.23%	2.67 $	0.36%	2.16 $	0.29%	2.16 $	0.29%	1.76 $	0.24%
sub-total wages	139.59 $	21.35%	100.35 $	13.53%	96.85 $	13.06%	99.69 $	13.44%	102.22 $	13.78%
Fringe benefits	34.90 $	5.34%	25.09 $	3.38%	24.21 $	3.26%	24.92 $	3.36%	25.55 $	3.45%
Total production wages	**174.49 $**	**26.69%**	**125.44 $**	**16.91%**	**121.06 $**	**16.32%**	**124.62 $**	**16.80%**	**127.77 $**	**17.23%**
Energy (electrical)	**31.96 $**	**4.89%**	**23.73 $**	**3.20%**	**23.00 $**	**3.10%**	**23.69 $**	**3.19%**	**24.40 $**	**3.29%**
SUPPLIES										
Adhesives	60.55 $	9.26%	62.36 $	8.41%	64.23 $	8.66%	66.16 $	8.92%	68.15 $	9.19%
Maintenance supplies	14.83 $	2.27%	15.27 $	2.06%	15.73 $	2.12%	16.21 $	2.19%	16.69 $	2.25%
General supplies	14.13 $	2.16%	14.55 $	1.96%	14.99 $	2.02%	15.44 $	2.08%	15.90 $	2.14%
OTHERS										
Equipment rental	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Personnel training	5.58 $	0.85%	4.01 $	0.54%	3.87 $	0.52%	3.99 $	0.54%	4.09 $	0.55%
Sub-contracts	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
sub-total supplies	**95.09 $**	**14.54%**	**96.21 $**	**12.97%**	**98.83 $**	**13.33%**	**101.80 $**	**13.73%**	**104.83 $**	**14.14%**
TOTAL PRODUCTION COSTS	**301.54 $**	**46.12%**	**245.37 $**	**33.09%**	**242.89 $**	**32.75%**	**250.10 $**	**33.72%**	**257.00 $**	**34.65%**
GROSS PROFIT MARGIN	**151.94 $**	**23.24%**	**287.08 $**	**38.71%**	**283.70 $**	**38.25%**	**270.46 $**	**36.47%**	**257.35 $**	**34.70%**
ADMINISTRATION COSTS										
WAGES										
General manager	8.39 $	1.28%	2.79 $	0.38%	2.25 $	0.30%	2.32 $	0.31%	1.84 $	0.25%
Exec. Secretary	2.68 $	0.41%	0.89 $	0.12%	0.72 $	0.10%	0.74 $	0.10%	0.59 $	0.08%
Directors	17.98 $	2.75%	7.97 $	1.07%	6.44 $	0.87%	6.63 $	0.89%	5.26 $	0.71%
Prod. Assistant	1.60 $	0.24%	1.06 $	0.14%	0.86 $	0.12%	0.88 $	0.12%	0.70 $	0.09%
Controller	5.35 $	0.82%	1.78 $	0.24%	1.44 $	0.19%	1.48 $	0.20%	1.17 $	0.16%
Order desk	3.20 $	0.49%	1.06 $	0.14%	0.86 $	0.12%	0.88 $	0.12%	0.70 $	0.09%
Sales person	4.00 $	0.61%	2.66 $	0.36%	2.15 $	0.29%	2.21 $	0.30%	1.75 $	0.24%
Buyers	3.00 $	0.46%	1.99 $	0.27%	1.61 $	0.22%	1.66 $	0.22%	1.31 $	0.18%
Clercs	4.63 $	0.71%	3.08 $	0.42%	2.49 $	0.34%	2.56 $	0.35%	2.03 $	0.27%
Secretaries	3.80 $	0.58%	1.91 $	0.26%	1.55 $	0.21%	1.59 $	0.21%	1.26 $	0.17%
sub-total wages	54.61 $	8.35%	25.20 $	3.40%	20.36 $	2.75%	20.97 $	2.83%	16.62 $	2.24%
Fringe benefits	13.65 $	2.09%	6.30 $	0.85%	5.09 $	0.69%	5.24 $	0.71%	4.15 $	0.56%
TOTAL WAGES	**68.27 $**	**10.44%**	**31.50 $**	**4.25%**	**25.45 $**	**3.43%**	**26.21 $**	**3.53%**	**20.77 $**	**2.80%**
Marketing materiel (brochures, etc)	1.91 $	0.29%	0.66 $	0.09%	0.54 $	0.07%	0.55 $	0.07%	0.43 $	0.06%
Publicity production fees	1.13 $	0.17%	0.40 $	0.05%	0.32 $	0.04%	0.33 $	0.04%	0.26 $	0.03%
Advertising	1.50 $	0.23%	0.53 $	0.07%	0.43 $	0.06%	0.44 $	0.06%	0.34 $	0.05%
Stationary & Computer supplies	0.34 $	0.05%	0.37 $	0.05%	0.30 $	0.04%	0.31 $	0.04%	0.25 $	0.03%
Mail & courrier	0.24 $	0.04%	0.16 $	0.02%	0.13 $	0.02%	0.13 $	0.02%	0.11 $	0.01%
Communications	1.68 $	0.26%	1.12 $	0.15%	0.90 $	0.12%	0.93 $	0.13%	0.74 $	0.10%
Insurance	4.99 $	0.76%	1.66 $	0.22%	1.34 $	0.18%	1.38 $	0.19%	1.09 $	0.15%
Taxes	26.37 $	4.03%	8.77 $	1.18%	7.08 $	0.96%	7.30 $	0.98%	5.78 $	0.78%
Certification fees	6.39 $	0.98%	2.13 $	0.29%	1.72 $	0.23%	1.77 $	0.24%	1.40 $	0.19%
Legal fees	0.80 $	0.12%	0.53 $	0.07%	0.43 $	0.06%	0.44 $	0.06%	0.35 $	0.05%
Accounting fees	0.72 $	0.11%	0.48 $	0.06%	0.39 $	0.05%	0.40 $	0.05%	0.32 $	0.04%
Expense accounts (traveling, etc)	5.11 $	0.78%	4.25 $	0.57%	3.43 $	0.46%	3.54 $	0.48%	2.80 $	0.38%
Equipment rental	0.32 $	0.05%	0.21 $	0.03%	0.17 $	0.02%	0.18 $	0.02%	0.14 $	0.02%
Personnel training	2.73 $	0.42%	1.26 $	0.17%	1.02 $	0.14%	1.05 $	0.14%	0.83 $	0.11%
sub-total	**54.24 $**	**8.29%**	**22.53 $**	**3.04%**	**18.20 $**	**2.45%**	**18.75 $**	**2.53%**	**14.83 $**	**2.00%**
TOTAL ADMINISTRATION COSTS	**122.50 $**	**18.74%**	**54.04 $**	**7.29%**	**43.65 $**	**5.89%**	**44.96 $**	**6.06%**	**35.60 $**	**4.80%**

AMORTIZATION										
Building amortization	41.78 $	6.39%	13.49 $	1.82%	10.58 $	1.43%	10.58 $	1.43%	8.14 $	1.10%
Machinery amortization	282.16 $	43.15%	81.99 $	11.06%	57.88 $	7.80%	52.09 $	7.02%	36.06 $	4.86%
Vehicles	8.66 $	1.32%	2.24 $	0.30%	1.40 $	0.19%	1.12 $	0.15%	0.69 $	0.09%
sub-total amortization	**332.60 $**	**50.87%**	**97.72 $**	**13.18%**	**69.86 $**	**9.42%**	**63.79 $**	**8.60%**	**44.89 $**	**6.05%**
FINANCIAL COSTS										
Capital reimbursement on long term	137.09 $	20.97%	47.46 $	6.40%	39.92 $	5.38%	42.80 $	5.77%	35.31 $	4.76%
Interest (long term)	240.97 $	36.85%	74.60 $	10.06%	55.82 $	7.53%	52.94 $	7.14%	38.34 $	5.17%
Interest (short term) Yard	4.57 $	0.70%	4.71 $	0.64%	4.85 $	0.65%	5.00 $	0.67%	5.15 $	0.69%
LVL	1.91 $	0.29%	2.16 $	0.29%	2.16 $	0.29%	2.16 $	0.29%	2.16 $	0.29%
sub-total financial	**247.45 $**	**37.85%**	**81.48 $**	**10.99%**	**62.84 $**	**8.47%**	**60.10 $**	**8.10%**	**45.65 $**	**6.16%**
TOTAL COST	**1,220.30 $**	**186.63%**	**704.02 $**	**94.93%**	**650.51 $**	**87.72%**	**656.25 $**	**88.49%**	**626.65 $**	**84.50%**
NET PROFIT (before tax)	**550.61 $**	**-84.21%**	**53.85 $**	**7.26%**	**243.96 $**	**32.90%**	**231.01 $**	**31.15%**	**225.63 $**	**30.42%**

ATIKOKAN LVL PROJECT

FINANCIAL PROJECTIONS

Greenfield project capital cost

BUDGET CAPITAL COST SUMMARY - ALL COSTS IN $CAD

ITEM	DESCRIPTION	EQUIPMENT	FREIGHT	INSTALL	TOTAL	%
1.00	LAND	500,000			500,000	0.71
2.00	SITE PREPARATION	1,000,000			1,000,000	1.42
3.00	BUILDINGS 150,000 ft2 at 62$/ft2	9,300,000			9,300,000	13.25
4.00	FIRE PROTECTION			250,000	250,000	0.36
5.00	SCALES	200,000			200,000	0.28
6.00	LOG YARD EQUIPMENT	1,680,000		1,000,000	2,680,000	3.82
7.00	CHIPPING AND CHIP HANDLING	600,000		300,000	900,000	1.28
8.00	BLOCK CONDITIONING AND HANDLING	2,500,000		350,000	2,850,000	4.06
9.00	WASH WATER SYSTEM	120,000		25,000	145,000	0.21
10.00	VENEER PEELING LINE (random stacking)	6,100,000		1,400,000	7,500,000	10.69
11.00	VENEER DRYER (6 deck 12+2) AND STACKER	5,500,000		700,000	6,200,000	8.83
12.00	SCARFING LINE	0		0	0	0.00
13.00	VENEER COMPOSER (1 pcs)	780,000		30,000	810,000	1.15
14.00	LVL LINE, SAW AND PACKAGING LINE	10,500,000		2,300,000	12,800,000	18.24
15.00	BILLET HANDLING & SAW LINE	3,500,000		300,000	3,800,000	5.41
16.00	GLUE KITCHEN	420,000		175,000	595,000	0.85
17.00	DRY WASTE AND DUST COLLECTION	500,000		250,000	750,000	1.07
18.00	HEAT PLANT INCL. HOG & STORAGE	6,000,000		1,400,000	7,400,000	10.54
19.00	PIPING (water, heat , hydraulics, air)			300,000	300,000	0.43
20.00	COMPRESSED AIR SYSTEM	160,000		15,000	175,000	0.25
21.00	BUILDING ELECTRICAL SERVICES			0	0	0.00
22.00	EQUIPMENT ELECTRICAL SYSTEM			0	0	0.00
23.00	POLLUTION CONTROL				0	0.00
24.00	CONCRETE FUNDATIONS			0	0	0.00
25.00	SUPPORT STEEL AND WALKWAYS	400,000		200,000	600,000	0.85
26.00	MAINTENANCE SHOP & OFFICE	300,000		15,000	315,000	0.45
27.00	QC LABORATORY	212,000		15,000	227,000	0.32
28.00	PLANT MIS SYSTEM	330,000			330,000	0.47
29.00	MOBILE EQUIPMENT	650,000			650,000	0.93
30.00	SPARE PARTS	900,000			900,000	1.28
31.00	ENGINEERING & PROJECT MANAGEMENT			2,500,000	2,500,000	3.56
32.00	EQUIPMENT RENTALS & CONSUMABLES			0	0	0.00
33.00	OPERATORS TRAINING & COMISSIONING			650,000		0.00
34.00	CONTINGENCY & PERMITS			2,500,000	2,500,000	3.56
35.00	FIRST YEAR WORKING CAPITAL			0	4,000,000	5.70
	TOTAL BUDGET CAPITAL COST	**52,152,000**	**0**	**14,675,000**	**70,177,000**	100.00

Value for depreciation

Building	12,550,000
Machinery	42,377,000
Mobile equipment	650,000

Notes:

- The working capital could be financed with an operating line of credit, in which case the total budget cost will be reduced by 4M$. As for the financial cost, it would be similar to that calculated.

ATIKOKAN LVL PLANT PROJECT
Financial projections
YEAR 1

page 1

	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	1	1	1	1	1	1	1	1	1	1	1	1		
Hours in shift	8	8	8	8	8	8	10	10	10	10	10	10		
Hours in month	160	160	160	160	200	160	150	250	200	200	200	150	2,150	
PRODUCTION														
Press cycle (min)	25	25	25	25	25	25	25	25	25	25	25	25		
Cycles in month	384	384	384	384	480	384	360	600	480	480	480	360	5,160	
Output per cycle (m3)	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24		
Efficiency factor (%)	60%	60%	60%	60%	70%	70%	70%	70%	70%	70%	80%	80%	68%	
Net output (m3)	977	977	977	977	1425	1140	1068	1781	1425	1425	1628	1221	15,019	
SALES														
LVL (m3)	977	977	977	977	1425	1140	1068	1781	1425	1425	1628	1221	15,019	←
Selling price / m3	494 $	494 $	494 $	494 $	494 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
Gross sales LVL	482,948 $	482,948 $	482,948 $	482,948 $	704,298 $	845,158 $	792,336 $	1,320,560 $	1,056,448 $	1,056,448 $	1,207,369 $	905,527 $	9,819,933 $	653.85
By products	36,124 $	14,036 $	14,036 $	14,036 $	20,470 $	16,376 $	15,352 $	25,587 $	20,470 $	20,470 $	23,394 $	17,546 $	237,899 $	15.84
Gross sales	519,072 $	496,984 $	496,984 $	496,984 $	724,768 $	861,534 $	807,688 $	1,346,147 $	1,076,918 $	1,076,918 $	1,230,763 $	923,072 $	10,057,832 $	669.69
Transport cost	57,427 $	57,427 $	57,427 $	57,427 $	83,748 $	66,999 $	62,811 $	104,685 $	83,748 $	83,748 $	95,712 $	71,784 $	882,947 $	58.79
Discounts	20,763 $	19,879 $	19,879 $	19,879 $	28,991 $	34,461 $	32,308 $	53,846 $	43,077 $	43,077 $	49,231 $	36,923 $	402,313 $	26.79
Cost of sales	78,190 $	77,307 $	77,307 $	77,307 $	112,739 $	101,460 $	95,119 $	158,531 $	126,825 $	126,825 $	144,943 $	108,707 $	1,285,260 $	85.58
NET SALES	440,882 $	419,677 $	419,677 $	419,677 $	612,029 $	760,074 $	712,569 $	1,187,616 $	950,093 $	950,093 $	1,085,820 $	814,365 $	8,772,572 $	584.11
RAW MATERIAL SUPPLY														
Wood logs (m3)	2933	2933	2933	2933	4278	3422	3208	5347	4278	4278	4889	3667	45,101	3.00
Cost per m3	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $	43.50 $		
COST RAW MATERIAL	127,603 $	127,603 $	127,603 $	127,603 $	186,088 $	148,870 $	139,566 $	232,610 $	186,088 $	186,088 $	212,672 $	159,504 $	1,961,897 $	130.63
PRODUCTION COSTS														
WAGES														
Log yard	10,080 $	10,080 $	10,080 $	10,080 $	12,600 $	10,080 $	9,450 $	15,750 $	12,600 $	12,600 $	12,600 $	9,450 $	135,450 $	9.02
Log preparation	10,080 $	10,080 $	10,080 $	10,080 $	12,600 $	10,080 $	9,450 $	15,750 $	12,600 $	12,600 $	12,600 $	9,450 $	135,450 $	9.02
Green end	13,440 $	13,440 $	13,440 $	13,440 $	16,800 $	13,440 $	12,600 $	21,000 $	16,800 $	16,800 $	16,800 $	12,600 $	180,600 $	12.03
Dryer	13,440 $	13,440 $	13,440 $	13,440 $	16,800 $	13,440 $	12,600 $	21,000 $	16,800 $	16,800 $	16,800 $	12,600 $	180,600 $	12.03
Composer	3,360 $	3,360 $	3,360 $	3,360 $	4,200 $	3,360 $	3,150 $	5,250 $	4,200 $	4,200 $	4,200 $	3,150 $	45,150 $	3.01
Lay up & press line	40,320 $	40,320 $	40,320 $	40,320 $	50,400 $	40,320 $	37,800 $	63,000 $	50,400 $	50,400 $	50,400 $	37,800 $	541,800 $	36.08
Shipping	13,440 $	13,440 $	13,440 $	13,440 $	16,800 $	13,440 $	12,600 $	21,000 $	16,800 $	16,800 $	16,800 $	12,600 $	180,600 $	12.03
Heat plant	4,000 $	4,000 $	4,000 $	4,000 $	5,000 $	4,000 $	3,750 $	6,250 $	5,000 $	5,000 $	5,000 $	3,750 $	53,750 $	3.58
Millwrights (1st shift)	17,280 $	17,280 $	17,280 $	17,280 $	21,600 $	17,280 $	16,200 $	27,000 $	21,600 $	21,600 $	21,600 $	16,200 $	232,200 $	15.46
Millwrights (other shifts)	8,640 $	8,640 $	8,640 $	8,640 $	10,800 $	8,640 $	8,100 $	13,500 $	10,800 $	10,800 $	10,800 $	8,100 $	116,100 $	7.73
Electricians	8,640 $	8,640 $	8,640 $	8,640 $	10,800 $	8,640 $	8,100 $	13,500 $	10,800 $	10,800 $	10,800 $	8,100 $	116,100 $	7.73
Knife grinder	4,320 $	4,320 $	4,320 $	4,320 $	5,400 $	4,320 $	4,050 $	6,750 $	5,400 $	5,400 $	5,400 $	4,050 $	58,050 $	3.87
Quality control tech.	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	10,050 $	120,600 $	8.03
sub-total wages	157,090 $	157,090 $	157,090 $	157,090 $	193,850 $	157,090 $	147,900 $	239,800 $	193,850 $	193,850 $	193,850 $	147,900 $	2,096,450 $	139.59
Fringe benefits	39,273 $	39,273 $	39,273 $	39,273 $	48,463 $	39,273 $	36,975 $	59,950 $	48,463 $	48,463 $	48,463 $	36,975 $	524,113 $	34.90
Total production wages	196,363 $	196,363 $	196,363 $	196,363 $	242,313 $	196,363 $	184,875 $	299,750 $	242,313 $	242,313 $	242,313 $	184,875 $	2,620,563 $	174.49
Energy (electrical)	35,718 $	35,718 $	35,718 $	35,718 $	44,648 $	35,718 $	33,486 $	55,810 $	44,648 $	44,648 $	44,648 $	33,486 $	479,962 $	31.96
SUPPLIES														
Adhesives	59,144 $	59,144 $	59,144 $	59,144 $	86,252 $	69,002 $	64,689 $	107,815 $	86,252 $	86,252 $	98,574 $	73,930 $	909,343 $	60.55
Maintenance supplies	14,486 $	14,486 $	14,486 $	14,486 $	21,126 $	16,901 $	15,844 $	26,407 $	21,126 $	21,126 $	24,144 $	18,108 $	222,727 $	14.83
General supplies	13,803 $	13,803 $	13,803 $	13,803 $	20,129 $	16,103 $	15,097 $	25,161 $	20,129 $	20,129 $	23,004 $	17,253 $	212,214 $	14.13
OTHERS														
Equipment rental														
Personnel training	6,284 $	6,284 $	6,284 $	6,284 $	7,754 $	6,284 $	5,916 $	9,592 $	7,754 $	7,754 $	7,754 $	5,916 $	83,858 $	5.58
Sub-contracts														
sub-total supplies	93,717 $	93,717 $	93,717 $	93,717 $	135,261 $	108,289 $	101,546 $	168,975 $	135,261 $	135,261 $	153,476 $	115,207 $	1,428,142 $	95.09
TOTAL PRODUCTION COSTS	325,797 $	325,797 $	325,797 $	325,797 $	422,221 $	340,369 $	319,907 $	524,535 $	422,221 $	422,221 $	440,436 $	333,568 $	4 528,666 $	301.54
GROSS PROFIT MARGIN	12,519 $	33,723 $	33,723 $	33,723 $	3,721 $	270,834 $	253,097 $	430,471 $	341,784 $	341,784 $	432,712 $	321,293 $	2,282,009 $	151.94

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	10,500 $	126,000 $	8.39
Exec. Secretary	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	40,200 $	2.68
Directors	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	22,500 $	270,000 $	17.98
Prod. Assistant	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	24,000 $	1.60
Controller	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	6,700 $	80,400 $	5.35
Order desk	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	48,000 $	3.20
Sales person	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	60,000 $	4.00
Buyers	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	3,750 $	45,000 $	3.00
Clercs	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	5,800 $	69,600 $	4.63
Secretaries	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	4,752 $	57,024 $	3.80
sub-total wages	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	68,352 $	820,224 $	54.61
Fringe benefits	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	17,088 $	205,056 $	13.65
TOTAL WAGES	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	85,440 $	1,025,280 $	68.27
Marketing materiel (brochures, etc)	1,250 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	2,500 $	28,750 $	1.91
Publicity production fees	450 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	1,500 $	16,950 $	1.13
Advertising	600 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	22,600 $	1.50
													0 $	0.00
Stationary & Computer supplies	420 $	420 $	420 $	420 $	420 $	420 $	420 $	420 $	420 $	420 $	420 $	420 $	5,040 $	0.34
Mail & courrier	300 $	300 $	300 $	300 $	300 $	300 $	300 $	300 $	300 $	300 $	300 $	300 $	3,600 $	0.24
Communications	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	2,100 $	25,200 $	1.68
Insurance	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	6,250 $	75,000 $	4.99
Taxes	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	33,000 $	396,000 $	26.37
Certification fees	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	8,000 $	96,000 $	6.39
Legal fees	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	12,000 $	0.80
Accounting fees	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	10,800 $	0.72
Expense accounts (traveling, etc)	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	6,400 $	76,800 $	5.11
Equipment rental	400 $	400 $	400 $	400 $	400 $	400 $	400 $	400 $	400 $	400 $	400 $	400 $	4,800 $	0.32
Personnel training	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	3,418 $	41,011 $	2.73
sub-total	64,488 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	68,188 $	814,551 $	54.24
TOTAL ADMINISTRATION COSTS	149,928 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	153,628 $	1,839,831 $	122.50
AMORTIZATION														
Building amortization	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	627,500 $	41.78
Machinery amortization	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	353,142 $	4,237,700 $	282.16
Vehicles	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	10,833 $	130,000 $	8.66
sub-total amortization	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	416,267 $	4,995,200 $	332.60
FINANCIAL COSTS														
Capital reimbursement on long term	166,144 $	167,113 $	168,088 $	169,069 $	170,055 $	171,047 $	172,045 $	173,048 $	174,058 $	175,073 $	176,094 $	177,121 $	2,058,954 $	137.09
Interest (long term)	307,024 $	306,055 $	305,080 $	304,100 $	303,114 $	302,122 $	301,124 $	300,120 $	299,111 $	298,095 $	297,074 $	296,047 $	3,619,067 $	240.97
Interest (short term) Yard	4,466 $	4,466 $	4,466 $	4,466 $	6,513 $	5,210 $	4,885 $	8,141 $	6,513 $	6,513 $	7,444 $	5,583 $	68,666 $	4.57
LVL	1,409 $	1,409 $	1,409 $	1,409 $	2,054 $	2,465 $	2,311 $	3,852 $	3,081 $	3,081 $	3,521 $	2,641 $	28,641 $	1.91
sub-total financial	312,899 $	311,930 $	310,955 $	309,975 $	311,681 $	309,797 $	308,320 $	312,113 $	308,705 $	307,690 $	308,039 $	304,271 $	3,716,375 $	247.45
TOTAL COST	1,410,684 $	1,412,531 $	1,411,556 $	1,410,576 $	1,602,623 $	1,470,391 $	1,432,805 $	1,797,683 $	1,613,733 $	1,612,718 $	1,675,984 $	1,475,944 $	18,327,229 $	1220.30
CASH GENERATED	475,345 $	499,281 $	498,306 $	497,325 $	461,588 $	192,590 $	208,850 $	35,270 $	120,549 $	119,533 $	28,954 $	136,605 $	3,274,197 $	-218.01
Cash generated components	43,330 $	43,272 $	34,654 $	34,595 $	17,549 $	124,636 $	90,525 $	190,650 $	140,679 $	140,740 $	140,801 $	90,831 $	745,463 $	49.64
TOTAL CASH GENERATED	518,675 $	542,552 $	532,960 $	531,920 $	479,136 $	67,954 $	118,325 $	155,380 $	20,130 $	21,206 $	111,847 $	45,774 $	2,528,734 $	-168.37
NET PROFIT (before tax)	891,612 $	915,547 $	914,572 $	913,592 $	877,854 $	608,857 $	625,117 $	451,536 $	536,815 $	535,800 $	445,221 $	552,872 $	8,269,397 $	550.61
Net profits components	72,497 $	72,438 $	63,821 $	63,762 $	46,715 $	95,469 $	61,359 $	161,483 $	111,512 $	111,573 $	111,635 $	61,664 $	395,463 $	26.33
NET PROFIT TOTAL	964,109 $	987,986 $	978,393 $	977,354 $	924,570 $	513,388 $	563,758 $	290,053 $	425,303 $	424,227 $	333,586 $	491,207 $	7,873,934 $	524.28
CUMULATIVE (PROFIT)	964,109 $	1,952,094 $	2,930,488 $	3,907,842 $	4,832,411 $	5,345,799 $	5,909,557 $	6,199,610 $	6,624,913 $	7,049,140 $	7,382,727 $	7,873,934 $		
Cash at startup	4,000,000 $													
CASHFLOW	3,481,325 $	2,938,772 $	2,405,812 $	1,873,892 $	1,394,755 $	1,326,801 $	1,208,476 $	1,363,857 $	1,383,987 $	1,405,193 $	1,517,040 $	1,471,266 $		

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	2	2	2	2	2	2	2	2	2	2	2	2		
Hours in shift	10	10	10	10	10	10	10	10	10	10	10	10		
Hours in month	400	400	400	400	500	400	300	500	400	400	400	300	4,800	
PRODUCTION														
Press cycle (min)	21	21	21	21	21	21	21	21	21	21	21	21		
Cycles in month	1143	1143	1143	1143	1429	1143	857	1429	1143	1143	1143	857	13,714	
Output per cycle (m3)	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24		
Efficiency factor (%)	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	
Net output (m3)	3876	3876	3876	3876	4845	3876	2907	4845	3876	3876	3876	2907	46,515	
SALES														
LVL (m3)	3876	3876	3876	3876	4845	3876	2907	4845	3876	3876	3876	2907	46,515	←
Selling price / m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
Gross sales LVL	2,874,688 $	2,874,688 $	2,874,688 $	2,874,688 $	3,593,360 $	2,874,688 $	2,156,016 $	3,593,360 $	2,874,688 $	2,874,688 $	2,874,688 $	2,156,016 $	34,496,253 $	741.61
By products	143,350 $	55,700 $	55,700 $	55,700 $	69,625 $	55,700 $	41,775 $	69,625 $	55,700 $	55,700 $	55,700 $	41,775 $	756,054 $	16.25
Gross sales	3,018,038 $	2,930,388 $	2,930,388 $	2,930,388 $	3,662,985 $	2,930,388 $	2,197,791 $	3,662,985 $	2,930,388 $	2,930,388 $	2,930,388 $	2,197,791 $	35,252,307 $	757.86
Transport cost	234,723 $	234,723 $	234,723 $	234,723 $	293,404 $	234,723 $	176,042 $	293,404 $	234,723 $	234,723 $	234,723 $	176,042 $	2,816,679 $	60.55
Discounts	120,722 $	117,216 $	117,216 $	117,216 $	146,519 $	117,216 $	87,912 $	146,519 $	117,216 $	117,216 $	117,216 $	87,912 $	1,410,092 $	30.31
Cost of sales	355,445 $	351,939 $	351,939 $	351,939 $	439,923 $	351,939 $	263,954 $	439,923 $	351,939 $	351,939 $	351,939 $	263,954 $	4,226,772 $	90.87
NET SALES	2,662,593 $	2,578,449 $	2,578,449 $	2,578,449 $	3,223,062 $	2,578,449 $	1,933,837 $	3,223,062 $	2,578,449 $	2,578,449 $	2,578,449 $	1,933,837 $	31,025,535 $	666.99
RAW MATERIAL SUPPLY														
Wood logs (m3)	11640	11640	11640	11640	14551	11640	8730	14551	11640	11640	11640	8730	139,686	3.00
Cost per m3	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $	44.81 $		
COST RAW MATERIAL	521,552 $	521,552 $	521,552 $	521,552 $	651,940 $	521,552 $	391,164 $	651,940 $	521,552 $	521,552 $	521,552 $	391,164 $	6,258,625 $	134.55
PRODUCTION COSTS														
WAGES														
Log yard	25,956 $	25,956 $	25,956 $	25,956 $	32,445 $	25,956 $	19,467 $	32,445 $	25,956 $	25,956 $	25,956 $	19,467 $	311,472 $	6.70
Log preparation	25,956 $	25,956 $	25,956 $	25,956 $	32,445 $	25,956 $	19,467 $	32,445 $	25,956 $	25,956 $	25,956 $	19,467 $	311,472 $	6.70
Green end	34,608 $	34,608 $	34,608 $	34,608 $	43,260 $	34,608 $	25,956 $	43,260 $	34,608 $	34,608 $	34,608 $	25,956 $	415,296 $	8.93
Dryer	34,608 $	34,608 $	34,608 $	34,608 $	43,260 $	34,608 $	25,956 $	43,260 $	34,608 $	34,608 $	34,608 $	25,956 $	415,296 $	8.93
Composer	8,652 $	8,652 $	8,652 $	8,652 $	10,815 $	8,652 $	6,489 $	10,815 $	8,652 $	8,652 $	8,652 $	6,489 $	103,824 $	2.23
Lay up & press line	103,824 $	103,824 $	103,824 $	103,824 $	129,780 $	103,824 $	77,868 $	129,780 $	103,824 $	103,824 $	103,824 $	77,868 $	1,245,888 $	26.78
Shipping	34,608 $	34,608 $	34,608 $	34,608 $	43,260 $	34,608 $	25,956 $	43,260 $	34,608 $	34,608 $	34,608 $	25,956 $	415,296 $	8.93
Heat plant	10,300 $	10,300 $	10,300 $	10,300 $	12,875 $	10,300 $	7,725 $	12,875 $	10,300 $	10,300 $	10,300 $	7,725 $	123,600 $	2.66
Millwrights (1st shift)	44,496 $	44,496 $	44,496 $	44,496 $	55,620 $	44,496 $	33,372 $	55,620 $	44,496 $	44,496 $	44,496 $	33,372 $	533,952 $	11.48
Millwrights (other shifts)	22,248 $	22,248 $	22,248 $	22,248 $	27,810 $	22,248 $	16,686 $	27,810 $	22,248 $	22,248 $	22,248 $	16,686 $	266,976 $	5.74
Electricians	22,248 $	22,248 $	22,248 $	22,248 $	27,810 $	22,248 $	16,686 $	27,810 $	22,248 $	22,248 $	22,248 $	16,686 $	266,976 $	5.74
Knife grinder	11,124 $	11,124 $	11,124 $	11,124 $	13,905 $	11,124 $	8,343 $	13,905 $	11,124 $	11,124 $	11,124 $	8,343 $	133,488 $	2.87
Quality control tech.	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	10,352 $	124,218 $	2.67
sub-total wages	388,980 $	388,980 $	388,980 $	388,980 $	483,637 $	388,980 $	294,323 $	483,637 $	388,980 $	388,980 $	388,980 $	294,323 $	4,667,754 $	100.35
Fringe benefits	97,245 $	97,245 $	97,245 $	97,245 $	120,909 $	97,245 $	73,581 $	120,909 $	97,245 $	97,245 $	97,245 $	73,581 $	1,166,939 $	25.09
Total production wages	486,224 $	486,224 $	486,224 $	486,224 $	604,546 $	486,224 $	367,903 $	604,546 $	486,224 $	486,224 $	486,224 $	367,903 $	5,834,693 $	125.44
Energy (electrical)	91,974 $	91,974 $	91,974 $	91,974 $	114,968 $	91,974 $	68,981 $	114,968 $	91,974 $	91,974 $	91,974 $	68,981 $	1,103,689 $	23.73
SUPPLIES														
Adhesives	241,740 $	241,740 $	241,740 $	241,740 $	302,176 $	241,740 $	181,305 $	302,176 $	241,740 $	241,740 $	241,740 $	181,305 $	2,900,885 $	62.36
Maintenance supplies	59,210 $	59,210 $	59,210 $	59,210 $	74,012 $	59,210 $	44,407 $	74,012 $	59,210 $	59,210 $	59,210 $	44,407 $	710,519 $	15.27
General supplies	56,415 $	56,415 $	56,415 $	56,415 $	70,519 $	56,415 $	42,311 $	70,519 $	56,415 $	56,415 $	56,415 $	42,311 $	676,981 $	14.55
OTHERS														
Equipment rental														
Personnel training	15,559 $	15,559 $	15,559 $	15,559 $	19,345 $	15,559 $	11,773 $	19,345 $	15,559 $	15,559 $	15,559 $	11,773 $	186,710 $	4.01
Sub-contracts														
sub-total supplies	372,925 $	372,925 $	372,925 $	372,925 $	466,052 $	372,925 $	279,797 $	466,052 $	372,925 $	372,925 $	372,925 $	279,797 $	4,475,095 $	96.21
TOTAL PRODUCTION COSTS	951,123 $	951,123 $	951,123 $	951,123 $	1,185,565 $	951,123 $	716,681 $	1,185,565 $	951,123 $	951,123 $	951,123 $	716,681 $	11,413,476 $	245.37
GROSS PROFIT MARGIN	1,189,918 $	1,105,774 $	1,105,774 $	1,105,774 $	1,385,556 $	1,105,774 $	825,992 $	1,385,556 $	1,105,774 $	1,105,774 $	1,105,774 $	825,992 $	13,353,434 $	287.08

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	10,815 $	129,780 $	2.79
Exec. Secretary	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	41,406 $	0.89
Directors	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	30,900 $	370,800 $	7.97
Prod. Assistant	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	49,440 $	1.06
Controller	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	6,901 $	82,812 $	1.78
Order desk	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	49,440 $	1.06
Sales person	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	123,600 $	2.66
Buyers	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	7,725 $	92,700 $	1.99
Clercs	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	11,948 $	143,376 $	3.08
Secretaries	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	7,416 $	88,992 $	1.91
sub-total wages	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	97,696 $	1,172,346 $	25.20
Fringe benefits	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	24,424 $	293,087 $	6.30
TOTAL WAGES	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	122,119 $	1,465,433 $	31.50
Marketing materiel (brochures, etc)	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	2,575 $	30,900 $	0.66
Publicity production fees	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	1,545 $	18,540 $	0.40
Advertising	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	24,720 $	0.53
													0 $	0.00
Stationary & Computer supplies	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	1,442 $	17,304 $	0.37
Mail & courrier	618 $	618 $	618 $	618 $	618 $	618 $	618 $	618 $	618 $	618 $	618 $	618 $	7,416 $	0.16
Communications	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	4,326 $	51,912 $	1.12
Insurance	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	6,438 $	77,250 $	1.66
Taxes	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	33,990 $	407,880 $	8.77
Certification fees	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	8,240 $	98,880 $	2.13
Legal fees	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	24,720 $	0.53
Accounting fees	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	1,854 $	22,248 $	0.48
Expense accounts (traveling, etc)	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	16,480 $	197,760 $	4.25
Equipment rental	824 $	824 $	824 $	824 $	824 $	824 $	824 $	824 $	824 $	824 $	824 $	824 $	9,888 $	0.21
Personnel training	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	4,885 $	58,617 $	1.26
sub-total	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	87,336 $	1,048,035 $	22.53
TOTAL ADMINISTRATION COSTS	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	209,456 $	2,513,468 $	54.04
AMORTIZATION														
Building amortization	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	627,500 $	13.49
Machinery amortization	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	317,828 $	3,813,930 $	81.99
Vehicles	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	8,667 $	104,000 $	2.24
sub-total amortization	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	378,786 $	4,545,430 $	97.72
FINANCIAL COSTS														
Capital reimbursement on long term	178,155 $	179,194 $	180,239 $	181,291 $	182,348 $	183,412 $	184,482 $	185,558 $	186,640 $	187,729 $	188,824 $	189,926 $	2,207,796 $	47.46
Interest (long term)	295,014 $	293,975 $	292,929 $	291,878 $	290,820 $	289,757 $	288,687 $	287,611 $	286,528 $	285,439 $	284,344 $	283,243 $	3,470,225 $	74.60
Interest (short term) Yard	18,254 $	18,254 $	18,254 $	18,254 $	22,818 $	18,254 $	13,691 $	22,818 $	18,254 $	18,254 $	18,254 $	13,691 $	219,052 $	4.71
LVL	8,385 $	8,385 $	8,385 $	8,385 $	10,481 $	8,385 $	6,288 $	10,481 $	8,385 $	8,385 $	8,385 $	6,288 $	100,614 $	2.16
sub-total financial	321,653 $	320,613 $	319,568 $	318,517 $	324,119 $	316,395 $	308,666 $	320,909 $	313,167 $	312,078 $	310,983 $	303,222 $	3,789,891 $	81.48
TOTAL COST	2,738,014 $	2,733,469 $	2,732,423 $	2,731,372 $	3,189,789 $	2,729,251 $	2,268,706 $	3,186,580 $	2,726,022 $	2,724,934 $	2,723,839 $	2,263,262 $	32,747,661 $	704.02
CASH GENERATED	658,810 $	575,705 $	576,750 $	577,802 $	851,981 $	579,923 $	307,871 $	855,191 $	583,151 $	584,240 $	585,335 $	313,315 $	7,050,075 $	151.56
Cash generated components	235,875 $	235,969 $	236,028 $	236,087 $	310,407 $	236,206 $	162,005 $	310,588 $	236,387 $	236,448 $	236,510 $	162,311 $	2,834,822 $	60.94
TOTAL CASH GENERATED	894,685 $	811,674 $	812,778 $	813,889 $	1,162,389 $	816,129 $	469,876 $	1,165,779 $	819,539 $	820,689 $	821,845 $	475,625 $	9,884,897 $	212.51
NET PROFIT (before tax)	280,024 $	196,919 $	197,965 $	199,016 $	473,196 $	201,137 $	70,915 $	476,405 $	204,366 $	205,454 $	206,549 $	65,471 $	2,504,645 $	53.85
Net profits components	209,087 $	209,182 $	209,240 $	209,299 $	283,620 $	209,419 $	135,218 $	283,800 $	209,600 $	209,661 $	209,722 $	135,523 $	2,513,372 $	54.03
NET PROFIT TOTAL	489,112 $	406,101 $	407,205 $	408,315 $	756,816 $	410,556 $	64,303 $	760,205 $	413,965 $	415,115 $	416,272 $	70,052 $	5,018,017 $	107.88
CUMULATIVE (PROFIT)	7,384,822 $	6,978,721 $	6,571,516 $	6,163,201 $	5,406,385 $	4,995,830 $	4,931,527 $	4,171,322 $	3,757,356 $	3,342,241 $	2,925,969 $	2,855,917 $		
Cash at startup	0 $													
CASHFLOW	2,365,951 $	3,177,625 $	3,990,404 $	4,804,292 $	5,966,681 $	6,782,810 $	7,252,686 $	8,418,465 $	9,238,004 $	10,058,693 $	10,880,538 $	11,356,163 $		

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	480	480	480	480	600	480	360	600	480	480	480	360	5,760	
PRODUCTION														
Press cycle (min)	21	21	21	21	21	21	21	21	21	21	21	21		
Cycles in month	1371	1371	1371	1371	1714	1371	1029	1714	1371	1371	1371	1029	16,457	
Output per cycle (m3)	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	4942	4942	4942	4942	6178	4942	3707	6178	4942	4942	4942	3707	59,307	
SALES														
LVL (m3)	4942	4942	4942	4942	6178	4942	3707	6178	4942	4942	4942	3707	59,307	←
Selling price / m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
Gross sales LVL	3,665,227 $	3,665,227 $	3,665,227 $	3,665,227 $	4,581,534 $	3,665,227 $	2,748,920 $	4,581,534 $	3,665,227 $	3,665,227 $	3,665,227 $	2,748,920 $	43,982,723 $	741.61
By products	182,772 $	71,018 $	71,018 $	71,018 $	88,772 $	71,018 $	53,263 $	88,772 $	71,018 $	71,018 $	71,018 $	53,263 $	963,968 $	16.25
Gross sales	3,847,999 $	3,736,245 $	3,736,245 $	3,736,245 $	4,670,306 $	3,736,245 $	2,802,184 $	4,670,306 $	3,736,245 $	3,736,245 $	3,736,245 $	2,802,184 $	44,946,691 $	757.86
Transport cost	308,250 $	308,250 $	308,250 $	308,250 $	385,313 $	308,250 $	231,188 $	385,313 $	308,250 $	308,250 $	308,250 $	231,188 $	3,699,004 $	62.37
Discounts	153,920 $	149,450 $	149,450 $	149,450 $	186,812 $	149,450 $	112,087 $	186,812 $	149,450 $	149,450 $	149,450 $	112,087 $	1,797,868 $	30.31
Cost of sales	462,170 $	457,700 $	457,700 $	457,700 $	572,125 $	457,700 $	343,275 $	572,125 $	457,700 $	457,700 $	457,700 $	343,275 $	5,496,872 $	92.68
NET SALES	3,385,828 $	3,278,545 $	3,278,545 $	3,278,545 $	4,098,181 $	3,278,545 $	2,458,908 $	4,098,181 $	3,278,545 $	3,278,545 $	3,278,545 $	2,458,908 $	39,449,819 $	665.18
RAW MATERIAL SUPPLY														
Wood logs (m3)	14842	14842	14842	14842	18552	14842	11131	18552	14842	14842	14842	11131	178,099	3.00
Cost per m3	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $	46.15 $		
COST RAW MATERIAL	684,928 $	684,928 $	684,928 $	684,928 $	856,160 $	684,928 $	513,696 $	856,160 $	684,928 $	684,928 $	684,928 $	513,696 $	8,219,139 $	138.59
PRODUCTION COSTS														
WAGES														
Log yard	32,082 $	32,082 $	32,082 $	32,082 $	40,102 $	32,082 $	24,061 $	40,102 $	32,082 $	32,082 $	32,082 $	24,061 $	384,979 $	6.49
Log preparation	32,082 $	32,082 $	32,082 $	32,082 $	40,102 $	32,082 $	24,061 $	40,102 $	32,082 $	32,082 $	32,082 $	24,061 $	384,979 $	6.49
Green end	42,775 $	42,775 $	42,775 $	42,775 $	53,469 $	42,775 $	32,082 $	53,469 $	42,775 $	42,775 $	42,775 $	32,082 $	513,306 $	8.66
Dryer	42,775 $	42,775 $	42,775 $	42,775 $	53,469 $	42,775 $	32,082 $	53,469 $	42,775 $	42,775 $	42,775 $	32,082 $	513,306 $	8.66
Composer	10,694 $	10,694 $	10,694 $	10,694 $	13,367 $	10,694 $	8,020 $	13,367 $	10,694 $	10,694 $	10,694 $	8,020 $	128,326 $	2.16
Lay up & press line	128,326 $	128,326 $	128,326 $	128,326 $	160,408 $	128,326 $	96,245 $	160,408 $	128,326 $	128,326 $	128,326 $	96,245 $	1,539,918 $	25.97
Shipping	42,775 $	42,775 $	42,775 $	42,775 $	53,469 $	42,775 $	32,082 $	53,469 $	42,775 $	42,775 $	42,775 $	32,082 $	513,306 $	8.66
Heat plant	12,731 $	12,731 $	12,731 $	12,731 $	15,914 $	12,731 $	9,548 $	15,914 $	12,731 $	12,731 $	12,731 $	9,548 $	152,770 $	2.58
Millwrights (1st shift)	54,997 $	54,997 $	54,997 $	54,997 $	68,746 $	54,997 $	41,248 $	68,746 $	54,997 $	54,997 $	54,997 $	41,248 $	659,965 $	11.13
Millwrights (other shifts)	27,499 $	27,499 $	27,499 $	27,499 $	34,373 $	27,499 $	20,624 $	34,373 $	27,499 $	27,499 $	27,499 $	20,624 $	329,982 $	5.56
Electricians	27,499 $	27,499 $	27,499 $	27,499 $	34,373 $	27,499 $	20,624 $	34,373 $	27,499 $	27,499 $	27,499 $	20,624 $	329,982 $	5.56
Knife grinder	13,749 $	13,749 $	13,749 $	13,749 $	17,187 $	13,749 $	10,312 $	17,187 $	13,749 $	13,749 $	13,749 $	10,312 $	164,991 $	2.78
Quality control tech.	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	127,945 $	2.16
sub-total wages	478,646 $	478,646 $	478,646 $	478,646 $	595,642 $	478,646 $	361,650 $	595,642 $	478,646 $	478,646 $	478,646 $	361,650 $	5,743,755 $	96.85
Fringe benefits	119,662 $	119,662 $	119,662 $	119,662 $	148,911 $	119,662 $	90,413 $	148,911 $	119,662 $	119,662 $	119,662 $	90,413 $	1,435,939 $	24.21
Total production wages	598,308 $	598,308 $	598,308 $	598,308 $	744,553 $	598,308 $	452,063 $	744,553 $	598,308 $	598,308 $	598,308 $	452,063 $	7,179,694 $	121.06
Energy (electrical)	113,680 $	113,680 $	113,680 $	113,680 $	142,100 $	113,680 $	85,260 $	142,100 $	113,680 $	113,680 $	113,680 $	85,260 $	1,364,159 $	23.00
SUPPLIES														
Adhesives	317,466 $	317,466 $	317,466 $	317,466 $	396,832 $	317,466 $	238,099 $	396,832 $	317,466 $	317,466 $	317,466 $	238,099 $	3,809,588 $	64.23
Maintenance supplies	77,757 $	77,757 $	77,757 $	77,757 $	97,197 $	77,757 $	58,318 $	97,197 $	77,757 $	77,757 $	77,757 $	58,318 $	933,089 $	15.73
General supplies	74,087 $	74,087 $	74,087 $	74,087 $	92,609 $	74,087 $	55,565 $	92,609 $	74,087 $	74,087 $	74,087 $	55,565 $	889,045 $	14.99
OTHERS														
Equipment rental														
Personnel training	19,146 $	19,146 $	19,146 $	19,146 $	23,826 $	19,146 $	14,466 $	23,826 $	19,146 $	19,146 $	19,146 $	14,466 $	229,750 $	3.87
Sub-contracts														
sub-total supplies	488,456 $	488,456 $	488,456 $	488,456 $	610,463 $	488,456 $	366,449 $	610,463 $	488,456 $	488,456 $	488,456 $	366,449 $	5,861,472 $	98.83
TOTAL PRODUCTION COSTS	1,200,444 $	1,200,444 $	1,200,444 $	1,200,444 $	1,497,116 $	1,200,444 $	903,771 $	1,497,116 $	1,200,444 $	1,200,444 $	1,200,444 $	903,771 $	14,405,325 $	242.89
GROSS PROFIT MARGIN	1,500,456 $	1,393,173 $	1,393,173 $	1,393,173 $	1,744,904 $	1,393,173 $	1,041,441 $	1,744,904 $	1,393,173 $	1,393,173 $	1,393,173 $	1,041,441 $	16,825,355 $	283.70

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	11,139 $	133,673 $	2.25
Exec. Secretary	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	42,648 $	0.72
Directors	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	31,827 $	381,924 $	6.44
Prod. Assistant	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	50,923 $	0.86
Controller	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	7,108 $	85,296 $	1.44
Order desk	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	50,923 $	0.86
Sales person	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	127,308 $	2.15
Buyers	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	7,957 $	95,481 $	1.61
Clercs	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	12,306 $	147,677 $	2.49
Secretaries	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	7,638 $	91,662 $	1.55
sub-total wages	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	100,626 $	1,207,516 $	20.36
Fringe benefits	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	25,157 $	301,879 $	5.09
TOTAL WAGES	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	125,783 $	1,509,395 $	25.45
Marketing materiel (brochures, etc)	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	2,652 $	31,827 $	0.54
Publicity production fees	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	1,591 $	19,096 $	0.32
Advertising	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	25,462 $	0.43
													0 $	0.00
Stationary & Computer supplies	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	1,485 $	17,823 $	0.30
Mail & courrier	637 $	637 $	637 $	637 $	637 $	637 $	637 $	637 $	637 $	637 $	637 $	637 $	7,638 $	0.13
Communications	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	4,456 $	53,469 $	0.90
Insurance	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	6,631 $	79,568 $	1.34
Taxes	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	35,010 $	420,116 $	7.08
Certification fees	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	8,487 $	101,846 $	1.72
Legal fees	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	25,462 $	0.43
Accounting fees	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	1,910 $	22,915 $	0.39
Expense accounts (traveling, etc)	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	16,974 $	203,693 $	3.43
Equipment rental	849 $	849 $	849 $	849 $	849 $	849 $	849 $	849 $	849 $	849 $	849 $	849 $	10,185 $	0.17
Personnel training	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	5,031 $	60,376 $	1.02
sub-total	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	89,956 $	1,079,476 $	18.20
TOTAL ADMINISTRATION COSTS	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	215,739 $	2,588,872 $	43.65
AMORTIZATION														
Building amortization	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	627,500 $	10.58
Machinery amortization	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	286,045 $	3,432,537 $	57.88
Vehicles	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	6,933 $	83,200 $	1.40
sub-total amortization	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	345,270 $	4,143,237 $	69.86
FINANCIAL COSTS														
Capital reimbursement on long term	191,033 $	192,148 $	193,269 $	194,396 $	195,530 $	196,671 $	197,818 $	198,972 $	200,132 $	201,300 $	202,474 $	203,655 $	2,367,398 $	39.92
Interest (long term)	282,135 $	281,021 $	279,900 $	278,772 $	277,638 $	276,498 $	275,351 $	274,197 $	273,036 $	271,869 $	270,694 $	269,513 $	3,310,623 $	55.82
Interest (short term) Yard	23,972 $	23,972 $	23,972 $	23,972 $	29,966 $	23,972 $	17,979 $	29,966 $	23,972 $	23,972 $	23,972 $	17,979 $	287,670 $	4.85
LVL	10,690 $	10,690 $	10,690 $	10,690 $	13,363 $	10,690 $	8,018 $	13,363 $	10,690 $	10,690 $	10,690 $	8,018 $	128,283 $	2.16
sub-total financial	316,798 $	315,683 $	314,563 $	313,435 $	320,967 $	311,161 $	301,348 $	317,525 $	307,699 $	306,531 $	305,357 $	295,510 $	3,726,576 $	62.84
TOTAL COST	3,225,349 $	3,219,765 $	3,218,644 $	3,217,516 $	3,807,378 $	3,215,242 $	2,623,099 $	3,803,936 $	3,211,780 $	3,210,612 $	3,209,438 $	2,617,262 $	38,580,020 $	650.51
CASH GENERATED	967,919 $	861,750 $	862,871 $	863,998 $	1,208,198 $	866,273 $	524,354 $	1,211,640 $	869,735 $	870,902 $	872,076 $	530,191 $	10,509,908 $	177.21
Cash generated components	329,578 $	329,636 $	329,695 $	329,754 $	427,796 $	329,873 $	231,950 $	427,976 $	330,054 $	330,115 $	330,177 $	232,256 $	3,958,860 $	66.75
TOTAL CASH GENERATED	1,297,497 $	1,191,386 $	1,192,566 $	1,193,752 $	1,635,994 $	1,196,146 $	756,304 $	1,639,616 $	1,199,789 $	1,201,017 $	1,202,253 $	762,447 $	14,468,768 $	243.96
NET PROFIT (before tax)	622,650 $	516,480 $	517,601 $	518,728 $	862,928 $	521,003 $	179,084 $	866,370 $	524,465 $	525,632 $	526,807 $	184,922 $	6,366,671 $	107.35
Net profits components	304,932 $	304,990 $	305,049 $	305,108 $	403,150 $	305,227 $	207,304 $	403,330 $	305,408 $	305,469 $	305,531 $	207,610 $	2,513,372 $	42.38
NET PROFIT TOTAL	927,581 $	821,470 $	822,650 $	823,836 $	1,266,078 $	826,230 $	386,388 $	1,269,700 $	829,873 $	831,101 $	832,337 $	392,531 $	8,880,042 $	149.73
CUMULATIVE (PROFIT)	1,928,336 $	1,106,866 $	284,216 $	539,620 $	1,805,698 $	2,631,928 $	3,018,316 $	4,288,016 $	5,117,889 $	5,948,991 $	6,781,328 $	7,173,859 $		
Cash at startup	0 $													
CASHFLOW	12,653,660 $	13,845,046 $	15,037,612 $	16,231,364 $	17,867,358 $	19,063,504 $	19,819,808 $	21,459,424 $	22,659,213 $	23,860,231 $	25,062,484 $	25,824,931 $		

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	480	480	480	480	600	480	360	600	480	480	480	360	5,760	
PRODUCTION														
Press cycle (min)	21	21	21	21	21	21	21	21	21	21	21	21		
Cycles in month	1371	1371	1371	1371	1714	1371	1029	1714	1371	1371	1371	1029	16,457	
Output per cycle (m3)	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	4942	4942	4942	4942	6178	4942	3707	6178	4942	4942	4942	3707	59,307	
SALES														
LVL (m3)	4942	4942	4942	4942	6178	4942	3707	6178	4942	4942	4942	3707	59,307	←
Selling price / m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
Gross sales LVL	3,665,227 $	3,665,227 $	3,665,227 $	3,665,227 $	4,581,534 $	3,665,227 $	2,748,920 $	4,581,534 $	3,665,227 $	3,665,227 $	3,665,227 $	2,748,920 $	43,982,723 $	741.61
By products	182,772 $	71,018 $	71,018 $	71,018 $	88,772 $	71,018 $	53,263 $	88,772 $	71,018 $	71,018 $	71,018 $	53,263 $	963,968 $	16.25
Gross sales	3,847,999 $	3,736,245 $	3,736,245 $	3,736,245 $	4,670,306 $	3,736,245 $	2,802,184 $	4,670,306 $	3,736,245 $	3,736,245 $	3,736,245 $	2,802,184 $	44,946,691 $	757.86
Transport cost	317,498 $	317,498 $	317,498 $	317,498 $	396,872 $	317,498 $	238,123 $	396,872 $	317,498 $	317,498 $	317,498 $	238,123 $	3,809,974 $	64.24
Discounts	153,920 $	149,450 $	149,450 $	149,450 $	186,812 $	149,450 $	112,087 $	186,812 $	149,450 $	149,450 $	149,450 $	112,087 $	1,797,868 $	30.31
Cost of sales	471,418 $	466,948 $	466,948 $	466,948 $	583,685 $	466,948 $	350,211 $	583,685 $	466,948 $	466,948 $	466,948 $	350,211 $	5,607,842 $	94.56
NET SALES	3,376,581 $	3,269,297 $	3,269,297 $	3,269,297 $	4,086,621 $	3,269,297 $	2,451,973 $	4,086,621 $	3,269,297 $	3,269,297 $	3,269,297 $	2,451,973 $	39,338,849 $	663.31
RAW MATERIAL SUPPLY														
Wood logs (m3)	14842	14842	14842	14842	18552	14842	11131	18552	14842	14842	14842	11131	178,099	3.00
Cost per m3	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $	47.53 $		
COST RAW MATERIAL	705,476 $	705,476 $	705,476 $	705,476 $	881,845 $	705,476 $	529,107 $	881,845 $	705,476 $	705,476 $	705,476 $	529,107 $	8,465,713 $	142.74
PRODUCTION COSTS														
WAGES														
Log yard	33,044 $	33,044 $	33,044 $	33,044 $	41,305 $	33,044 $	24,783 $	41,305 $	33,044 $	33,044 $	33,044 $	24,783 $	396,529 $	6.69
Log preparation	33,044 $	33,044 $	33,044 $	33,044 $	41,305 $	33,044 $	24,783 $	41,305 $	33,044 $	33,044 $	33,044 $	24,783 $	396,529 $	6.69
Green end	44,059 $	44,059 $	44,059 $	44,059 $	55,073 $	44,059 $	33,044 $	55,073 $	44,059 $	44,059 $	44,059 $	33,044 $	528,705 $	8.91
Dryer	44,059 $	44,059 $	44,059 $	44,059 $	55,073 $	44,059 $	33,044 $	55,073 $	44,059 $	44,059 $	44,059 $	33,044 $	528,705 $	8.91
Composer	11,015 $	11,015 $	11,015 $	11,015 $	13,768 $	11,015 $	8,261 $	13,768 $	11,015 $	11,015 $	11,015 $	8,261 $	132,176 $	2.23
Lay up & press line	132,176 $	132,176 $	132,176 $	132,176 $	165,220 $	132,176 $	99,132 $	165,220 $	132,176 $	132,176 $	132,176 $	99,132 $	1,586,115 $	26.74
Shipping	44,059 $	44,059 $	44,059 $	44,059 $	55,073 $	44,059 $	33,044 $	55,073 $	44,059 $	44,059 $	44,059 $	33,044 $	528,705 $	8.91
Heat plant	13,113 $	13,113 $	13,113 $	13,113 $	16,391 $	13,113 $	9,835 $	16,391 $	13,113 $	13,113 $	13,113 $	9,835 $	157,353 $	2.65
Millwrights (1st shift)	56,647 $	56,647 $	56,647 $	56,647 $	70,809 $	56,647 $	42,485 $	70,809 $	56,647 $	56,647 $	56,647 $	42,485 $	679,764 $	11.46
Millwrights (other shifts)	28,323 $	28,323 $	28,323 $	28,323 $	35,404 $	28,323 $	21,243 $	35,404 $	28,323 $	28,323 $	28,323 $	21,243 $	339,882 $	5.73
Electricians	28,323 $	28,323 $	28,323 $	28,323 $	35,404 $	28,323 $	21,243 $	35,404 $	28,323 $	28,323 $	28,323 $	21,243 $	339,882 $	5.73
Knife grinder	14,162 $	14,162 $	14,162 $	14,162 $	17,702 $	14,162 $	10,621 $	17,702 $	14,162 $	14,162 $	14,162 $	10,621 $	169,941 $	2.87
Quality control tech.	10,982 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	10,662 $	128,264 $	2.16
sub-total wages	493,006 $	492,686 $	492,686 $	492,686 $	613,192 $	492,686 $	372,180 $	613,192 $	492,686 $	492,686 $	492,686 $	372,180 $	5,912,549 $	99.69
Fringe benefits	123,251 $	123,171 $	123,171 $	123,171 $	153,298 $	123,171 $	93,045 $	153,298 $	123,171 $	123,171 $	123,171 $	93,045 $	1,478,137 $	24.92
Total production wages	616,257 $	615,857 $	615,857 $	615,857 $	766,490 $	615,857 $	465,225 $	766,490 $	615,857 $	615,857 $	615,857 $	465,225 $	7,390,687 $	124.62
Energy (electrical)	117,090 $	117,090 $	117,090 $	117,090 $	146,363 $	117,090 $	87,818 $	146,363 $	117,090 $	117,090 $	117,090 $	87,818 $	1,405,084 $	23.69
SUPPLIES														
Adhesives	326,990 $	326,990 $	326,990 $	326,990 $	408,737 $	326,990 $	245,242 $	408,737 $	326,990 $	326,990 $	326,990 $	245,242 $	3,923,875 $	66.16
Maintenance supplies	80,090 $	80,090 $	80,090 $	80,090 $	100,113 $	80,090 $	60,068 $	100,113 $	80,090 $	80,090 $	80,090 $	60,068 $	961,081 $	16.21
General supplies	76,310 $	76,310 $	76,310 $	76,310 $	95,387 $	76,310 $	57,232 $	95,387 $	76,310 $	76,310 $	76,310 $	57,232 $	915,717 $	15.44
OTHERS														
Equipment rental														
Personnel training	19,720 $	19,707 $	19,707 $	19,707 $	24,528 $	19,707 $	14,887 $	24,528 $	19,707 $	19,707 $	19,707 $	14,887 $	236,502 $	3.99
Sub-contracts														
sub-total supplies	503,110 $	503,097 $	503,097 $	503,097 $	628,764 $	503,097 $	377,429 $	628,764 $	503,097 $	503,097 $	503,097 $	377,429 $	6,037,175 $	101.80
TOTAL PRODUCTION COSTS	1,236,457 $	1,236,044 $	1,236,044 $	1,236,044 $	1,541,617 $	1,236,044 $	930,472 $	1,541,617 $	1,236,044 $	1,236,044 $	1,236,044 $	930,472 $	14,832,946 $	250.10
GROSS PROFIT MARGIN	1,434,648 $	1,327,777 $	1,327,777 $	1,327,777 $	1,663,159 $	1,327,777 $	992,394 $	1,663,159 $	1,327,777 $	1,327,777 $	1,327,777 $	992,394 $	16,040,190 $	270.46

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ADMINISTRATION COSTS														
WAGES														
General manager	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	11,474 $	137,684 $	2.32
Exec. Secretary	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	43,928 $	0.74
Directors	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	32,782 $	393,382 $	6.63
Prod. Assistant	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	52,451 $	0.88
Controller	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	7,321 $	87,855 $	1.48
Order desk	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	52,451 $	0.88
Sales person	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	131,127 $	2.21
Buyers	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	8,195 $	98,345 $	1.66
Clercs	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	12,676 $	152,108 $	2.56
Secretaries	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	7,868 $	94,412 $	1.59
sub-total wages	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	103,645 $	1,243,742 $	20.97
Fringe benefits	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	25,911 $	310,935 $	5.24
TOTAL WAGES	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	129,556 $	1,554,677 $	26.21
Marketing materiel (brochures, etc)	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	32,782 $	0.55
Publicity production fees	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	19,669 $	0.33
Advertising	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	26,225 $	0.44
													0 $	0.00
Stationary & Computer supplies	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	1,530 $	18,358 $	0.31
Mail & courrier	656 $	656 $	656 $	656 $	656 $	656 $	656 $	656 $	656 $	656 $	656 $	656 $	7,868 $	0.13
Communications	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	4,589 $	55,073 $	0.93
Insurance	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	6,830 $	81,955 $	1.38
Taxes	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	36,060 $	432,720 $	7.30
Certification fees	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	8,742 $	104,902 $	1.77
Legal fees	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	26,225 $	0.44
Accounting fees	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	1,967 $	23,603 $	0.40
Expense accounts (traveling, etc)	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	17,484 $	209,804 $	3.54
Equipment rental	874 $	874 $	874 $	874 $	874 $	874 $	874 $	874 $	874 $	874 $	874 $	874 $	10,490 $	0.18
Personnel training	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	5,182 $	62,187 $	1.05
sub-total	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	92,655 $	1,111,861 $	18.75
TOTAL ADMINISTRATION COSTS	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	222,211 $	2,666,538 $	44.96
AMORTIZATION														
Building amortization	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	627,500 $	10.58
Machinery amortization	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	257,440 $	3,089,283 $	52.09
Vehicles	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	5,547 $	66,560 $	1.12
sub-total amortization	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	315,279 $	3,783,343 $	63.79
FINANCIAL COSTS														
Capital reimbursement on long term	204,843 $	206,038 $	207,240 $	208,449 $	209,665 $	210,888 $	212,118 $	213,355 $	214,600 $	215,852 $	217,111 $	218,378 $	2,538,537 $	42.80
Interest (long term)	268,325 $	267,130 $	265,928 $	264,719 $	263,504 $	262,280 $	261,050 $	259,813 $	258,568 $	257,317 $	256,057 $	254,791 $	3,139,484 $	52.94
Interest (short term) Yard	24,692 $	24,692 $	24,692 $	24,692 $	30,865 $	24,692 $	18,519 $	30,865 $	24,692 $	24,692 $	24,692 $	18,519 $	296,300 $	5.00
LVL	10,690 $	10,690 $	10,690 $	10,690 $	13,363 $	10,690 $	8,018 $	13,363 $	10,690 $	10,690 $	10,690 $	8,018 $	128,283 $	2.16
sub-total financial	303,707 $	302,512 $	301,310 $	300,101 $	307,731 $	297,662 $	287,587 $	304,040 $	293,950 $	292,698 $	291,439 $	281,327 $	3,564,067 $	60.10
TOTAL COST	3,254,548 $	3,248,470 $	3,247,269 $	3,246,060 $	3,852,368 $	3,243,621 $	2,634,866 $	3,848,677 $	3,239,909 $	3,238,657 $	3,237,398 $	2,628,607 $	38,920,449 $	656.25
CASH GENERATED	908,729 $	803,053 $	804,255 $	805,464 $	1,133,217 $	807,903 $	482,596 $	1,136,907 $	811,615 $	812,867 $	814,126 $	488,855 $	9,809,586 $	165.40
Cash generated components	323,903 $	323,961 $	324,020 $	324,079 $	421,007 $	324,198 $	227,389 $	421,187 $	324,379 $	324,440 $	324,502 $	227,695 $	3,890,759 $	65.60
TOTAL CASH GENERATED	1,232,632 $	1,127,014 $	1,128,275 $	1,129,542 $	1,554,224 $	1,132,101 $	709,985 $	1,558,095 $	1,135,994 $	1,137,307 $	1,138,628 $	716,550 $	13,700,345 $	231.01
NET PROFIT (before tax)	593,451 $	487,774 $	488,976 $	490,185 $	817,938 $	492,624 $	167,317 $	821,629 $	496,336 $	497,588 $	498,847 $	173,576 $	6,026,242 $	101.61
Net profits components	301,184 $	301,242 $	301,301 $	301,360 $	398,288 $	301,479 $	204,670 $	398,468 $	301,660 $	301,721 $	301,783 $	204,976 $	2,513,372 $	42.38
NET PROFIT TOTAL	894,634 $	789,016 $	790,277 $	791,545 $	1,216,226 $	794,103 $	371,987 $	1,220,097 $	797,996 $	799,309 $	800,630 $	378,552 $	8,539,614 $	143.99
CUMULATIVE (PROFIT)	8,068,493 $	8,857,510 $	9,647,786 $	10,439,331 $	11,655,557 $	12,449,660 $	12,821,647 $	14,041,744 $	14,839,740 $	15,639,049 $	16,439,679 $	16,818,231 $		
Cash at startup	0 $													
CASHFLOW	27,057,563 $	28,184,577 $	29,312,852 $	30,442,394 $	31,996,618 $	33,128,718 $	33,838,703 $	35,396,798 $	36,532,792 $	37,670,099 $	38,808,726 $	39,525,276 $		

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	624	624	624	624	780	624	468	780	624	624	624	468	7,488	
PRODUCTION														
Press cycle (min)	21	21	21	21	21	21	21	21	21	21	21	21		
Cycles in month	1783	1783	1783	1783	2229	1783	1337	2229	1783	1783	1783	1337	21,394	
Output per cycle (m3)	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	6425	6425	6425	6425	8031	6425	4819	8031	6425	6425	6425	4819	77,099	
SALES														
LVL (m3)	6425	6425	6425	6425	8031	6425	4819	8031	6425	6425	6425	4819	77,099	←
Selling price / m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
Gross sales LVL	4,764,795 $	4,764,795 $	4,764,795 $	4,764,795 $	5,955,994 $	4,764,795 $	3,573,596 $	5,955,994 $	4,764,795 $	4,764,795 $	4,764,795 $	3,573,596 $	57,177,539 $	741.61
By products	237,603 $	92,323 $	92,323 $	92,323 $	115,404 $	92,323 $	69,242 $	115,404 $	92,323 $	92,323 $	92,323 $	69,242 $	1,253,159 $	16.25
Gross sales	5,002,398 $	4,857,118 $	4,857,118 $	4,857,118 $	6,071,398 $	4,857,118 $	3,642,839 $	6,071,398 $	4,857,118 $	4,857,118 $	4,857,118 $	3,642,839 $	58,430,698 $	757.86
Transport cost	425,130 $	425,130 $	425,130 $	425,130 $	531,412 $	425,130 $	318,847 $	531,412 $	425,130 $	425,130 $	425,130 $	318,847 $	5,101,555 $	66.17
Discounts	200,096 $	194,285 $	194,285 $	194,285 $	242,856 $	194,285 $	145,714 $	242,856 $	194,285 $	194,285 $	194,285 $	145,714 $	2,337,228 $	30.31
Cost of sales	625,226 $	619,414 $	619,414 $	619,414 $	774,268 $	619,414 $	464,561 $	774,268 $	619,414 $	619,414 $	619,414 $	464,561 $	7,438,783 $	96.48
NET SALES	4,377,173 $	4,237,704 $	4,237,704 $	4,237,704 $	5,297,130 $	4,237,704 $	3,178,278 $	5,297,130 $	4,237,704 $	4,237,704 $	4,237,704 $	3,178,278 $	50,991,915 $	661.38
RAW MATERIAL SUPPLY														
Wood logs (m3)	19294	19294	19294	19294	24118	19294	14471	24118	19294	19294	19294	14471	231,529	3.00
Cost per m3	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $	48.96 $		
COST RAW MATERIAL	944,633 $	944,633 $	944,633 $	944,633 $	1,180,791 $	944,633 $	708,474 $	1,180,791 $	944,633 $	944,633 $	944,633 $	708,474 $	11,335,590 $	147.03
PRODUCTION COSTS														
WAGES														
Log yard	44,246 $	44,246 $	44,246 $	44,246 $	55,308 $	44,246 $	33,185 $	55,308 $	44,246 $	44,246 $	44,246 $	33,185 $	530,952 $	6.89
Log preparation	44,246 $	44,246 $	44,246 $	44,246 $	55,308 $	44,246 $	33,185 $	55,308 $	44,246 $	44,246 $	44,246 $	33,185 $	530,952 $	6.89
Green end	58,995 $	58,995 $	58,995 $	58,995 $	73,743 $	58,995 $	44,246 $	73,743 $	58,995 $	58,995 $	58,995 $	44,246 $	707,936 $	9.18
Dryer	58,995 $	58,995 $	58,995 $	58,995 $	73,743 $	58,995 $	44,246 $	73,743 $	58,995 $	58,995 $	58,995 $	44,246 $	707,936 $	9.18
Composer	14,749 $	14,749 $	14,749 $	14,749 $	18,436 $	14,749 $	11,062 $	18,436 $	14,749 $	14,749 $	14,749 $	11,062 $	176,984 $	2.30
Lay up & press line	176,984 $	176,984 $	176,984 $	176,984 $	221,230 $	176,984 $	132,738 $	221,230 $	176,984 $	176,984 $	176,984 $	132,738 $	2,123,808 $	27.55
Shipping	58,995 $	58,995 $	58,995 $	58,995 $	73,743 $	58,995 $	44,246 $	73,743 $	58,995 $	58,995 $	58,995 $	44,246 $	707,936 $	9.18
Heat plant	17,558 $	17,558 $	17,558 $	17,558 $	21,947 $	17,558 $	13,168 $	21,947 $	17,558 $	17,558 $	17,558 $	13,168 $	210,695 $	2.73
Millwrights (1st shift)	75,850 $	75,850 $	75,850 $	75,850 $	94,813 $	75,850 $	56,888 $	94,813 $	75,850 $	75,850 $	75,850 $	56,888 $	910,203 $	11.81
Millwrights (other shifts)	37,925 $	37,925 $	37,925 $	37,925 $	47,406 $	37,925 $	28,444 $	47,406 $	37,925 $	37,925 $	37,925 $	28,444 $	455,102 $	5.90
Electricians	37,925 $	37,925 $	37,925 $	37,925 $	47,406 $	37,925 $	28,444 $	47,406 $	37,925 $	37,925 $	37,925 $	28,444 $	455,102 $	5.90
Knife grinder	18,963 $	18,963 $	18,963 $	18,963 $	23,703 $	18,963 $	14,222 $	23,703 $	18,963 $	18,963 $	18,963 $	14,222 $	227,551 $	2.95
Quality control tech.	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	11,311 $	135,736 $	1.76
sub-total wages	656,741 $	656,741 $	656,741 $	656,741 $	818,099 $	656,741 $	495,384 $	818,099 $	656,741 $	656,741 $	656,741 $	495,384 $	7,880,894 $	102.22
Fringe benefits	164,185 $	164,185 $	164,185 $	164,185 $	204,525 $	164,185 $	123,846 $	204,525 $	164,185 $	164,185 $	164,185 $	123,846 $	1,970,223 $	25.55
Total production wages	820,926 $	820,926 $	820,926 $	820,926 $	1,022,623 $	820,926 $	619,230 $	1,022,623 $	820,926 $	820,926 $	820,926 $	619,230 $	9,851,117 $	127.77
Energy (electrical)	156,784 $	156,784 $	156,784 $	156,784 $	195,980 $	156,784 $	117,588 $	195,980 $	156,784 $	156,784 $	156,784 $	117,588 $	1,881,407 $	24.40
SUPPLIES														
Adhesives	437,839 $	437,839 $	437,839 $	437,839 $	547,299 $	437,839 $	328,379 $	547,299 $	437,839 $	437,839 $	437,839 $	328,379 $	5,254,069 $	68.15
Maintenance supplies	107,241 $	107,241 $	107,241 $	107,241 $	134,051 $	107,241 $	80,430 $	134,051 $	107,241 $	107,241 $	107,241 $	80,430 $	1,286,888 $	16.69
General supplies	102,179 $	102,179 $	102,179 $	102,179 $	127,723 $	102,179 $	76,634 $	127,723 $	102,179 $	102,179 $	102,179 $	76,634 $	1,226,145 $	15.90
OTHERS														
Equipment rental														
Personnel training	26,270 $	26,270 $	26,270 $	26,270 $	32,724 $	26,270 $	19,815 $	32,724 $	26,270 $	26,270 $	26,270 $	19,815 $	315,236 $	4.09
Sub-contracts														
sub-total supplies	673,528 $	673,528 $	673,528 $	673,528 $	841,797 $	673,528 $	505,259 $	841,797 $	673,528 $	673,528 $	673,528 $	505,259 $	8,082,337 $	104.83
TOTAL PRODUCTION COSTS	1,651,238 $	1,651,238 $	1,651,238 $	1,651,238 $	2,060,400 $	1,651,238 $	1,242,077 $	2,060,400 $	1,651,238 $	1,651,238 $	1,651,238 $	1,242,077 $	19,814,862 $	257.00
GROSS PROFIT MARGIN	1,781,302 $	1,641,833 $	1,641,833 $	1,641,833 $	2,055,939 $	1,641,833 $	1,227,727 $	2,055,939 $	1,641,833 $	1,641,833 $	1,641,833 $	1,227,727 $	19,841,463 $	257.35

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	11,818 $	141,814 $	1.84
Exec. Secretary	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	45,245 $	0.59
Directors	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	33,765 $	405,183 $	5.26
Prod. Assistant	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	54,024 $	0.70
Controller	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	7,541 $	90,491 $	1.17
Order desk	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	54,024 $	0.70
Sales person	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	135,061 $	1.75
Buyers	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	8,441 $	101,296 $	1.31
Clercs	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	13,056 $	156,671 $	2.03
Secretaries	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	8,104 $	97,244 $	1.26
sub-total wages	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	106,755 $	1,281,054 $	16.62
Fringe benefits	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	26,689 $	320,264 $	4.15
TOTAL WAGES	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	133,443 $	1,601,318 $	20.77
Marketing materiel (brochures, etc)	2,814 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	2,732 $	32,864 $	0.43
Publicity production fees	1,688 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	1,639 $	19,718 $	0.26
Advertising	2,251 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	26,291 $	0.34
													0 $	0.00
Stationary & Computer supplies	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	1,576 $	18,909 $	0.25
Mail & courrier	675 $	675 $	675 $	675 $	675 $	675 $	675 $	675 $	675 $	675 $	675 $	675 $	8,104 $	0.11
Communications	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	4,727 $	56,726 $	0.74
Insurance	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	7,034 $	84,413 $	1.09
Taxes	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	37,142 $	445,701 $	5.78
Certification fees	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	9,004 $	108,049 $	1.40
Legal fees	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	27,012 $	0.35
Accounting fees	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	2,026 $	24,311 $	0.32
Expense accounts (traveling, etc)	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	18,008 $	216,098 $	2.80
Equipment rental	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	900 $	10,805 $	0.14
Personnel training	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	5,338 $	64,053 $	0.83
sub-total	95,435 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	95,238 $	1,143,053 $	14.83
TOTAL ADMINISTRATION COSTS	228,878 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	228,681 $	2,744,371 $	35.60
AMORTIZATION														
Building amortization	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	52,292 $	627,500 $	8.14
Machinery amortization	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	231,696 $	2,780,355 $	36.06
Vehicles	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	4,437 $	53,248 $	0.69
sub-total amortization	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	288,425 $	3,461,103 $	44.89
FINANCIAL COSTS														
Capital reimbursement on long term	219,651 $	220,933 $	222,221 $	223,518 $	224,822 $	226,133 $	227,452 $	228,779 $	230,114 $	231,456 $	232,806 $	234,164 $	2,722,048 $	35.31
Interest (long term)	253,517 $	252,236 $	250,947 $	249,651 $	248,347 $	247,035 $	245,716 $	244,389 $	243,055 $	241,713 $	240,362 $	239,004 $	2,955,973 $	38.34
Interest (short term) Yard	33,062 $	33,062 $	33,062 $	33,062 $	41,328 $	33,062 $	24,797 $	41,328 $	33,062 $	33,062 $	33,062 $	24,797 $	396,746 $	5.15
LVL	13,897 $	13,897 $	13,897 $	13,897 $	17,372 $	13,897 $	10,423 $	17,372 $	13,897 $	13,897 $	13,897 $	10,423 $	166,768 $	2.16
sub-total financial	300,476 $	299,195 $	297,906 $	296,610 $	307,046 $	293,995 $	280,936 $	303,089 $	290,014 $	288,672 $	287,322 $	274,224 $	3,519,486 $	45.65
TOTAL COST	4,038,876 $	4,031,587 $	4,030,298 $	4,029,002 $	4,839,611 $	4,026,387 $	3,213,154 $	4,835,654 $	4,022,406 $	4,021,064 $	4,019,714 $	3,206,442 $	48,314,195 $	626.65
CASH GENERATED	1,251,947 $	1,113,956 $	1,115,245 $	1,116,542 $	1,520,212 $	1,119,157 $	718,110 $	1,524,169 $	1,123,137 $	1,124,480 $	1,125,830 $	724,822 $	13,577,606 $	176.11
Cash generated components	317,862 $	317,920 $	317,979 $	318,038 $	413,819 $	318,157 $	222,495 $	413,999 $	318,338 $	318,399 $	318,461 $	222,801 $	3,818,266 $	49.52
TOTAL CASH GENERATED	1,569,809 $	1,431,876 $	1,433,224 $	1,434,579 $	1,934,030 $	1,437,314 $	940,605 $	1,938,168 $	1,441,475 $	1,442,879 $	1,444,290 $	947,622 $	17,395,873 $	225.63
NET PROFIT (before tax)	963,522 $	825,531 $	826,820 $	828,116 $	1,231,786 $	830,732 $	429,684 $	1,235,744 $	834,712 $	836,054 $	837,405 $	436,396 $	10,116,503 $	131.21
Net profits components	296,877 $	296,935 $	296,994 $	297,053 $	392,834 $	297,172 $	201,511 $	393,014 $	297,353 $	297,414 $	297,476 $	201,816 $	2,513,372 $	32.60
NET PROFIT TOTAL	1,260,399 $	1,122,466 $	1,123,814 $	1,125,169 $	1,624,620 $	1,127,904 $	631,195 $	1,628,758 $	1,132,065 $	1,133,469 $	1,134,881 $	638,213 $	12,629,875 $	163.81
CUMULATIVE (PROFIT)	18,078,630 $	19,201,097 $	20,324,911 $	21,450,080 $	23,074,700 $	24,202,604 $	24,833,799 $	26,462,557 $	27,594,622 $	28,728,091 $	29,862,972 $	30,501,184 $		
Cash at startup	0 $													
CASHFLOW	41,095,085 $	42,526,961 $	43,960,185 $	45,394,765 $	47,328,795 $	48,766,108 $	49,706,713 $	51,644,881 $	53,086,357 $	54,529,236 $	55,973,526 $	56,921,148 $		

ATIKOKAN LVL PLANT PROJECT
Financial projections
Summary

ITEM	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
SALES LVL	9,819,933 $	34,496,253 $	43,982,723 $	43,982,723 $	57,177,539 $
SALES BY-PRODUCTS	237,899 $	756,054 $	963,968 $	963,968 $	1,253,159 $
TOTAL SALES	10,057,832 $	35,252,307 $	44,946,691 $	44,946,691 $	58,430,698 $
Transport & discounts	1,285,260 $	4,226,772 $	5,496,872 $	5,607,842 $	7,438,783 $
NET SALES	8,772,572 $	31,025,535 $	39,449,819 $	39,338,849 $	50,991,915 $
Raw material supply (wood logs)	1,961,897 $	6,258,625 $	8,219,139 $	8,465,713 $	11,335,590 $
Production cost	4,528,666 $	11,413,476 $	14,405,325 $	14,832,946 $	19,814,862 $
GROSS PROFIT MARGIN	2,282,009 $	13,353,434 $	16,825,355 $	16,040,190 $	19,841,463 $
ADMINISTRATION COSTS	1,839,831 $	2,513,468 $	2,588,872 $	2,666,538 $	2,744,371 $
Amortizations	4,995,200 $	4,545,430 $	4,143,237 $	3,783,343 $	3,461,103 $
Financial costs	3,716,375 $	3,789,891 $	3,726,576 $	3,564,067 $	3,519,486 $
TOTAL COST	18,327,229 $	32,747,661 $	38,580,020 $	38,920,449 $	48,314,195 $
NET PROFIT (before tax) (total sales - total cost)	8,269,397 $	2,504,645 $	6,366,671 $	6,026,242 $	10,116,503 $
TOTAL NET PROFIT incl. components	7,873,934 $	5,018,017 $	8,880,042 $	8,539,614 $	12,629,875 $
Cash generated	3,274,197 $	7,050,075 $	10,509,908 $	9,809,586 $	13,577,606 $
Cash flow (incl. working capital at startup)	1,471,266 $	11,356,163 $	25,824,931 $	39,525,276 $	56,921,148 $
Capital reimbursement (long term debt)	2,058,954 $	2,207,796 $	2,367,398 $	2,538,537 $	2,722,048 $
Long term dept	50,573,796 $	48,365,999 $	45,998,601 $	43,460,064 $	40,738,016 $

ATIKOKAN LVL PLANT PROJECT
Financial projections
Performance Ratios

ITEM	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
NET PROFIT MARGIN ON SALES (before tax)	0.00%	7.10%	32.19%	30.48%	29.77%
NET PROFIT / m3	0.00 $	53.85 $	243.96 $	231.01 $	225.63 $
GROSS PROFIT MARGIN ON SALES	22.69%	37.88%	37.43%	35.69%	33.96%
RETURN ON EQUITY (before tax) (ROE)	0.00%	11.48%	59.84%	51.28%	59.09%
DEBT RATIO (without fiscal amortization)	0.72	0.69	0.66	0.62	0.58
BREAK EVEN (m3)	15,771	12,702	12,663	12,677	12,926
BREAK EVEN ($)	10,311,626 $	9,420,108 $	9,391,312 $	9,401,065 $	9,585,820 $
PRODUCTION STATISTICS					
AVERAGE PLANT PERFORMANCE	68%	80%	85%	85%	85%
PRODUCTION (m3)	15019	46515	59307	59307	77099
NUMBER OF SHIFTS	269	600	720	720	936
OUTPUT PER SHIFT (m3)	56	78	82	82	82
OUTPUT PER SHIFT ($ value)	36,539 $	57,494 $	61,087 $	61,087 $	61,087 $
PRODUCTION COST / m3	301.54 $	245.37 $	242.89 $	250.10 $	257.00 $
TOTAL COST / m3	1,220.30 $	704.02 $	650.51 $	656.25 $	626.65 $
PURCHASE OF WOOD (m3)	45,101	139,686	178,099	178,099	231,529
PURCHASE OF WOOD ($)	1,961,897 $	6,258,625 $	8,219,139 $	8,465,713 $	11,335,590 $

TYPICAL LVL PROCESS RECOVERY CALCULATION

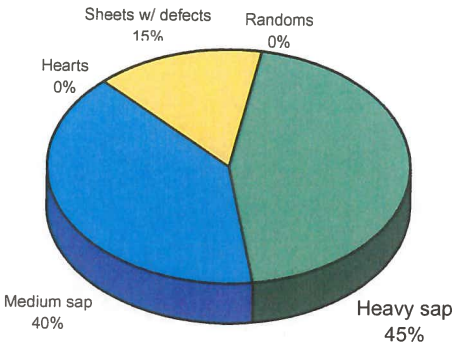
Based on a 6' x 6' birch line

Process phase	Product	m3/a	%	ratio
DEBARKING	LOGS FROM FOREST (topped)	231,000	100%	1.00
CROSS CUTTING	DEBARKED LOGS	202,632	88%	1.14
PEALING	PEELER BLOCKS	195,763	85%	1.18
DRYING	GREEN VENEER TOTAL	132,000	57%	1.75
	HEAVY SAP (FULL SHEET)	59,400 45%		
	MEDIUM SAP (FULL SHEET)	52,800 40%		
	HEART (FULL)	0 0%		
	SHEETS WITH DEFECTS	19,800 15%		
	RANDOMS	0 0%		
COMPOSING	DRY VENEER TOTAL	113,235	49%	2.04
	FULL SHEETS (DRY)	96,250 85%		
	SHEETS WITH DEFECTS (DRY)	16,985 15%		
	RANDOMS (DRY)	0 0%		
SALEABLE VENEER	DRY SHEETS TOTAL	107,442	47%	2.15
	FULL SHEETS FOR SALE	0.0		
	COMPOSED SHEETS FOR SALE	0.0		
SCARFING	DRY SHEETS FOR LVL	107,442	47%	2.15
	FULL SHEETS FOR LVL	96,698 90%		
	COMPOSED SHEETS FOR LVL	10,744 10%		
LAY-UP & PRE-PRESSING	SCARFED SHEETS	103,125	45%	2.24
HOT PRESSING	PREPRESSED BILLETS	97,881	42%	2.36
BILLET HANDLING	HOT PRESSED LVL NET	88,168	38%	2.62
SALEABLE PRODUCTS	NET LVL OUTPUT	84,615	37%	2.73
	FULL SHEETS FOR SALE	0		
	COMPOSED SHEETS FOR SALE	0		

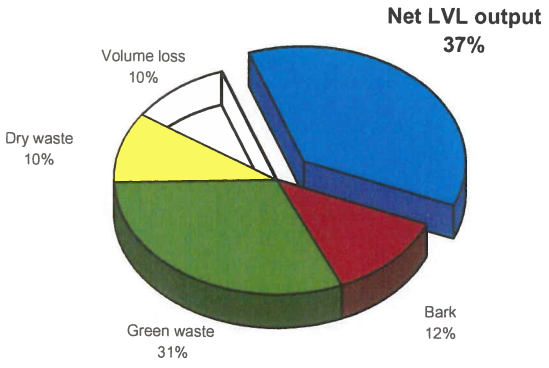
Note: results may vary depending on raw material, mill practices and processing technology selected.

By-products	m3/a	%
Bark	27,720	12.0%
Log ends		3.0 %
Saw dust		0.5 %
Rejects	808	0.5 %
Round-up	33,280	17.0%
Spur waste	3,915	2.0%
Clipping waste	3,915	2.0%
Cores	13,703	7.0%
Spinouts	979	0.5%
rejected at drying	594	1.0%
rejected at drying	528	1.0%
rejected at drying	0	1.0%
rejected at drying	198	1.0%
rejected at drying	0	2.0%
Shrinkage	17,160	13.0%
COMPOSING LOSS 1	5,945	35.0%
COMPOSING LOSS 2	0	50.0%
N/A		
Scarfing loss	2,686	2.5%
Rejected sheets	1,612	1.5%
Rejected sheets	2,063	2.0%
Trim loss	3,094	3.0%
Compression	6,852	7.0%
Edge trimming	2,936	3.0%
Cut to size waste	2,645	3.0%
Sanding waste	0	0.0%
Rejected LVL	882	1.0%
Bark	27,720	12.0%
Green waste	71,610	31.0%
Dry waste	23,100	10.0%
Volume loss	23,100	10.0%

Green veneer balance



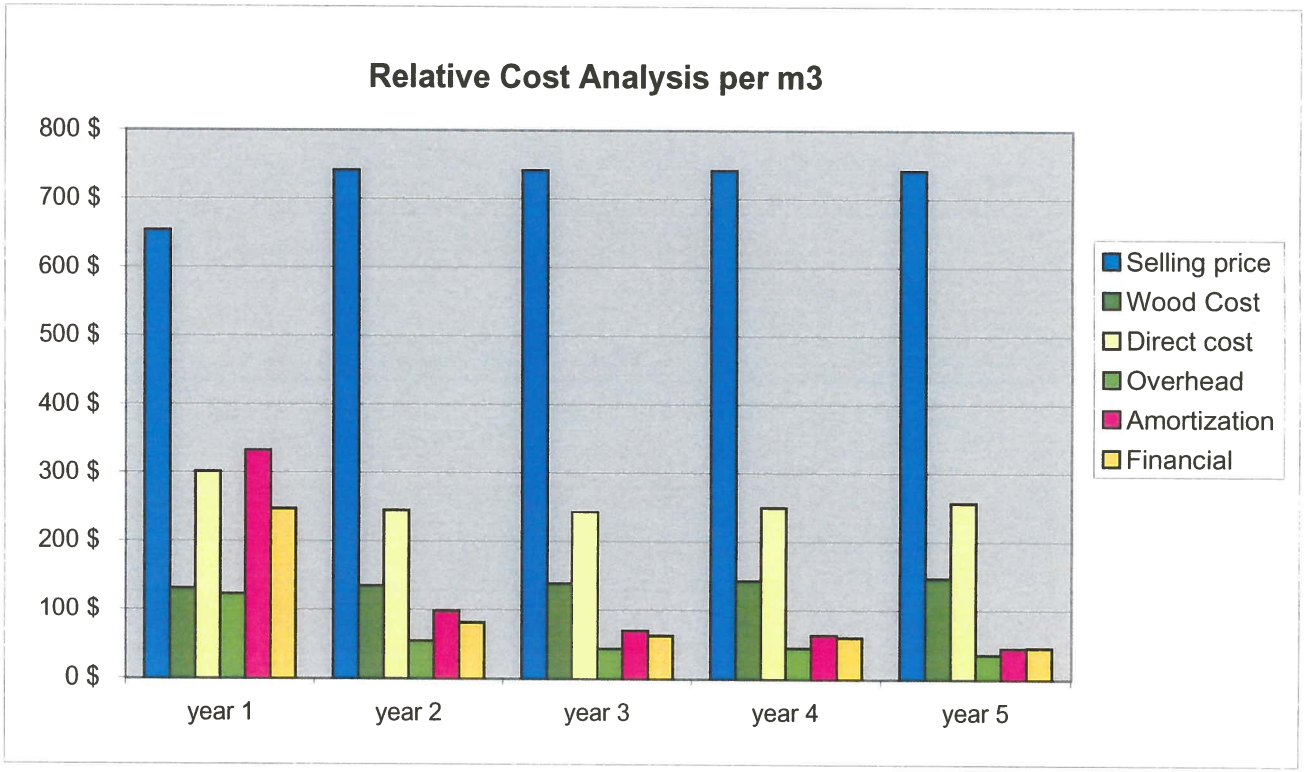
RECOVERY



Lignico inc June 2005

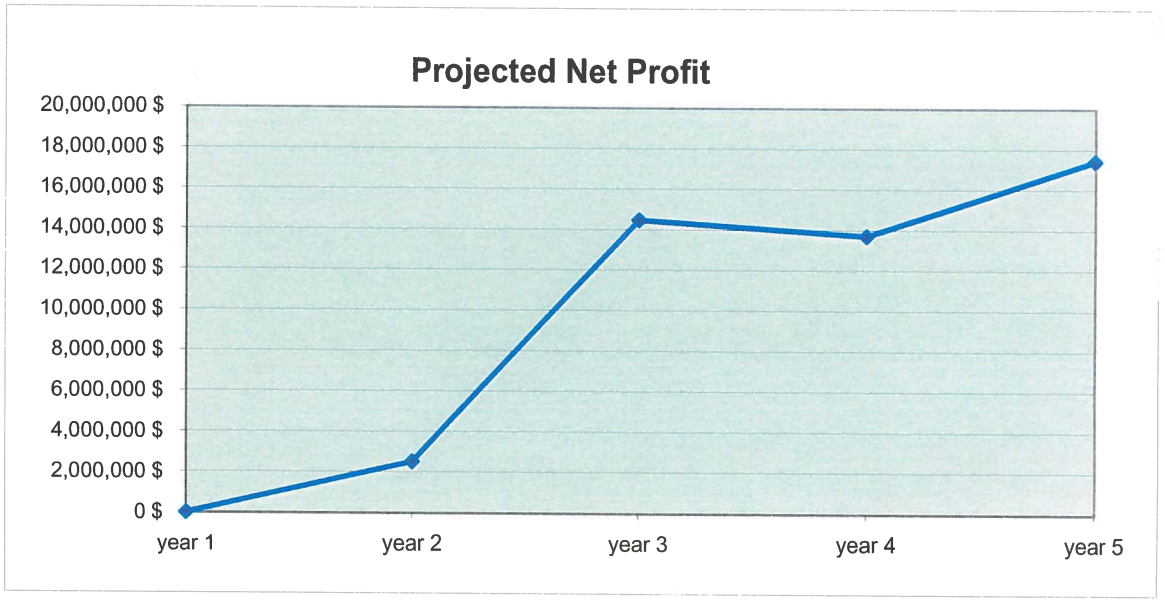
Cost analysis

	Selling price	Wood Cost	Direct cost	Overhead	Amortization	Financial
year 1	653.85	130.63	301.54	122.50	332.60	247.45
year 2	741.61	134.55	245.37	54.04	97.72	81.48
year 3	741.61	138.59	242.89	43.65	69.86	62.84
year 4	741.61	142.74	250.10	44.96	63.79	60.10
year 5	741.61	147.03	257.00	35.60	44.89	45.65



Net profits

year 1	0
year 2	2504645
year 3	14468768
year 4	13700345
year 5	17395873

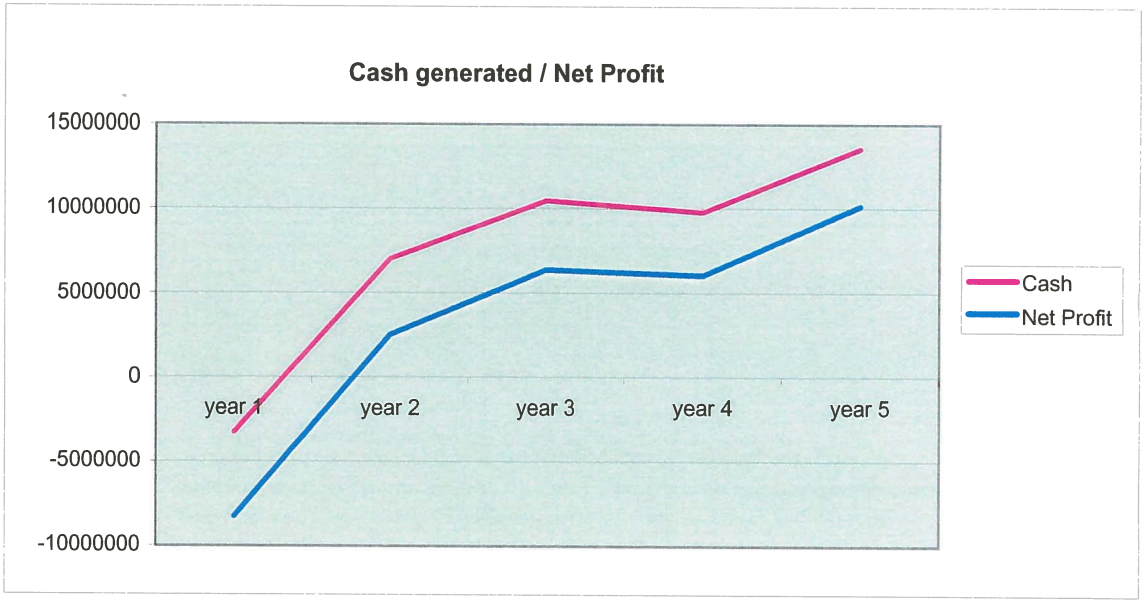


Selling price / cost per m3

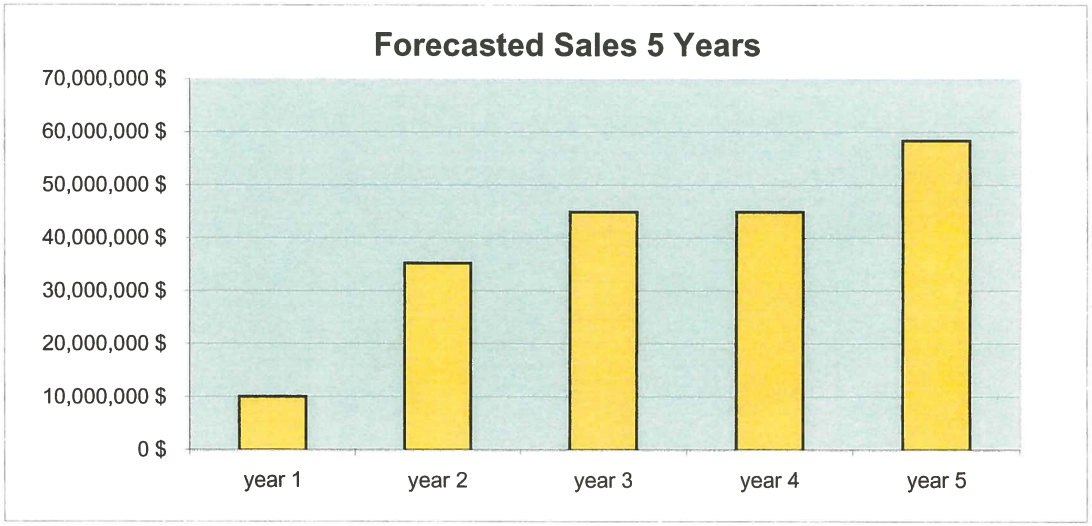
	Price	Cost
year 1	654	1220.30
year 2	742	704.02
year 3	742	650.51
year 4	742	656.25
year 5	742	626.65

Cash generated / net profits

	Cash	Net Profit
year 1	-3274197	-8269397
year 2	7050075	2504645
year 3	10509908	6366671
year 4	9809586	6026242
year 5	13577606	10116503



sales	
year 1	10057832
year 2	35252307
year 3	44946691
year 4	44946691
year 5	58430698



Wood	
year 1	1961897
year 2	6258625
year 3	8219139
year 4	8465713
year 5	11335590

Financial Summary

Boreal Resource Strategies is confident with the integrity of the financial data reported for the Study. The data provided is up to date as of November 2005.

As the financial models included are taken directly from a full operational LVL facility, the estimated operating costs are comprehensive.

Operating cycles, speeds, and efficiency factors are not overly conservative, and some industry personnel might consider aggressive, however this facility, with the recommended equipment can achieve the required efficiencies in the prescribed time frames. As BRS is proposing to be involved in the management of the facility, we believe that the estimates are achievable, and can be improved upon, with a faster start-up schedule, reaching full capacity in a shorter schedule. As well the synergies reported are not included in the financials for the study, but are recommended, and would further reduce the scheduled time to reach profitability.

The profit levels of pre-tax $19.8 M in Year 5, is an outstanding investment opportunity, and Boreal Resource Strategies' combined forest products experience stands behind the data presented.

ATIKOKAN LVL COMPONENTS FACILITY

FINANCIAL PROJECTIONS

Greenfield project capital cost

BUDGET CAPITAL COST SUMMARY - ALL COSTS IN $CAD

ITEM	DESCRIPTION	EQUIPMENT	FREIGHT	INSTALL	TOTAL	%
1.00	LAND	100,000			100,000	2.37
2.00	SITE PREPARATION	50,000			50,000	1.18
3.00	BUILDINGS (purchased or part of LVL plant)	500,000			500,000	11.83
4.00	FIRE PROTECTION			30,000	30,000	0.71
5.00	MACHINERY (saws, decks, conveyors)	2,500,000		120,000	2,620,000	62.01
6.00	PACKAGING LINE	200,000		15,000	215,000	5.09
7.00	PLANT MIS SYSTEM	20,000			20,000	0.47
8.00	MOBILE EQUIPMENT	40,000			40,000	0.95
9.00	SPARE PARTS	50,000			50,000	1.18
10.00	OPERATORS TRAINING & COMISSIONING			30,000		0.00
11.00	CONTINGENCY & PERMITS			600,000	600,000	14.20
	TOTAL BUDGET CAPITAL COST	**3,460,000**	**0**	**795,000**	**4,225,000**	100.00

Value for depreciation

Building	1,130,000
Machinery	2,855,000
Mobile equipment	40,000

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections

Input data

Description	Calculation			Factor
RAW MATERIAL				
LVL	Standard dimension LVL at plant selling price			741.61 $
PRODUCTION				
Shifts	At startup an 8 hour shift is projected for 6 months, then one 10 hour shift per day. For year 2 we projected 2 shifts of 10 hours. For year 3 and 4 the projection is 3 shifts of 8 hours. Week ends are not worked. The plant has a potential to produce on 7 days which is projected on the 5th year.			
Processing output	Typical component average size (m3)			0.01652
	Unit processing number (per min)			4
Material loss	From cutting & sizing process			9.72%
	Total piece volume (m3)	0.01652		
	edging	0.00103		
	notches	0.00046		
	holes	0.00011		
Efficiency factor (%)	growth from 60% to typical. The effiency as well as cycle time are impacted by the personnel learning curve and thus, are increasing to reach cruising values after a certain time.			85%
SALES				
Components	Equivalent to production. In reality, sales will be on contract base but volume will vary seasonnely. To simulate the variation of inventories a financial cost was computed in the short term financial costs.			
	Inventory financial cost (interest rate)			7%
	Inventory estimated volume (% of production monthly)			20%
Selling price / m3	Before certification non-structural(8 months estimated)			776.92 $
	After certification			1,236.01 $
By products	All dry waste used as fuel			
Transport cost	Already included in LVL plant financial projections			0.00 $
Discounts	Volume discount =			0%
	Percentage of production affected =			0%
PRODUCTION COSTS				
WAGES				
Operators	3	21.00 $	hourly, subject to shifts	
Receiving & shipping	6	14.00 $	hourly, subject to shifts	
Quality control technicians	1	3,350.00 $	monthly, not subject to shifts	
	10			
Fringe benefits		25%		
POWER (electrical)		600	Kw connected	
Effective power factor		50%		
Cost per Kw		0.092 $		
SUPPLIES				
Maintenance supplies		7.00 $	per m3	
General supplies		7.00 $	per m3	
OTHERS				
Equipment rental		incl.		
Personnel training		4%	of total wages, continuous	
ADMINISTRATION COSTS				
WAGES				Year 1 ponderation
General manager	0	0 $	monthly	
Exec. Secretary	0	0 $	monthly	
Directors	1	6,000 $	monthly	100%
Prod. Assistant	0	0 $	monthly	
Controller	0	0 $	monthly	
Accountant	0	0 $	monthly	
Order desk	0	0 $	monthly	
Sales person	2	5,000 $	monthly	100%
Buyers	0	0 $	monthly	
Programmer	0	0 $	monthly	
Clercs	0	0 $	monthly	
Secretaries	1	2,400 $	monthly	100%
	4			
Fringe benefits	25%			
Marketing materiel (brochures, etc)	500 $	monthly allocation		100%
Publicity production fees	200 $	yearly allocation, balanced monthly		100%
Advertising	500 $	monthly allocation		100%

Stationary & Computer supplies	0 $		
Mail & courrier	0 $		
Communications	1,000 $	monthly allocation	100%
Insurance	2,000 $	monthly allocation	100%
Taxes	5,000 $	monthly allocation	100%
Certification fees	0 $		
Legal fees	0 $		
Accounting fees	0 $		
Expense accounts (traveling, board & room, etc)	4,000 $	yearly allocation, balanced monthly	100%
Equipment rental	0 $		
Personnel training	4%	of total wages, continuous	

AMORTIZATION

Building amortization	5%	20 year linear
Equipment amortization	10%	on decreasing balance
Vehicles	20%	on decreasing balance

FINANCIAL COSTS

Project financing is based on a 70% long term financial agreement with mortgage funding companies. This is on the upper limit of industrial financing but considering a government loan securement it is feasible.

Long term mortgage (% of total project cost)	75%
reimbursement factor, amorization on 15 years (computed monthly)	0.00899
Interest (long term)	7%
Interest (short term)	7%

Description	Factor

VARIATIONS IN PROJECTIONS

SALES

Sales volume has a growth curve that spreads on the first three years.
Sales price is maintained constant as a risk contingency factor.

EXPENSES

Wages inflation factor. Annual growth impacting on all wages	1.03
Expenses inflation factor. Annual growth impacting on all expenses	1.03

ATIKOKAN LVL COMPONENTS FACILITY
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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	1	1	1	1	1	2	2	2	2	2	2	2		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	160	160	160	160	200	320	240	400	320	320	320	240	3,000	
PRODUCTION														
Output per hour (m3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96		
Material loss	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39		
Efficiency factor (%)	60%	60%	70%	70%	80%	80%	85%	85%	85%	85%	85%	85%	78%	
Net output (m3)	234	234	273	273	390	624	497	828	663	663	663	497	5,838	
SALES														
Components (m3)	234	234	273	273	390	624	497	828	663	663	663	497	5,838	←
Selling price / m3	777 $	777 $	777 $	777 $	777 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $		
Gross sales	181,727 $	181,727 $	212,015 $	212,015 $	302,878 $	770,963 $	614,361 $	1,023,935 $	819,148 $	819,148 $	819,148 $	614,361 $	6,571,428 $	1125.65
By products	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Gross sales	181,727 $	181,727 $	212,015 $	212,015 $	302,878 $	770,963 $	614,361 $	1,023,935 $	819,148 $	819,148 $	819,148 $	614,361 $	6,571,428 $	1125.65
Transport cost	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Discounts	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Cost of sales	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
NET SALES	181,727 $	181,727 $	212,015 $	212,015 $	302,878 $	770,963 $	614,361 $	1,023,935 $	819,148 $	819,148 $	819,148 $	614,361 $	6,571,428 $	1125.65
RAW MATERIAL SUPPLY														
LVL	257	257	299	299	428	684	545	909	727	727	727	545	6,405	1.10
Cost per m3	494 $	494 $	494 $	494 $	494 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
COST RAW MATERIAL	126,888 $	126,888 $	148,036 $	148,036 $	211,479 $	507,551 $	404,455 $	674,091 $	539,273 $	539,273 $	539,273 $	404,455 $	4,369,695 $	748.50
PRODUCTION COSTS														
WAGES														
Operators	10,080 $	10,080 $	10,080 $	10,080 $	12,600 $	20,160 $	15,120 $	25,200 $	20,160 $	20,160 $	20,160 $	15,120 $	189,000 $	32.37
Receiving & shipping	13,440 $	13,440 $	13,440 $	13,440 $	16,800 $	26,880 $	20,160 $	33,600 $	26,880 $	26,880 $	26,880 $	20,160 $	252,000 $	43.17
Quality control tech.	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	3,350 $	40,200 $	6.89
sub-total wages	26,870 $	26,870 $	26,870 $	26,870 $	32,750 $	50,390 $	38,630 $	62,150 $	50,390 $	50,390 $	50,390 $	38,630 $	481,200 $	82.43
Fringe benefits	6,718 $	6,718 $	6,718 $	6,718 $	8,188 $	12,598 $	9,658 $	15,538 $	12,598 $	12,598 $	12,598 $	9,658 $	120,300 $	20.61
Total production wages	33,588 $	33,588 $	33,588 $	33,588 $	40,938 $	62,988 $	48,288 $	77,688 $	62,988 $	62,988 $	62,988 $	48,288 $	601,500 $	103.03
Energy (electrical)	4,416 $	4,416 $	4,416 $	4,416 $	5,520 $	8,832 $	6,624 $	11,040 $	8,832 $	8,832 $	8,832 $	6,624 $	82,800 $	14.18
SUPPLIES														
Maintenance supplies	1,637 $	1,637 $	1,910 $	1,910 $	2,729 $	4,366 $	3,479 $	5,799 $	4,639 $	4,639 $	4,639 $	3,479 $	40,865 $	7.00
General supplies	1,637 $	1,637 $	1,910 $	1,910 $	2,729 $	4,366 $	3,479 $	5,799 $	4,639 $	4,639 $	4,639 $	3,479 $	40,865 $	7.00
OTHERS														
Equipment rental														
Personnel training	1,075 $	1,075 $	1,075 $	1,075 $	1,310 $	2,016 $	1,545 $	2,486 $	2,016 $	2,016 $	2,016 $	1,545 $	19,248 $	3.30
Sub-contracts														
sub-total supplies	4,349 $	4,349 $	4,895 $	4,895 $	6,768 $	10,748 $	8,504 $	14,084 $	11,294 $	11,294 $	11,294 $	8,504 $	100,979 $	17.30
TOTAL PRODUCTION COSTS	42,353 $	42,353 $	42,899 $	42,899 $	53,225 $	82,568 $	63,415 $	102,811 $	83,113 $	83,113 $	83,113 $	63,415 $	785,279 $	134.51
GROSS PROFIT MARGIN	12,486 $	12,486 $	21,080 $	21,080 $	38,174 $	180,845 $	146,491 $	247,033 $	196,762 $	196,762 $	196,762 $	146,491 $	1,416,455 $	242.63

ATIKOKAN LVL COMPONENTS FACILITY
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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Exec. Secretary	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Directors	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	6,000 $	72,000 $	12.33
Prod. Assistant	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Controller	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Order desk	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Sales person	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	10,000 $	120,000 $	20.56
Buyers	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Clercs	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Secretaries	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	2,400 $	28,800 $	4.93
sub-total wages	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	18,400 $	220,800 $	37.82
Fringe benefits	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	4,600 $	55,200 $	9.46
TOTAL WAGES	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	23,000 $	276,000 $	47.28
Marketing materiel (brochures, etc)	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	6,000 $	1.03
Publicity production fees	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	2,400 $	0.41
Advertising	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	6,000 $	1.03
													0 $	0.00
Stationary & Computer supplies	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Mail & courrier	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Communications	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	1,000 $	12,000 $	2.06
Insurance	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	2,000 $	24,000 $	4.11
Taxes	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	5,000 $	60,000 $	10.28
Legal fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Accounting fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Expense accounts (traveling, etc)	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	4,000 $	48,000 $	8.22
Equipment rental	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Personnel training	920 $	920 $	920 $	920 $	920 $	920 $	920 $	920 $	920 $	920 $	920 $	920 $	11,040 $	1.89
sub-total	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	14,120 $	169,440 $	29.02
TOTAL ADMINISTRATION COSTS	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	37,120 $	445,440 $	76.30
AMORTIZATION														
Building amortization	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	56,500 $	9.68
Machinery amortization	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	23,792 $	285,500 $	48.90
Vehicles	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	8,000 $	1.37
sub-total amortization	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	29,167 $	350,000 $	59.95
FINANCIAL COSTS														
Capital reimbursement on long term	10,003 $	10,061 $	10,120 $	10,179 $	10,238 $	10,298 $	10,358 $	10,418 $	10,479 $	10,540 $	10,602 $	10,664 $	123,959 $	21.23
Interest (long term)	18,484 $	18,426 $	18,367 $	18,308 $	18,249 $	18,189 $	18,129 $	18,069 $	18,008 $	17,947 $	17,885 $	17,823 $	217,886 $	37.32
Interest (short term)														0.00
Inventory	212 $	212 $	247 $	247 $	353 $	899 $	717 $	1,195 $	956 $	956 $	956 $	717 $	7,667 $	1.31
sub-total financial	18,696 $	18,638 $	18,615 $	18,556 $	18,602 $	19,089 $	18,846 $	19,263 $	18,964 $	18,902 $	18,841 $	18,540 $	225,552 $	38.64
TOTAL COST	254,224 $	254,165 $	275,836 $	275,777 $	349,594 $	675,494 $	553,002 $	862,452 $	707,636 $	707,575 $	707,514 $	552,697 $	6,175,966 $	1057.91
CASH GENERATED	43,330 $	43,272 $	34,654 $	34,595 $	17,549 $	124,636 $	90,525 $	190,650 $	140,679 $	140,740 $	140,801 $	90,831 $	745,463 $	
NET PROFIT (before tax)	72,497 $	72,438 $	63,821 $	63,762 $	46,715 $	95,469 $	61,359 $	161,483 $	111,512 $	111,573 $	111,635 $	61,664 $	395,463 $	67.74
CUMULATIVE (PROFIT)	72,497 $	144,935 $	208,756 $	272,518 $	319,233 $	223,764 $	162,405 $	922 $	110,591 $	222,164 $	333,798 $	395,463 $		
Cash at startup	0 $													
CASHFLOW	43,330 $	86,602 $	121,256 $	155,851 $	173,400 $	48,764 $	41,762 $	232,412 $	373,091 $	513,830 $	654,632 $	745,463 $		

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections
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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	5	5	5	5	5	5	5	5	5	5	5	5		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	480	480	480	480	600	480	360	600	480	480	480	360	5,760	
PRODUCTION														
Output per hour (m3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96		
Material loss	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	994	994	994	994	1243	994	746	1243	994	994	994	746	11,929	
SALES														
Components (m3)	994	994	994	994	1243	994	746	1243	994	994	994	746	11,929	←
Selling price / m3	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $		
Gross sales	1,228,723 $	1,228,723 $	1,228,723 $	1,228,723 $	1,535,903 $	1,228,723 $	921,542 $	1,535,903 $	1,228,723 $	1,228,723 $	1,228,723 $	921,542 $	14,744,670 $	1236.01
By products	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Gross sales	1,228,723 $	1,228,723 $	1,228,723 $	1,228,723 $	1,535,903 $	1,228,723 $	921,542 $	1,535,903 $	1,228,723 $	1,228,723 $	1,228,723 $	921,542 $	14,744,670 $	1236.01
Transport cost	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Discounts	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Cost of sales	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
NET SALES	1,228,723 $	1,228,723 $	1,228,723 $	1,228,723 $	1,535,903 $	1,228,723 $	921,542 $	1,535,903 $	1,228,723 $	1,228,723 $	1,228,723 $	921,542 $	14,744,670 $	1236.01
RAW MATERIAL SUPPLY														
LVL	1091	1091	1091	1091	1363	1091	818	1363	1091	1091	1091	818	13,089	1.10
Cost per m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
COST RAW MATERIAL	808,909 $	808,909 $	808,909 $	808,909 $	1,011,136 $	808,909 $	606,682 $	1,011,136 $	808,909 $	808,909 $	808,909 $	606,682 $	9,706,908 $	813.71
PRODUCTION COSTS														
WAGES														
Operators	31,147 $	31,147 $	31,147 $	31,147 $	38,934 $	31,147 $	23,360 $	38,934 $	31,147 $	31,147 $	31,147 $	23,360 $	373,766 $	31.33
Receiving & shipping	41,530 $	41,530 $	41,530 $	41,530 $	51,912 $	41,530 $	31,147 $	51,912 $	41,530 $	41,530 $	41,530 $	31,147 $	498,355 $	41.78
Quality control tech.	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	3,451 $	41,406 $	3.47
sub-total wages	76,127 $	76,127 $	76,127 $	76,127 $	94,297 $	76,127 $	57,958 $	94,297 $	76,127 $	76,127 $	76,127 $	57,958 $	913,528 $	76.58
Fringe benefits	19,032 $	19,032 $	19,032 $	19,032 $	23,574 $	19,032 $	14,490 $	23,574 $	19,032 $	19,032 $	19,032 $	14,490 $	228,382 $	19.14
Total production wages	95,159 $	95,159 $	95,159 $	95,159 $	117,871 $	95,159 $	72,448 $	117,871 $	95,159 $	95,159 $	95,159 $	72,448 $	1,141,910 $	95.72
Energy (electrical)	13,248 $	13,248 $	13,248 $	13,248 $	16,560 $	13,248 $	9,936 $	16,560 $	13,248 $	13,248 $	13,248 $	9,936 $	158,976 $	13.33
SUPPLIES														
Maintenance supplies	7,167 $	7,167 $	7,167 $	7,167 $	8,959 $	7,167 $	5,376 $	8,959 $	7,167 $	7,167 $	7,167 $	5,376 $	86,010 $	7.21
General supplies	7,167 $	7,167 $	7,167 $	7,167 $	8,959 $	7,167 $	5,376 $	8,959 $	7,167 $	7,167 $	7,167 $	5,376 $	83,504 $	7.00
OTHERS														
Equipment rental														
Personnel training	3,045 $	3,045 $	3,045 $	3,045 $	3,772 $	3,045 $	2,318 $	3,772 $	3,045 $	3,045 $	3,045 $	2,318 $	36,541 $	3.06
Sub-contracts														
sub-total supplies	17,380 $	17,380 $	17,380 $	17,380 $	21,691 $	17,380 $	13,070 $	21,691 $	17,380 $	17,380 $	17,380 $	13,070 $	206,055 $	17.27
TOTAL PRODUCTION COSTS	125,787 $	125,787 $	125,787 $	125,787 $	156,121 $	125,787 $	95,453 $	156,121 $	125,787 $	125,787 $	125,787 $	95,453 $	1,509,446 $	126.53
GROSS PROFIT MARGIN	294,026 $	294,026 $	294,026 $	294,026 $	368,646 $	294,026 $	219,407 $	368,646 $	294,026 $	294,026 $	294,026 $	219,407 $	3,528,317 $	295.77

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Exec. Secretary	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Directors	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	6,180 $	74,160 $	6.22
Prod. Assistant	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Controller	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Order desk	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Sales person	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	10,300 $	123,600 $	10.36
Buyers	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Clercs	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Secretaries	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	29,664 $	2.49
sub-total wages	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	18,952 $	227,424 $	19.06
Fringe benefits	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	4,738 $	56,856 $	4.77
TOTAL WAGES	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	23,690 $	284,280 $	23.83
Marketing materiel (brochures, etc)	515 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	6,015 $	0.50
Publicity production fees	206 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	200 $	2,406 $	0.20
Advertising	515 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	500 $	6,015 $	0.50
Stationary & Computer supplies	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Mail & courrier	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Communications	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	1,030 $	12,360 $	1.04
Insurance	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	2,060 $	24,720 $	2.07
Taxes	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	5,150 $	61,800 $	5.18
Legal fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Accounting fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Expense accounts (traveling, etc)	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	4,120 $	49,440 $	4.14
Equipment rental	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Personnel training	948 $	948 $	948 $	948 $	948 $	948 $	948 $	948 $	948 $	948 $	948 $	948 $	11,371 $	0.95
sub-total	14,544 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	14,508 $	174,127 $	14.60
TOTAL ADMINISTRATION COSTS	38,234 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	38,198 $	458,407 $	38.43
AMORTIZATION														
Building amortization	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	56,500 $	4.74
Machinery amortization	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	21,413 $	256,950 $	21.54
Vehicles	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	8,000 $	0.67
sub-total amortization	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	26,788 $	321,450 $	26.95
FINANCIAL COSTS														
Capital reimbursement on long term	10,003 $	10,061 $	10,120 $	10,179 $	10,238 $	10,298 $	10,358 $	10,418 $	10,479 $	10,540 $	10,602 $	10,664 $	123,959 $	10.39
Interest (long term)	18,484 $	18,426 $	18,367 $	18,308 $	18,249 $	18,189 $	18,129 $	18,069 $	18,008 $	17,947 $	17,885 $	17,823 $	217,886 $	18.26
Interest (short term)														0.00
Inventory	1,434 $	1,434 $	1,434 $	1,434 $	1,792 $	1,434 $	1,075 $	1,792 $	1,434 $	1,434 $	1,434 $	1,075 $	17,202 $	1.44
sub-total financial	19,918 $	19,860 $	19,801 $	19,742 $	20,041 $	19,623 $	19,204 $	19,861 $	19,441 $	19,380 $	19,319 $	18,899 $	235,088 $	19.71
TOTAL COST	1,019,635 $	1,019,541 $	1,019,482 $	1,019,423 $	1,252,283 $	1,019,304 $	786,324 $	1,252,103 $	1,019,123 $	1,019,062 $	1,019,000 $	786,019 $	12,231,299 $	1025.32
CASH GENERATED	235,875 $	235,969 $	236,028 $	236,087 $	310,407 $	236,206 $	162,005 $	310,588 $	236,387 $	236,448 $	236,510 $	162,311 $	2,834,822 $	
NET PROFIT (before tax)	209,087 $	209,182 $	209,240 $	209,299 $	283,620 $	209,419 $	135,218 $	283,800 $	209,600 $	209,661 $	209,722 $	135,523 $	2,513,372 $	210.69
CUMULATIVE (PROFIT)	604,550 $	813,732 $	1,022,972 $	1,232,272 $	1,515,892 $	1,725,310 $	1,860,528 $	2,144,328 $	2,353,928 $	2,563,589 $	2,773,311 $	2,908,835 $		
Cash at startup	0 $													
CASHFLOW	235,875 $	471,844 $	707,872 $	943,959 $	1,254,366 $	1,490,573 $	1,652,578 $	1,963,165 $	2,199,553 $	2,436,001 $	2,672,511 $	2,834,822 $		

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections
YEAR 3

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	640	640	640	640	800	640	480	800	640	640	640	480	7,684	
PRODUCTION														
Output per hour (m3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96		
Material loss	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	
SALES														
Components (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	←
Selling price / m3	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $		
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
By products	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
Transport cost	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Discounts	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Cost of sales	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
NET SALES	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
RAW MATERIAL SUPPLY														
LVL	1455	1455	1455	1455	1819	1455	1091	1819	1455	1455	1455	1091	17,461	1.10
Cost per m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
COST RAW MATERIAL	1,079,085 $	1,079,085 $	1,079,085 $	1,079,085 $	1,348,856 $	1,079,085 $	809,313 $	1,348,856 $	1,079,085 $	1,079,085 $	1,079,085 $	809,313 $	12,949,015 $	813.71
PRODUCTION COSTS														
WAGES														
Operators	42,797 $	42,797 $	42,797 $	42,797 $	53,496 $	42,797 $	32,098 $	53,496 $	42,797 $	42,797 $	42,797 $	32,098 $	513,563 $	32.27
Receiving & shipping	57,063 $	57,063 $	57,063 $	57,063 $	71,328 $	57,063 $	42,797 $	71,328 $	57,063 $	57,063 $	57,063 $	42,797 $	684,750 $	43.03
Quality control tech.	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	3,554 $	42,648 $	2.68
sub-total wages	103,413 $	103,413 $	103,413 $	103,413 $	128,378 $	103,413 $	78,449 $	128,378 $	103,413 $	103,413 $	103,413 $	78,449 $	1,240,961 $	77.98
Fringe benefits	25,853 $	25,853 $	25,853 $	25,853 $	32,095 $	25,853 $	19,612 $	32,095 $	25,853 $	25,853 $	25,853 $	19,612 $	310,240 $	19.50
Total production wages	129,267 $	129,267 $	129,267 $	129,267 $	160,473 $	129,267 $	98,061 $	160,473 $	129,267 $	129,267 $	129,267 $	98,061 $	1,551,201 $	97.48
Energy (electrical)	17,673 $	17,673 $	17,673 $	17,673 $	22,091 $	17,673 $	13,255 $	22,091 $	17,673 $	17,673 $	17,673 $	13,255 $	212,074 $	13.33
SUPPLIES														
Maintenance supplies	9,848 $	9,848 $	9,848 $	9,848 $	12,310 $	9,848 $	7,386 $	12,310 $	9,848 $	9,848 $	9,848 $	7,386 $	118,179 $	7.43
General supplies	9,848 $	9,848 $	9,848 $	9,848 $	12,310 $	9,848 $	7,386 $	12,310 $	9,848 $	9,848 $	9,848 $	7,386 $	111,395 $	7.00
OTHERS														
Equipment rental														
Personnel training	4,137 $	4,137 $	4,137 $	4,137 $	5,135 $	4,137 $	3,138 $	5,135 $	4,137 $	4,137 $	4,137 $	3,138 $	49,638 $	3.12
Sub-contracts														
sub-total supplies	23,833 $	23,833 $	23,833 $	23,833 $	29,756 $	23,833 $	17,910 $	29,756 $	23,833 $	23,833 $	23,833 $	17,910 $	279,212 $	17.55
TOTAL PRODUCTION COSTS	170,773 $	170,773 $	170,773 $	170,773 $	212,320 $	170,773 $	129,226 $	212,320 $	170,773 $	170,773 $	170,773 $	129,226 $	2,049,271 $	128.78
GROSS PROFIT MARGIN	389,259 $	389,259 $	389,259 $	389,259 $	487,720 $	389,259 $	290,798 $	487,720 $	389,259 $	389,259 $	389,259 $	290,798 $	4,671,104 $	293.53

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections
YEAR 3

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Exec. Secretary	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Directors	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	6,365 $	76,385 $	4.80
Prod. Assistant	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Controller	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Order desk	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Sales person	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	10,609 $	127,308 $	8.00
Buyers	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Clercs	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Secretaries	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	29,664 $	1.86
sub-total wages	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	19,446 $	233,357 $	14.66
Fringe benefits	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	4,862 $	58,339 $	3.67
TOTAL WAGES	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	24,308 $	291,696 $	18.33
Marketing materiel (brochures, etc)	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	6,365 $	0.40
Publicity production fees	212 $	212 $	212 $	212 $	212 $	212 $	212 $	212 $	212 $	212 $	212 $	212 $	2,546 $	0.16
Advertising	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	530 $	6,365 $	0.40
Stationary & Computer supplies	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Mail & courrier	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Communications	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	1,061 $	12,731 $	0.80
Insurance	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	2,122 $	25,462 $	1.60
Taxes	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	5,305 $	63,654 $	4.00
Legal fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Accounting fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Expense accounts (traveling, etc)	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	4,244 $	50,923 $	3.20
Equipment rental	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Personnel training	972 $	972 $	972 $	972 $	972 $	972 $	972 $	972 $	972 $	972 $	972 $	972 $	11,668 $	0.73
sub-total	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	14,976 $	179,714 $	11.29
TOTAL ADMINISTRATION COSTS	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	39,284 $	471,410 $	29.62
AMORTIZATION														
Building amortization	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	56,500 $	3.55
Machinery amortization	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	19,271 $	231,255 $	14.53
Vehicles	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	8,000 $	0.50
sub-total amortization	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	24,646 $	295,755 $	18.59
FINANCIAL COSTS														
Capital reimbursement on long term	10,003 $	10,061 $	10,120 $	10,179 $	10,238 $	10,298 $	10,358 $	10,418 $	10,479 $	10,540 $	10,602 $	10,664 $	123,959 $	7.79
Interest (long term)	18,484 $	18,426 $	18,367 $	18,308 $	18,249 $	18,189 $	18,129 $	18,069 $	18,008 $	17,947 $	17,885 $	17,823 $	217,886 $	13.69
Interest (short term)														0.00
Inventory	1,912 $	1,912 $	1,912 $	1,912 $	2,390 $	1,912 $	1,434 $	2,390 $	1,912 $	1,912 $	1,912 $	1,434 $	22,948 $	1.44
sub-total financial	20,397 $	20,338 $	20,280 $	20,221 $	20,639 $	20,102 $	19,563 $	20,459 $	19,920 $	19,859 $	19,798 $	19,258 $	240,833 $	15.13
TOTAL COST	1,334,184 $	1,334,126 $	1,334,067 $	1,334,008 $	1,645,745 $	1,333,889 $	1,022,033 $	1,645,565 $	1,333,708 $	1,333,647 $	1,333,585 $	1,021,727 $	16,006,285 $	1005.83
CASH GENERATED	329,578 $	329,636 $	329,695 $	329,754 $	427,796 $	329,873 $	231,950 $	427,976 $	330,054 $	330,115 $	330,177 $	232,256 $	3,958,860 $	
NET PROFIT (before tax)	304,932 $	304,990 $	305,049 $	305,108 $	403,150 $	305,227 $	207,304 $	403,330 $	305,408 $	305,469 $	305,531 $	207,610 $	3,663,105 $	230.19
CUMULATIVE (PROFIT)	3,213,766 $	3,518,756 $	3,823,805 $	4,128,912 $	4,532,062 $	4,837,289 $	5,044,593 $	5,447,923 $	5,753,331 $	6,058,800 $	6,364,330 $	6,571,940 $		
Cash at startup	0 $													
CASHFLOW	329,578 $	659,214 $	988,909 $	1,318,663 $	1,746,459 $	2,076,332 $	2,308,282 $	2,736,258 $	3,066,312 $	3,396,428 $	3,726,605 $	3,958,860 $		

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections
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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	640	640	640	640	800	640	480	800	640	640	640	480	7,684	
PRODUCTION														
Output per hour (m3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96		
Material loss	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	
SALES														
Components (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	←
Selling price / m3	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $		
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
By products	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
Transport cost	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Discounts	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Cost of sales	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
NET SALES	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
RAW MATERIAL SUPPLY														
LVL	1455	1455	1455	1455	1819	1455	1091	1819	1455	1455	1455	1091	17,461	1.10
Cost per m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
COST RAW MATERIAL	1,079,085 $	1,079,085 $	1,079,085 $	1,079,085 $	1,348,856 $	1,079,085 $	809,313 $	1,348,856 $	1,079,085 $	1,079,085 $	1,079,085 $	809,313 $	12,949,015 $	813.71
PRODUCTION COSTS														
WAGES														
Operators	44,081 $	44,081 $	44,081 $	44,081 $	55,101 $	44,081 $	33,061 $	55,101 $	44,081 $	44,081 $	44,081 $	33,061 $	528,969 $	33.24
Receiving & shipping	58,774 $	58,774 $	58,774 $	58,774 $	73,468 $	58,774 $	44,081 $	73,468 $	58,774 $	58,774 $	58,774 $	44,081 $	705,293 $	44.32
Quality control tech.	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	3,661 $	43,928 $	2.76
sub-total wages	106,516 $	106,516 $	106,516 $	106,516 $	132,230 $	106,516 $	80,802 $	132,230 $	106,516 $	106,516 $	106,516 $	80,802 $	1,278,190 $	80.32
Fringe benefits	26,629 $	26,629 $	26,629 $	26,629 $	33,057 $	26,629 $	20,201 $	33,057 $	26,629 $	26,629 $	26,629 $	20,201 $	319,547 $	20.08
Total production wages	133,145 $	133,145 $	133,145 $	133,145 $	165,287 $	133,145 $	101,003 $	165,287 $	133,145 $	133,145 $	133,145 $	101,003 $	1,597,737 $	100.40
Energy (electrical)	17,673 $	17,673 $	17,673 $	17,673 $	22,091 $	17,673 $	13,255 $	22,091 $	17,673 $	17,673 $	17,673 $	13,255 $	212,074 $	13.33
SUPPLIES														
Maintenance supplies	10,144 $	10,144 $	10,144 $	10,144 $	12,680 $	10,144 $	7,608 $	12,680 $	10,144 $	10,144 $	10,144 $	7,608 $	121,724 $	7.65
General supplies	10,144 $	10,144 $	10,144 $	10,144 $	12,680 $	10,144 $	7,608 $	12,680 $	10,144 $	10,144 $	10,144 $	7,608 $	111,395 $	7.00
OTHERS														
Equipment rental														
Personnel training	4,261 $	4,261 $	4,261 $	4,261 $	5,289 $	4,261 $	3,232 $	5,289 $	4,261 $	4,261 $	4,261 $	3,232 $	51,128 $	3.21
Sub-contracts														
sub-total supplies	24,548 $	24,548 $	24,548 $	24,548 $	30,648 $	24,548 $	18,448 $	30,648 $	24,548 $	24,548 $	24,548 $	18,448 $	284,247 $	17.86
TOTAL PRODUCTION COSTS	175,366 $	175,366 $	175,366 $	175,366 $	218,026 $	175,366 $	132,705 $	218,026 $	175,366 $	175,366 $	175,366 $	132,705 $	2,104,387 $	132.24
GROSS PROFIT MARGIN	384,666 $	384,666 $	384,666 $	384,666 $	482,013 $	384,666 $	287,319 $	482,013 $	384,666 $	384,666 $	384,666 $	287,319 $	4,615,988 $	290.07

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Exec. Secretary	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Directors	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	6,556 $	78,676 $	4.94
Prod. Assistant	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Controller	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Order desk	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Sales person	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	10,927 $	131,127 $	8.24
Buyers	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Clercs	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Secretaries	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	2,472 $	29,664 $	1.86
sub-total wages	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	19,956 $	239,468 $	15.05
Fringe benefits	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	4,989 $	59,867 $	3.76
TOTAL WAGES	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	24,945 $	299,334 $	18.81
Marketing materiel (brochures, etc)	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	6,556 $	0.41
Publicity production fees	219 $	219 $	219 $	219 $	219 $	219 $	219 $	219 $	219 $	219 $	219 $	219 $	2,623 $	0.16
Advertising	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	546 $	6,556 $	0.41
													0 $	0.00
Stationary & Computer supplies	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Mail & courrier	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Communications	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	1,093 $	13,113 $	0.82
Insurance	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	2,185 $	26,225 $	1.65
Taxes	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	5,464 $	65,564 $	4.12
Legal fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Accounting fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Expense accounts (traveling, etc)	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	4,371 $	52,451 $	3.30
Equipment rental	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Personnel training	998 $	998 $	998 $	998 $	998 $	998 $	998 $	998 $	998 $	998 $	998 $	998 $	11,973 $	0.75
sub-total	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	15,422 $	185,061 $	11.63
TOTAL ADMINISTRATION COSTS	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	40,366 $	484,396 $	30.44
AMORTIZATION														
Building amortization	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	56,500 $	3.55
Machinery amortization	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	17,344 $	208,130 $	13.08
Vehicles	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	8,000 $	0.50
sub-total amortization	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	22,719 $	272,630 $	17.13
FINANCIAL COSTS														
Capital reimbursement on long term	10,003 $	10,061 $	10,120 $	10,179 $	10,238 $	10,298 $	10,358 $	10,418 $	10,479 $	10,540 $	10,602 $	10,664 $	123,959 $	7.79
Interest (long term)	18,484 $	18,426 $	18,367 $	18,308 $	18,249 $	18,189 $	18,129 $	18,069 $	18,008 $	17,947 $	17,885 $	17,823 $	217,886 $	13.69
Interest (short term)														0.00
Inventory	1,912 $	1,912 $	1,912 $	1,912 $	2,390 $	1,912 $	1,434 $	2,390 $	1,912 $	1,912 $	1,912 $	1,434 $	22,948 $	1.44
sub-total financial	20,397 $	20,338 $	20,280 $	20,221 $	20,639 $	20,102 $	19,563 $	20,459 $	19,920 $	19,859 $	19,798 $	19,258 $	240,833 $	15.13
TOTAL COST	1,337,932 $	1,337,874 $	1,337,815 $	1,337,756 $	1,650,607 $	1,337,637 $	1,024,667 $	1,650,427 $	1,337,456 $	1,337,395 $	1,337,333 $	1,024,361 $	16,051,261 $	1008.65
CASH GENERATED	323,903 $	323,961 $	324,020 $	324,079 $	421,007 $	324,198 $	227,389 $	421,187 $	324,379 $	324,440 $	324,502 $	227,695 $	3,890,759 $	
NET PROFIT (before tax)	301,184 $	301,242 $	301,301 $	301,360 $	398,288 $	301,479 $	204,670 $	398,468 $	301,660 $	301,721 $	301,783 $	204,976 $	3,618,130 $	227.36
CUMULATIVE (PROFIT)	6,873,124 $	7,174,365 $	7,475,666 $	7,777,026 $	8,175,314 $	8,476,792 $	8,681,462 $	9,079,930 $	9,381,590 $	9,683,311 $	9,985,094 $	10,190,070 $		
Cash at startup	0 $													
CASHFLOW	323,903 $	647,864 $	971,883 $	1,295,962 $	1,716,969 $	2,041,167 $	2,268,556 $	2,689,743 $	3,014,122 $	3,338,563 $	3,663,064 $	3,890,759 $		

ATIKOKAN LVL COMPONENTS FACILITY
Financial projections
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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio/m3
Days in month (typical year)	31	28	31	30	31	30	31	31	30	31	30	31		
Weeks in month	4	4	4	4	5	4	3	5	4	4	4	3	48	
Working days in week	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67		
No. of shifts per day	3	3	3	3	3	3	3	3	3	3	3	3		
Hours in shift	8	8	8	8	8	8	8	8	8	8	8	8		
Hours in month	640	640	640	640	800	640	480	800	640	640	640	480	7,684	
PRODUCTION														
Output per hour (m3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96		
Material loss	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39		
Efficiency factor (%)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Net output (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	
SALES														
Components (m3)	1326	1326	1326	1326	1658	1326	995	1658	1326	1326	1326	995	15,914	←
Selling price / m3	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $	1,236 $		
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
By products	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Gross sales	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
Transport cost	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Discounts	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Cost of sales	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
NET SALES	1,639,116 $	1,639,116 $	1,639,116 $	1,639,116 $	2,048,895 $	1,639,116 $	1,229,337 $	2,048,895 $	1,639,116 $	1,639,116 $	1,639,116 $	1,229,337 $	19,669,390 $	1236.01
RAW MATERIAL SUPPLY														
LVL	1455	1455	1455	1455	1819	1455	1091	1819	1455	1455	1455	1091	17,461	1.10
Cost per m3	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $	742 $		
COST RAW MATERIAL	1,079,085 $	1,079,085 $	1,079,085 $	1,079,085 $	1,348,856 $	1,079,085 $	809,313 $	1,348,856 $	1,079,085 $	1,079,085 $	1,079,085 $	809,313 $	12,949,015 $	813.71
PRODUCTION COSTS														
WAGES														
Operators	45,403 $	45,403 $	45,403 $	45,403 $	56,754 $	45,403 $	34,052 $	56,754 $	45,403 $	45,403 $	45,403 $	34,052 $	544,838 $	34.24
Receiving & shipping	60,538 $	60,538 $	60,538 $	60,538 $	75,672 $	60,538 $	45,403 $	75,672 $	60,538 $	60,538 $	60,538 $	45,403 $	726,451 $	45.65
Quality control tech.	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	3,770 $	45,245 $	2.84
sub-total wages	109,711 $	109,711 $	109,711 $	109,711 $	136,196 $	109,711 $	83,226 $	136,196 $	109,711 $	109,711 $	109,711 $	83,226 $	1,316,535 $	82.73
Fringe benefits	27,428 $	27,428 $	27,428 $	27,428 $	34,049 $	27,428 $	20,807 $	34,049 $	27,428 $	27,428 $	27,428 $	20,807 $	329,134 $	20.68
Total production wages	137,139 $	137,139 $	137,139 $	137,139 $	170,246 $	137,139 $	104,033 $	170,246 $	137,139 $	137,139 $	137,139 $	104,033 $	1,645,669 $	103.41
Energy (electrical)	17,673 $	17,673 $	17,673 $	17,673 $	22,091 $	17,673 $	13,255 $	22,091 $	17,673 $	17,673 $	17,673 $	13,255 $	212,074 $	13.33
SUPPLIES														
Maintenance supplies	10,448 $	10,448 $	10,448 $	10,448 $	13,060 $	10,448 $	7,836 $	13,060 $	10,448 $	10,448 $	10,448 $	7,836 $	125,376 $	7.88
General supplies	10,448 $	10,448 $	10,448 $	10,448 $	13,060 $	10,448 $	7,836 $	13,060 $	10,448 $	10,448 $	10,448 $	7,836 $	111,395 $	7.00
OTHERS														
Equipment rental														
Personnel training	4,388 $	4,388 $	4,388 $	4,388 $	5,448 $	4,388 $	3,329 $	5,448 $	4,388 $	4,388 $	4,388 $	3,329 $	52,661 $	3.31
Sub-contracts														
sub-total supplies	25,284 $	25,284 $	25,284 $	25,284 $	31,568 $	25,284 $	19,001 $	31,568 $	25,284 $	25,284 $	25,284 $	19,001 $	289,432 $	18.19
TOTAL PRODUCTION COSTS	180,096 $	180,096 $	180,096 $	180,096 $	223,904 $	180,096 $	136,288 $	223,904 $	180,096 $	180,096 $	180,096 $	136,288 $	2,161,156 $	135.81
GROSS PROFIT MARGIN	379,935 $	379,935 $	379,935 $	379,935 $	476,135 $	379,935 $	283,735 $	476,135 $	379,935 $	379,935 $	379,935 $	283,735 $	4,559,219 $	286.50

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	1	2	3	4	5	6	7	8	9	10	11	12	Year total	Ratio
ADMINISTRATION COSTS														
WAGES														
General manager	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Exec. Secretary	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Directors	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	6,753 $	81,037 $	5.09
Prod. Assistant	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Controller	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Order desk	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Sales person	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	11,255 $	135,061 $	8.49
Buyers	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Clercs	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Secretaries	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	2,623 $	31,471 $	1.98
sub-total wages	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	20,631 $	247,568 $	15.56
Fringe benefits	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	5,158 $	61,892 $	3.89
TOTAL WAGES	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	25,788 $	309,460 $	19.45
Marketing materiel (brochures, etc)	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	6,753 $	0.42
Publicity production fees	225 $	225 $	225 $	225 $	225 $	225 $	225 $	225 $	225 $	225 $	225 $	225 $	2,701 $	0.17
Advertising	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	563 $	6,753 $	0.42
													0 $	0.00
Stationary & Computer supplies	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Mail & courrier	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Communications	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	1,126 $	13,506 $	0.85
Insurance	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	2,251 $	27,012 $	1.70
Taxes	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	5,628 $	67,531 $	4.24
Legal fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Accounting fees	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Expense accounts (traveling, etc)	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	4,502 $	54,024 $	3.39
Equipment rental	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0 $	0.00
Personnel training	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	1,032 $	12,378 $	0.78
sub-total	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	15,888 $	190,659 $	11.98
TOTAL ADMINISTRATION COSTS	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	41,677 $	500,119 $	31.43
AMORTIZATION														
Building amortization	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	4,708 $	56,500 $	3.55
Machinery amortization	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	15,610 $	187,317 $	11.77
Vehicles	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	667 $	8,000 $	0.50
sub-total amortization	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	20,985 $	251,817 $	15.82
FINANCIAL COSTS														
Capital reimbursement on long term	10,003 $	10,061 $	10,120 $	10,179 $	10,238 $	10,298 $	10,358 $	10,418 $	10,479 $	10,540 $	10,602 $	10,664 $	123,959 $	7.79
Interest (long term)	18,484 $	18,426 $	18,367 $	18,308 $	18,249 $	18,189 $	18,129 $	18,069 $	18,008 $	17,947 $	17,885 $	17,823 $	217,886 $	13.69
Interest (short term)														0.00
Inventory	1,912 $	1,912 $	1,912 $	1,912 $	2,390 $	1,912 $	1,434 $	2,390 $	1,912 $	1,912 $	1,912 $	1,434 $	22,948 $	1.44
sub-total financial	20,397 $	20,338 $	20,280 $	20,221 $	20,639 $	20,102 $	19,563 $	20,459 $	19,920 $	19,859 $	19,798 $	19,258 $	240,833 $	15.13
TOTAL COST	1,342,239 $	1,342,181 $	1,342,122 $	1,342,063 $	1,656,061 $	1,341,944 $	1,027,826 $	1,655,881 $	1,341,763 $	1,341,701 $	1,341,640 $	1,027,521 $	16,102,941 $	1011.90
CASH GENERATED	317,862 $	317,920 $	317,979 $	318,038 $	413,819 $	318,157 $	222,495 $	413,999 $	318,338 $	318,399 $	318,461 $	222,801 $	3,818,266 $	
NET PROFIT (before tax)	296,877 $	296,935 $	296,994 $	297,053 $	392,834 $	297,172 $	201,511 $	393,014 $	297,353 $	297,414 $	297,476 $	201,816 $	3,566,450 $	224.11
CUMULATIVE (PROFIT)	10,486,946 $	10,783,882 $	11,080,876 $	11,377,929 $	11,770,763 $	12,067,935 $	12,269,445 $	12,662,459 $	12,959,813 $	13,257,227 $	13,554,703 $	13,756,519 $		
Cash at startup	0 $													
CASHFLOW	317,862 $	635,782 $	953,760 $	1,271,798 $	1,685,617 $	2,003,773 $	2,226,269 $	2,640,267 $	2,958,606 $	3,277,005 $	3,595,465 $	3,818,266 $		

ATIKOKAN LVL Components Facility
Financial projections
Summary

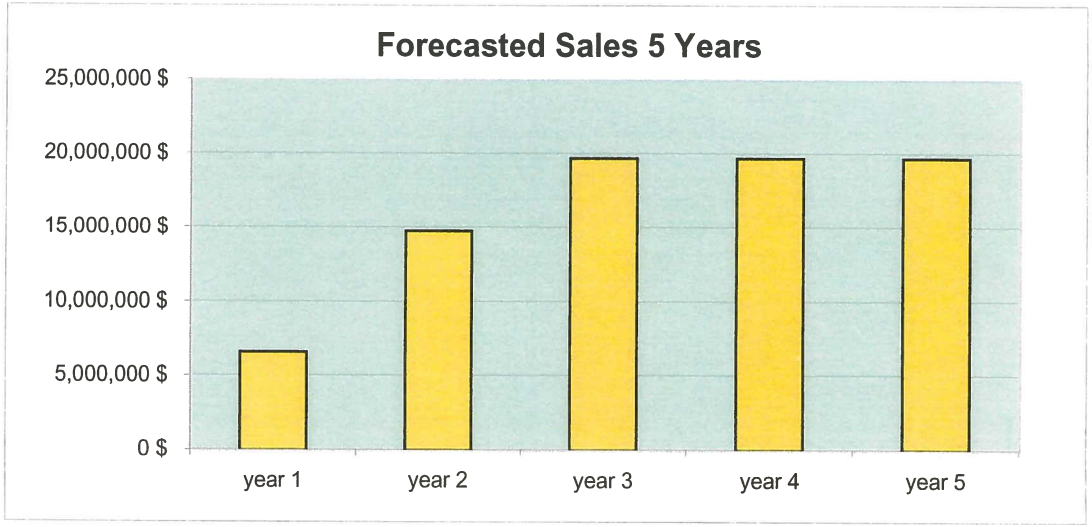
ITEM	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
SALES COMPONENTS	6,571,428 $	14,744,670 $	19,669,390 $	19,669,390 $	19,669,390 $
SALES BY-PRODUCTS	0 $	0 $	0 $	0 $	0 $
TOTAL SALES	6,571,428 $	14,744,670 $	19,669,390 $	19,669,390 $	19,669,390 $
Transport & discounts	0 $	0 $	0 $	0 $	0 $
NET SALES	6,571,428 $	14,744,670 $	19,669,390 $	19,669,390 $	19,669,390 $
Raw material supply (LVL)	4,369,695 $	9,706,908 $	12,949,015 $	12,949,015 $	12,949,015 $
Production cost	785,279 $	1,509,446 $	2,049,271 $	2,104,387 $	2,161,156 $
GROSS PROFIT MARGIN	1,416,455 $	3,528,317 $	4,671,104 $	4,615,988 $	4,559,219 $
ADMINISTRATION COSTS	445,440 $	458,407 $	471,410 $	484,396 $	500,119 $
Amortizations	350,000 $	321,450 $	295,755 $	272,630 $	251,817 $
Financial costs	225,552 $	235,088 $	240,833 $	240,833 $	240,833 $
TOTAL COST	6,175,966 $	12,231,299 $	16,006,285 $	16,051,261 $	16,102,941 $
NET PROFIT (before tax)	395,463 $	2,513,372 $	3,663,105 $	3,618,130 $	3,566,450 $
Cash generated	745,463 $	2,834,822 $	3,958,860 $	3,890,759 $	3,818,266 $
Cash flow (incl. working capital at startup)	745,463 $	2,834,822 $	3,958,860 $	3,890,759 $	3,818,266 $
Capital reimbursement (long term debt)	123,959 $	123,959 $	123,959 $	123,959 $	123,959 $
Long term dept	3,044,791 $	2,920,832 $	2,796,873 $	2,672,913 $	2,548,954 $

ATIKOKAN LVL Components Facility
Financial projections
Unit cost analysis

Item	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
	per m3	% of sales	per m3	% of sales	per m3	% of sales	per m3	% of sales	per m3	% of sales
SALES										
LVL (m3)	5,838		11,929		15,914		15,914		15,914	
Selling price / m3	**1,125.65 $**	**100.00%**	**1,236.01 $**	**100.00%**	**1,236.01 $**	**100.00%**	**1,236.01 $**	**100.00%**	**1,236.01 $**	**100.00%**
By products	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Gross sales	1,125.65 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%
Transport cost	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Discounts	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Cost of sales	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
NET SALES	1,125.65 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%	1,236.01 $	100.00%
COST RAW MATERIAL	**748.50 $**	**66.50%**	**813.71 $**	**65.83%**	**813.71 $**	**65.83%**	**813.71 $**	**65.83%**	**813.71 $**	**65.83%**
PRODUCTION COSTS										
WAGES										
Operators	32.37 $	2.88%	31.33 $	2.53%	32.27 $	2.61%	33.24 $	2.69%	34.24 $	2.77%
Receiving & shipping	43.17 $	3.83%	41.78 $	3.38%	43.03 $	3.48%	44.32 $	3.59%	45.65 $	3.69%
Quality control tech.	6.89 $	0.61%	3.47 $	0.28%	2.68 $	0.22%	2.76 $	0.22%	2.84 $	0.23%
sub-total wages	82.43 $	7.32%	3.06 $	0.25%	3.12 $	0.25%	3.21 $	0.26%	3.31 $	0.27%
Fringe benefits	20.61 $	1.83%	19.14 $	1.55%	19.50 $	1.58%	20.08 $	1.62%	20.68 $	1.67%
Total production wages	**103.03 $**	**9.15%**	**17.27 $**	**1.40%**	**17.55 $**	**1.42%**	**17.86 $**	**1.45%**	**18.19 $**	**1.47%**
Energy (electrical)	**14.18 $**	**1.26%**	**13.33 $**	**1.08%**	**13.33 $**	**1.08%**	**13.33 $**	**1.08%**	**13.33 $**	**1.08%**
SUPPLIES										
Maintenance supplies	7.00 $	0.62%	7.21 $	0.58%	7.43 $	0.60%	7.65 $	0.62%	7.88 $	0.64%
General supplies	7.00 $	0.62%	7.00 $	0.57%	7.00 $	0.57%	7.00 $	0.57%	7.00 $	0.57%
OTHERS										
Equipment rental	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Personnel training	3.30 $	0.29%	3.06 $	0.25%	3.12 $	0.25%	3.21 $	0.26%	3.31 $	0.27%
Sub-contracts	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
sub-total supplies	**17.30 $**	**1.54%**	**17.27 $**	**1.40%**	**17.55 $**	**1.42%**	**17.86 $**	**1.45%**	**18.19 $**	**1.47%**
TOTAL PRODUCTION COSTS	**134.51 $**	**11.95%**	**126.53 $**	**10.24%**	**128.78 $**	**10.42%**	**132.24 $**	**10.70%**	**135.81 $**	**10.99%**
GROSS PROFIT MARGIN	**242.63 $**	**21.55%**	**295.77 $**	**23.93%**	**293.53 $**	**23.75%**	**290.07 $**	**23.47%**	**286.50 $**	**23.18%**
ADMINISTRATION COSTS										
WAGES										
General manager	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Exec. Secretary	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Directors	12.33 $	1.10%	6.22 $	0.50%	4.80 $	0.39%	4.94 $	0.40%	5.09 $	0.41%
Prod. Assistant	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Controller	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Order desk	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Sales person	20.56 $	1.83%	10.36 $	0.84%	8.00 $	0.65%	8.24 $	0.67%	8.49 $	0.69%
Buyers	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Clercs	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Secretaries	4.93 $	0.44%	2.49 $	0.20%	1.86 $	0.15%	1.86 $	0.15%	1.98 $	0.16%
sub-total wages	37.82 $	3.36%	19.06 $	1.54%	14.66 $	1.19%	15.05 $	1.22%	15.56 $	1.26%
Fringe benefits	9.46 $	0.84%	4.77 $	0.39%	3.67 $	0.30%	3.76 $	0.30%	3.89 $	0.31%
TOTAL WAGES	**47.28 $**	**4.20%**	23.83 $	**1.93%**	18.33 $	**1.48%**	18.81 $	**1.52%**	19.45 $	**1.57%**
			0.00 $		0.00 $		0.00 $		0.00 $	
Marketing materiel (brochures, etc)	1.03 $	0.09%	0.50 $	0.04%	0.40 $	0.03%	0.41 $	0.03%	0.42 $	0.03%
Publicity production fees	0.41 $	0.04%	0.20 $	0.02%	0.16 $	0.01%	0.16 $	0.01%	0.17 $	0.01%
Advertising	1.03 $	0.09%	0.50 $	0.04%	0.40 $	0.03%	0.41 $	0.03%	0.42 $	0.03%
Stationary & Computer supplies	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Mail & courrier	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Communications	2.06 $	0.18%	1.04 $	0.08%	0.80 $	0.06%	0.82 $	0.07%	0.85 $	0.07%
Insurance	4.11 $	0.37%	2.07 $	0.17%	1.60 $	0.13%	1.65 $	0.13%	1.70 $	0.14%
Taxes	10.28 $	0.91%	5.18 $	0.42%	4.00 $	0.32%	4.12 $	0.33%	4.24 $	0.34%
Legal fees	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Accounting fees	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Expense accounts (traveling, etc)	8.22 $	0.73%	4.14 $	0.34%	3.20 $	0.26%	3.30 $	0.27%	3.39 $	0.27%
Equipment rental	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%	0.00 $	0.00%
Personnel training	1.89 $	0.17%	0.95 $	0.08%	0.73 $	0.06%	0.75 $	0.06%	0.78 $	0.06%
sub-total	**29.02 $**	**2.58%**	**14.60 $**	**1.18%**	**11.29 $**	**0.91%**	**11.63 $**	**0.94%**	**11.98 $**	**0.97%**
TOTAL ADMINISTRATION COSTS	**76.30 $**	**6.78%**	**38.43 $**	**3.11%**	**29.62 $**	**2.40%**	**30.44 $**	**2.46%**	**31.43 $**	**2.54%**
AMORTIZATION										
Building amortization	9.68 $	0.86%	4.74 $	0.38%	3.55 $	0.29%	3.55 $	0.29%	3.55 $	0.29%
Machinery amortization	48.90 $	4.34%	21.54 $	1.74%	14.53 $	1.18%	13.08 $	1.06%	11.77 $	0.95%
Vehicles	1.37 $	0.12%	0.67 $	0.05%	0.50 $	0.04%	0.50 $	0.04%	0.50 $	0.04%
sub-total amortization	**59.95 $**	**5.33%**	**26.95 $**	**2.18%**	**18.59 $**	**1.50%**	**17.13 $**	**1.39%**	**15.82 $**	**1.28%**
FINANCIAL COSTS										
Capital reimbursement on long term	21.23 $	1.89%	10.39 $	0.84%	7.79 $	0.63%	7.79 $	0.63%	7.79 $	0.63%

Interest (long term)		37.32 $	3.32%	18.26 $	1.48%	13.69 $	1.11%	13.69 $	1.11%	13.69 $	1.11%
Interest (short term)											
	Inventory	1.31 $	0.12%	1.44 $	0.12%	1.44 $	0.12%	1.44 $	0.12%	1.44 $	0.12%
sub-total financial		**38.64 $**	**3.43%**	**19.71 $**	**1.59%**	**15.13 $**	**1.22%**	**15.13 $**	**1.22%**	**15.13 $**	**1.22%**
TOTAL COST		**1,057.91 $**	**93.98%**	**1,025.32 $**	**82.95%**	**1,005.83 $**	**81.38%**	**1,008.65 $**	**81.61%**	**1,011.90 $**	**81.87%**
NET PROFIT (before tax)		**67.74 $**	**6.02%**	**210.69 $**	**17.05%**	**230.19 $**	**18.62%**	**227.36 $**	**18.39%**	**224.11 $**	**18.13%**

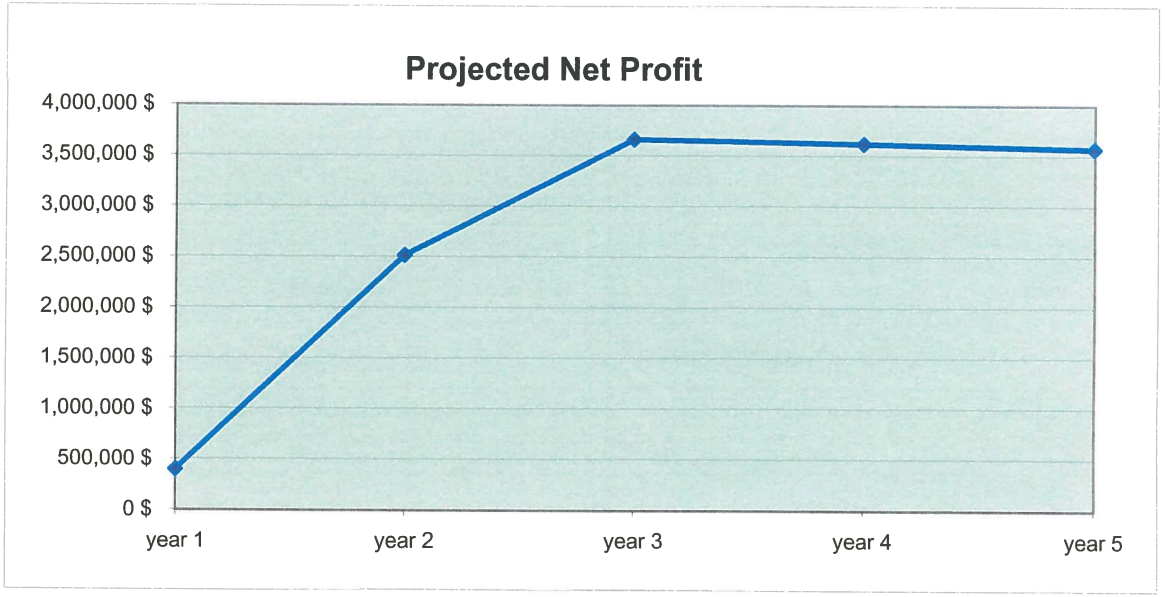
sales	
year 1	6571428
year 2	14744670
year 3	19669390
year 4	19669390
year 5	19669390



Wood	
year 1	4369695
year 2	9706908
year 3	12949015
year 4	12949015
year 5	12949015

Net profits

year 1	395463
year 2	2513372
year 3	3663105
year 4	3618130
year 5	3566450

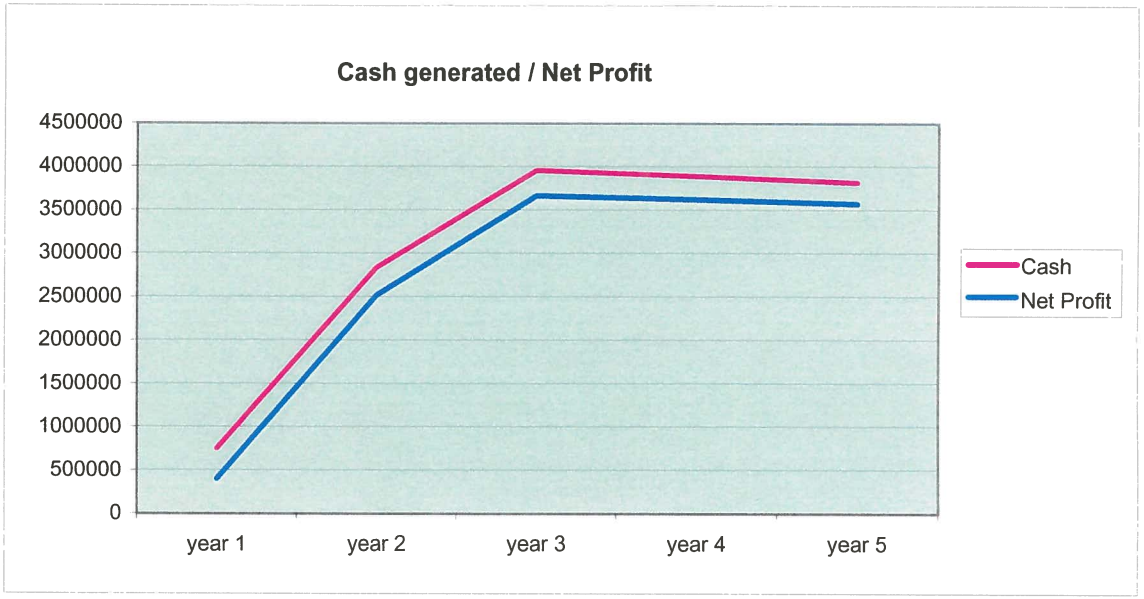


Selling price / cost per m3

	Price	Cost
year 1	1126	1057.91
year 2	1236	1025.32
year 3	1236	1005.83
year 4	1236	1008.65
year 5	1236	1011.90

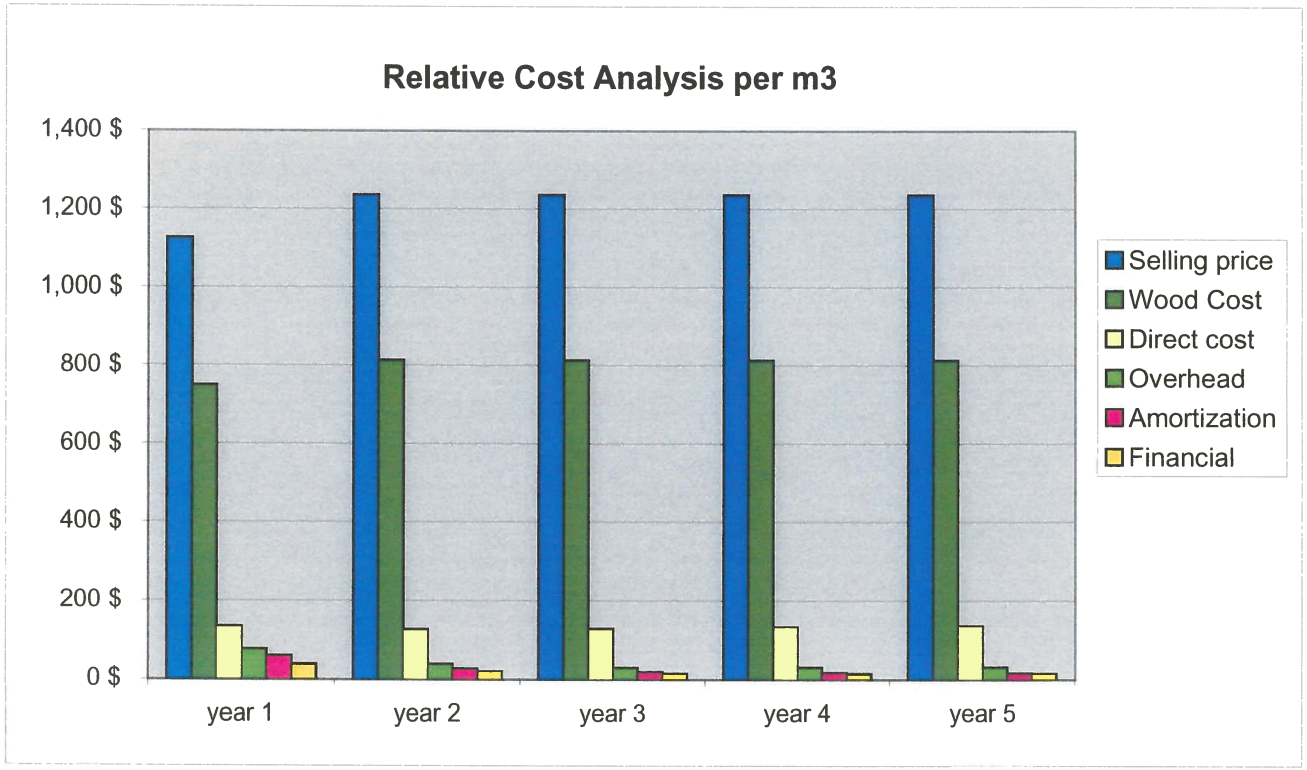
Cash generated / net profits

	Cash	Net Profit
year 1	745463	395463
year 2	2834822	2513372
year 3	3958860	3663105
year 4	3890759	3618130
year 5	3818266	3566450



Cost analysis

	Selling price	Wood Cost	Direct cost	Overhead	Amortization	Financial
year 1	1125.65	748.50	134.51	76.30	59.95	38.64
year 2	1236.01	813.71	126.53	38.43	26.95	19.71
year 3	1236.01	813.71	128.78	29.62	18.59	15.13
year 4	1236.01	813.71	132.24	30.44	17.13	15.13
year 5	1236.01	813.71	135.81	31.43	15.82	15.13



The Manufacturing Process

LVL Facility and Equipment

Boreal Resource Strategies is recommending that Raute Inc; supply the required equipment to produce world-class LVL in Atikokan. This firm has a world-wide reputation manufacturing, installing, training, and maintaining the equipment they produce. Raute is also very adept at continuous improvement and can be counted on to discover new opportunities to make further improvement recommendations to plant management.

As Raute reports in its marketing documentation, their formula is;

(Recovery + Quality + Productivity) X Capacity = profitable production of wood products

BRS has extensive experience with Raute and agree that they are the world leaders in veneer/plywood, and LVL equipment. As witnessed in Europe this past spring, Raute is the premier supplier to this industry, and the relationships that are developed and maintained with the plant personnel confirmed to me what I have experience in Canada, that Raute is responsive to the plant's needs. They find solutions to equipment problems as well as make experienced recommendations as to a plant's bottlenecks that are preventing the plant from achieving performance efficiencies.

Raute has an extensive world-wide support system and are available in Canada whenever requested.

Raute is well connected in the industry and is aware of what is required for the industry to remain profitable.

The Atikokan LVL plant will be using an under-utilized, small diameter raw material. Raute is very familiar with the quality expectations of LVL, and as the logs to be supplied to this facility are of a smaller diameter, log yield is a major factor when it comes to equipment selection. Raute is a leader in small diameter log peeling.

The LVL Process

(Following the log from the wood yard through to the shipment of the product)

<u>Log Preparation- the "Green-end" of the mill</u>

- The LVL – grade log is retrieved from the "sorted by size" (diameter) log inventory, and placed on log slashing deck
- The log is then slashed down to the best 12 .2 foot sections provided by the tree-length log, which is estimated to average 36 feet. The slasher operator will look for the straightest log opportunities for the debarking and peeling process.
- Once the logs are slashed down to the 12 .2 foot sections, they are placed in a steam-heated conditioning chamber for approximately 10 hours, depending on the season. This essential step conditions the log for the lathe that requires a specific log peeling temperature and moisture to maximize the peel-ability of each log – to avoid spin-outs, which wastes wood.

- With the logs now conditioned, they are placed in the start of a series of ponds that serves 3 functions; the ponds remove any sand or dirt that can impact the precision lathe knives; they assist with further temperature control, and assists with lining up the logs to travel to the de-barker.
- Once the logs are in the ponds, they travel further to the ring de-barker, where they have their 2 layers of bark removed.
- Once de-barked, the logs enter onto a series of log conveyors and enter the final slashing system which will further process the logs into perfect-length 6 foot logs for the lathe. By ensuring the logs are exactly 6 feet, the lathe can maximize efficiency, as all the veneer peeled will be contained on the out-feed conveyors, and used by the process.
- Now the logs are ready to approach the lathe deck areas, where the log is first charged into a pre-lathe or round-up lathe that turns the log against a knife that will turn the log into a perfect cylinder. This round-up lathe improves peeling efficiency, raising lathe productivity by 40% because excessive knife wear is eliminated.
- Now that the log is rounded-up, the log is now picked-up by the log carriage system.
- The log is now scanned to fit onto the lathe knife carriage. A great deal of the latest technology available to the industry is applied at the lathe to maximize log yield and ensure peel quality, which provides the best veneer. The precision equipment centres the block and the peeling process begins.
- The log is now peeled down to a 1 ¾ inch core, and the veneer continues along a series of trays or conveyors, usually stacking conveyors, that permits the lathe to continue the peeling process without having to stop or slowdown to wait for the conveyors to take away the peeled veneer. The small diameter Raute lathe that I experienced in Latvia peeled 6 logs in one minute! The lathe is another potential bottleneck for a veneer plant, as everything downstream is dependant on the output of the lathe. The lathe must be maintained, and set at maximum operating efficiency, which includes sharp knife supply.
- Now the log is peeled into veneer, and the veneer is scanned for defects and moisture grading. The defect scanner will actually clip-out the defective veneer, based on a pre-determined set of parameters.
- The acceptable veneer is graded and stacked automatically in veneer stackers.

Veneer Drying – the "Dry-end" of the mill

- The green or wet veneer is now placed on conveyors that feed the dryer. The 3- level steam-heated dryer will pass the veneer through a number of dryer sections, controlling the moisture of the veneer. The goal is to dry the veneer to 4% moisture, consistently. Technology inside the dryer will monitor and mark any veneer that cannot meet the moisture parameter, and this veneer will then be collected and re-entered into the dryer to achieve the prescribed moisture. The dryer is always one of a veneer mill's bottlenecks, and focus must be placed on this equipment to maintain throughput, as every process downstream of the dryer depends on dryer output.
- With the veneer now dried it is again stacked into a series of bundles depending on the grade. The veneer is also scanned for strength properties here as well.
- Some of the peeled veneer does not end-up being a 6x6 sheet, and these partial or random sheets are also dried.

- Now that the veneer is dried, depending on its full-sheet or random sheet designation the sheet will either travel to the scarfing process or if a random sheet, will travel to a veneer composer to be re-attached to other random sheets to make full sheets ready for the gluing and press process. The Composing stage is an essential step for this facility as there will be a considerable volume of randoms due to the birch sweep expected. The lathe also plays a major role in reducing the amount of randoms.
- Once the veneer sheets are all full sheets, they are placed in the scarfing equipment. Scarfing is a method to prepare the veneer to be joined together at its ends. This scarfing step maximizes the strength properties of LVL. Some LVL plants in Europe just overlap these joints, which reduces strength and is less appealing to the customer.
- The veneer is now ready to have a curtain of phenolic resin applied, at the glue spreader.
- Once the veneer is coated with resin, it is then ready for the lay-up process for the pressing step. The veneers are now placed on top of each other and ready for the pre-press, to be squeezed together to prepare the layers of veneer for hot pressing.
- Now the veneer is entered into the hot continuous press that is 60 feet in length.
- The out-feed of the hot press produces a rough –looking plywood panel, which now requires further grading to detect whether any blows or delaminations occurred during pressing due to improper drying. The long panels are now sanded, trimmed and sawn into the customer's required dimensions.
- The finished panels are now stored by customer dimensions in the giant warehouse that can house panels 2 inches thick by 6 feet wide and 60 feet long! An over-head crane is required to move the panels into the warehouse and onto trucks or flat deck rail cars, which can be loaded inside the warehouse.

The veneer manufacturing process for LVL is similar to that of plywood. The main differences between LVL and plywood are in lay-up, pressing, and product processing stages. In the manufacture of LVL, these processes are more automated and require a smaller workforce than with plywood.

The Equipment Choice delivers the "crooked birch" solution

The demand for LVL continues to grow, as architects, engineers and interior designers find new, innovative uses for this engineered wood product. LVL's success lies in superior technical properties and in the fact that it can be made from small-diameter logs.

This proposed facility's main diet will be smaller diameter logs averaging 8 inches in diameter. To minimize the logs required and maximize the output of the facility at the same time will require the latest technology available to peel these logs, as there is a characteristic inherent to white birch, it does contain sweep or crook.

To accommodate the potential of logs not being perfectly straight, the first equipment decision was to go with a 6- foot lathe rather than the traditional 8 –foot lathe. This decision was confirmed by Raute Engineers, based on the data supplied regarding the available species characteristics.

Next the peeling technology required to maximize every purchased log can be attained with smart-peel" technology, supplied by Raute. Peeling is one of the most critical steps in veneer production because this is when quality and recovery or log yield are created. The latest peeling technology incorporates the latest peeling geometry, precise digital knife carriage feed and the most rigid and accurate gap adjustment methods available. This technology has been proven and as mentioned previously the author witnessed this equipment operating in Finland and Latvia in the spring of 2005.

Since veneer quality is created during the peeling stage, peeling defects cannot be undone later. For this reason it is essential to keep the peeling process in tight control, from the first turn of the spindles until the core drops.

The available smart-peel technology recommended provides:

- Precise block or log centering
- Precise knife carriage feed
- Precise knife gap adjustment
- Precise block drive and position control
- Precise digital pitch angle control

These peeling parameters are synchronized, resulting in precise thickness control and fewer spin-outs.

As mentioned in the LVL process, BRS recommends the use of a round-up lathe ahead of the main lathe to increase the peel time of these smaller logs.

Performance data associated with this technology provides:

- Peeling capacity between 5-50m3/hour (the project requires 28)
- 18 cycles/minute and up (the project requires 6)
- spin-outs under 1%
- veneer thickness variation as low as 1.5%

In conclusion, the ability to peel small diameter birch logs begins with proper specifications being followed at the log merchandising site of the logging operation. Next the wood yard slashing system must slash the right log out of the tree length log. After this stage, the latest technology outlined above takes over and delivers the solution to the white birch crooked characteristic.

The European birch trees successfully processed in Finland and Latvia contain exactly the same characteristics that we contend with in northwestern Ontario.

RAUTE

Quotation No. LW5154

Mr. Richard Durocher
Atikokan/Lignico
407-1200 chemin du Golf
Nun's Island, Quebec,
H3E 1P5

PRICE(S)

One (1) Greenfield LVL plant incl. log yard, peeling & drying **€19,467,000**
Raute Wood Drawing No. 1R262190

The machine prices listed above are based on current raw material prices. The prices of the machinery are subject to raw material price increase. In case the world market price for an important raw material increases more than 10%, Raute has the right to adjust the offered price accordingly. The final price for the machinery shall be adjusted and fixed accordingly on the date the contract becomes effective.

TERMS OF PAYMENT

Prices are quoted in Euro currency, plus taxes and duties where applicable.

30% down payment with order
30% progress payment
30% on notice to ship
10% net 30 days after shipment

A service charge of 1.5% per month is charged on all overdue accounts.

CURRENCY & EXCHANGE RATES

Pricing is based on foreign exchange rates on the date of issue of this proposal. Raute reserves the right to adjust pricing based on exchange rate fluctuations.

SHIPPING TERMS & TIME

FCA our shop, Nastola, Finland (Incoterms 2000).

Schedule and dates to be determined upon receipt of technically clear and firm purchase order.

RAUTE

Quotation No. LW5154

CONDITIONS

All quotations, sales and agreements are made without liability to Raute Wood for damages arising from delays of manufacturers, strikes, carriers, unavoidable accidents and other causes beyond our control.

Raute Wood reserves the right for minor variations in the details of design or construction of any of the specified equipment in this proposal, and if ordered, will not give rise to defect or default, or entitle the buyer to repudiate the final sales contract issued for the quoted equipment as per the order acknowledgement.

WARRANTY

See "Agreement for the Purchase and Sale of Equipment".

STANDARDS

Raute Wood machinery and component standard.

VALIDITY

This proposal is valid for 30 days.

We hope these conditions meet your requirements and look forward to hearing from you for further discussions.

Sincerely,
RAUTE WOOD LTD.

Per: Cam Davis
Sales Engineer

CONTACT PERSON

Andre Klemarewski, LVL Technology Manager
Raute Wood Ltd., New Westminster, BC
phone: (604)524-6611, fax: (604) 521-4035
e-mail: andre.klemarewski@raute.com

ENCLOSURES:

Appendix 1A-00 - Production and Technical Data
Appendix 1B-00 - Operation Description
Appendix 2A-00 - Machine List
Appendix 3-00 - General Scope of Delivery
Appendix 6A-00 - Document Standard
Appendix 6B-00 - Component Standard
Appendix 6C-00 - Painting Standard
Drawing(s)

RAUTE

Appendix 1A-00, Quotation No. LW5154
PRODUCTION AND TECHNICAL DATA

GREENFIELD LVL PLANT

Processing of 155 000 m^3 of Birch blocks per year

Raute Wood Drawing No. 1R262190

1 INITIAL DATA

Wood species		Birch
Supply of peeler blocks	appr.	155 000 m^3/year
- measured under bark actual volume		
Specific gravity, at 0% moisture - Birch		600 kg/m^3
Average IMC used in calculations - Birch		120%
Average FMC used in calculations		5%
Log/block diameters:	max.	800 mm lathe swing
min.		160 mm
Log lengths	min.	4 m
max.		6 m
Block length, nominal		4 m
Block diameters, rounded	avg.	219 mm

2 PRODUCT DATA

Veneer sheets used for LVL (scarfed length)		6' x 6'
		1940 x 1920 mm
Veneer thickness		2.5 - 4.2 mm
LVL production		Phenolic glued LVL panels for structural use
LVL width, trimmed net		1830 mm
LVL length		5000 - 18 000 mm
LVL thickness	nom.	27 - 90 mm
		In veneer thickness steps
Veneer thickness for LVL		3.2 - 4.2 mm
LVL with or without cross plies		
Total LVL production	max.	70 000 m^3/year

3 WORKING TIME

Year	Log handling and green veneer production	230 days
	Dry veneer and LVL production	330 days
Shifts per day		
	Log handling and green veneer production	3 shifts
	Dry veneer and LVL production	3 shifts
Hours per shift		8 hours
Working time ratio used		0.85 - 0.90

4 ESTIMATED MATERIAL FLOW

Log supply to the mill should be enough for approximately 155 000 m^3 of birch peeler blocks (measured under bark). Actual need depends on the actual log sizes and quality.

Estimated total dry veneer production is 85 300 m^3 per year of dry veneer. The machinery chosen is sized based on the above production balances mentioned in product data. Actual wood material quality and the local conditions will have an impact on the capacities and recoveries.

4.1 Flow chart estimate
Production of blocks and green veneer:

3 shifts/day, 230 days/year @ 0.85 ratio = 586 shifts/year

Process phase	Amount [m^3]	Shift amount [m^3]	Recovery percentage from blocks
Logs over bark - bark - saw dust - log ends	**183,500**	313	118%
Blocks for peeling - round-up - block core - spur - clipping waste	**155,000**	265	100%
Green veneer to drying	**104,700**	179	67%

4.2 Flow chart estimate production of dry veneer:

3 shifts/day, 330 days/year @ 0.90 ratio = 891 shifts/year

Process phase	Amount [m^3]	Shift amount [m^3]	Recovery percentage from blocks
- shrinkage (13% from green veneer volume) - rejects at drying			
Dried Veneer - composing loss - handling loss	**90,000**	101	58%
Veneer for LVL	**85,300**	96	55%

4.3 Flow chart estimate production of LVL :

3 shifts/day, 330 days/year @ 0.85 ratio = 841 shifts/year

Process phase	Amount [m^3]	Shift amount [m^3]	Recovery percentage from blocks
- veneer scarfing waste - rejected before lay-up			
Lay-up to hot press - compression - edge trimming	**77 800**	93	50%
Pressed LVL - cut to size waste - repair, reject	**70 000**	83	45%

5 CONSUMPTION DATA (estimates for production machinery)

Line	Power [kW]	Air @ 5bar [Nm^3/h]	Exhaust [m^3/h]	Water [l/min]	Natural gas	Heat [GJ/h]
Log handling	275					
Conditioning	N/A					N/A
Peeling	420	220		200		
Drying	530	220				29
Composing	70	30		8		
Scarfing	140	30	7 200			
Lay-up	300	100	10 000			
LVL pressing	100	20		N/A		1.6
LVL processing	230	10	15 000			
Total	**2 065**	**630**	**22 200**	**208**	**N/A**	

Voltage, power		460 V, 3-phase, 60 Hz
Voltage, controls		230 V, AC
Compressed air at air pressure	min.	5 bar
Cooling water for hydraulics, closed circuits		30 C°

Consumption data is given only for rough planning of the mill utilities. Data will be checked after final engineering of the machinery and is subject to modifications.

6 OPERATOR ESTIMATE

	Shift #1	#2	#3
Green veneer production			
shift supervisor	1	1	1
log acceptance	0	0	0
log infeed operator	1	1	1
debarker and cutting supervisor	1	1	1
chipper operator	0	0	0
lathe operator	1	1	1
clipper/stacker supervisor	1	1	1
grinding operator	1	0	0
Green veneer production total	**6**	**5**	**5 persons**
Dry veneer and LVL production line			
dryer feed operator, sheets/	1	1	1
dryer operator	0	0	0
veneer grading operator, sheets	1	1	1
composer operator	1	1	1
forklift operator	1	1	1
shift supervisor	1	1	1
scarfing operator	1	1	1
veneer feeding supervisor(layup)	1	1	1
glue application (layup)	1	1	1
lay-up	1	1	1
press control	1	1	1
panel handling	4	4	4
overhead crane operator	1	1	1
forwarding	2	2	2
Dry veneer and LVL production total	**17**	**17**	**17 persons**
Miscellaneous functions			
quality testing	1	1	1
rotating operator	3	3	3
boiler and dust operator	3	3	3
maintenance	5	3	3
security	1	1	1
Miscellaneous total	**13**	**11**	**11 persons**
LVL MILL production grand total	**36**	**33**	**33 persons**

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Appendix 1B-00, Quotation No. LW5154
OPERATION DESCRIPTION

GREENFIELD LVL PLANT based on 6' x 6' veneer sheets

Raute Wood Drawing No. 1R262190

1 GENERAL

The mill would produce LVL in 6 ft width. LVL with cross ply is also possible. The veneer sheets for LVL are of 6x6 ft nominal size.

2 LOG HANDLING

The logs arrive on site in lengths that are multiples of 6 ft, dimensions being roughly:

- 2 x 1950 = 3900 + cutting allowance = appr. 4 m
- 3 x 1950 = 5850 + cutting allowance = appr. 6 m

Logs are conditioned before being fed in to the LVL mill. Conditioning method selected by customer.

Logs are fed with a front loader onto the log handling line, which comprises:
- debarking
- metal detecting
- cross cutting to 6ft blocks
- block sorting

By products from this line are:
- Bark, which will be refined and used for energy
- Saw dust, which will be mixed with bark
- Lilly pads, which will be chipped and used for energy
- Rejected blocks, which are cut and chipped and used for energy

Blocks are kicked from the line directly to the peeling line.

Operators:
- One to supervise log feed
- One at cross cut saw

3 PEELING

A high capacity 6 ft peeling line with 4-bin stacker system transforms blocks into veneer. Sheets are stacked automatically.
Peeling line is designed for high capacity, low labor requirement and high recovery.
Full sheets are graded according to moisture level into two grades automatically.

By products:
- Round-up, clipping waste and cores, are chipped for pulp.

Operators:
- One peeler operator
- One clipper/stacker supervisor

4 VENEER DRYING

One 6-deck veneer roller dryer is used. The veneer grading takes place on the drying line. Two 6x6 sheets are fed side by side automatically by dryer feeder into the dryer. The dryer is steam heated.

Full sheets are graded on the drying line under control of one supervisor. Veneer moisture content is checked with a Raute Wood Moisture Meter.

There are 6 bins for stacking of different veneer grades. The bins accept 6x6 sheets.

By products:
- Rejected green and dry veneer sheets will be chipped for pulp or energy
- Exhaust air from dryer is led into scrubber (supplied by others) for washing and heat recovery.

Operators:
- Two dryer feed operators
- One veneer grader
- One stacker supervisor
- One green veneer fork lift driver

5 VENEER COMPOSING

There is one 6 ft veneer composer installed for recovering sheets with defects. The composer produces 6 x 6 ft. core or cross ply veneer for LVL

By products:
- dry clipping waste will be chipped for energy.

Operators:
- one composer operator

6 VENEER SCARFING

LVL veneers are scarfed prior to lay-up. Veneers are also graded in the scarfing line. A moisture meter is provided to prevent high moisture veneers entering the LVL line. A Metriguard veneer tester is included for grading of veneers based on structural properties. Visual grading by the operator is also possible.

Veneer grades:
- face, back and core

Butt veneer sawing also takes place in the scarfing line.

By products:
- scarfing waste for energy
- rejected sheets chipped for energy

Operators:
- Scarfing line supervisor.
- Dry veneer fork lift driver

7 LAY-UP AND PRE-PRESSING

An extruder is used for glue application.

A dual tablet fully automatic lay-up system with programmable lay-up recipes.

Prepress is divided into four sections, 4 x 3.9m = 15.6 m long. Pre-pressing time with 45 mm product is about 5 minutes.

The loose side of the billet is edge hogged after pre-pressing.

By products:
- edge hogging waste for energy
- rejected sheets chipped for energy
- washing water remixed into glue
- glue waste sent to glue supplier for waste handling

Operators:
- Veneer feed supervisor
- Lay-up operator

8 HOT PRESSING

3-opening 6x 60 ft hot press. Nominal capacity 70,000 m^3 per year. Heating with hot oil (hot oil heater by others)

By products:
- None

Operators
- Hot press operator

9 LVL BILLET HANDLING

To include:
- Cross cut and rip sawing for LVL beams and headers
- Stacking of LVL stock
- Packaging including film wrapping and strapping of LVL stock

Hot pressed billets enter the 3-deck conveyor, from where they are transferred one by one onto the sawing line. LVL billets are first cut to final lengths with a semi-automatic cross cut saw and then ripped and stacked. Stacks are finally wrapped and strapped.

By products:
- Saw dust for energy
- Rejected billets chipped for energy

Operators:
4…6 persons

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Appendix 2A-00, Quotation No. LW5154
MACHINE AND PRICE LIST

GREENFIELD LVL PLANT based on 6' x 6' veneer sheets
Processing of 96 600 m^3 of Pine and Spruce logs into 37 000 m^3 LVL per year

Raute Wood Drawing No. 1R262190

Item	Qty.	Product	€ Price
1	**BASIC SCOPE OF DELIVERY, VENEER MILL**		
01.00	1	RAUTE LOG HANDLING LINE	€ 1 277 000
03.00	1	PEELING, CLIPPING AND STACKING LINE, 6 FT	€ 3 426 000
06.00	1	VENEER DRYING-GRADING LINE VTS6 4800-17+3	€ 3 599 000
11.00	1	RAUTE VENEER COMPOSING LINE C 2000	€ 717 000
17.00	1	VENEER STACK TURNING DEVICE	€ 125 000
41.00	1	RAUTE VENEER SCARFING LINE 2000x2000	€ 1 522 000
40.00	1	RAUTE 6-FT LVL LINE, 6x6 ft CONCEPT Including: AUTOMATIC LAY-UP SYSTEM AND PRE-PRESS, 6x51 FT 3-OPENING LVL PRESS SYSTEM, 6x60 FT LVL BILLET HANDLING LINE, 6x60 FT BILLETS	€ 8 491 000
98.00	1	MILL WIDE PRODUCTION REPORT SYSTEM	€ 310 000
		TOTAL PRICE OF LVL MACHINERY	**€ 19 467 000**
		At today's exchange rate of 1.41 =	**CDN $27,450,000**

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Appendix 2A-00, Quotation No. LW5154
MACHINE AND PRICE LIST

Item	Qty.	Product	€ Price
1.1		**OPTIONAL EQUIPMENT REQUIRED FOR LVL MILL**	
02.00	1	LOG CONDITIONING	N/A
94.00	1	KNIFE AND BLADE SHARPENING EQUIPMENT for lathe, clipper and chipper knives (max. length 3100 mm) and for rip, cut-off and trim saw circular blades (max dia 600 mm)	€ 290 000
91.00	1	SECONDARY PRODUCT HANDLING Wood residue handling at production lines	€ 790 000
93.00	1	RAUTE AUTOMATIC GLUE KITCHEN, PHENOLIC Mixing and dosing the glue for lay-up	€ 135 000
95.00	1	LVL-TEST LABORATORY EQUIPMENT	N/A

Item groups marked with 'NA' are not included in the total price. These item groups are however needed in the mill and Raute is willing to offer them after discussing the requirements with the customer.

Machinery prices are based on use of Raute Wood standard components as specified in the appendices. Other makes are available at an additional cost.

2 TECHNICAL SERVICES

2.1 ESTIMATE FOR INSTALLATION SUPERVISION (BASIC SCOPE) € 930 000
Cdn $1,311,300

Estimated duration of the installation and start-up is 7-8 months and RAUTE's supervisors will be present at site to perform jobs:
- Project managing and chief supervising
- Mechanical supervising
- Electrical supervising
- Control supervising
- Start-up and training

Other terms for the supervision: (See appendix 5A)
- travel and accommodation costs to be paid by the Buyer
- for each extra day our charge is € 700
- pricing is based on 6 days/8 hours per week
- duration of installation depends on the local conditions and number of available local installation personnel.

Item	Qty.	Product

2.2 SETS OF SPARE PARTS (BASIC DELIVERY)

The set of spare parts consists of spares required for one years' use under normal operation conditions. Commonly use of spares is approximately 4% of the machinery price. Spares to be quoted later.

2.3 FREIGHT ESTIMATE

Estimated number of containers or Euro Trailers for basic delivery:
95 x 40 ft Dry Cargo Containers
15 x 40 ft Flat Rack, over size

2.4 EXCLUDED FROM THE SCOPE

AUXILIARY EQUIPMENT AND ALL CIVIL WORKS
- pipe works for air and steam, cranes, forklifts ...

OPERATOR PLATFORMS AND STAIRS FOR THE MACHINERY
MAINTENANCE TOOLS
- mechanic, electric

BOILER PLANT with WATER TREATMENT

ELECTRIC POWER (generator set or other source)

AIR COMPRESSORS

WASTE WATER HANDLING

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Appendix 3, Quotation No. LW5154
GENERAL SCOPE OF DELIVERY

DELIVERY INCLUDES FOLLOWING ITEMS:

1 Machines

Machines and equipment according to the machine lists and technical specifications enclosed to the Contract.

2 Electric Equipment

Control centers, motor control centers (MCC), operator control desks, terminal boxes;
All necessary electric motors, if not excluded in technical specifications;
Switches, contactors, push buttons, limit switches;
Actuators and limit switches are wired up to the terminal boxes at the factory, if possible for transportation;
Cables between machines, control centers, control desks/consoles, control boxes and terminal boxes;
Cable racks and other accessories for electrical installation (conduits, cable ties, marking kits etc.).

3 Pneumatic Equipment

Cylinders and valves;
Service units (filters, regulators, lubricators, water separators etc.);
Internal pneumatic pipings from service units to actuators.

4 Hydraulic Equipment

Hydraulic power units;
Pipes and hoses between hydraulic units and machines;
Pressure gauges;
Regulation device.

5 Pressure Equipment

Pressure equipment as per EU directive 97/23/CE.

6 Painting

Painted with primer and surface paints and colors according to Seller´s STANDARD FOR PAINTING.

7 Anchor Bolts

Bolts for fastening machines to the foundation.

8 Technical Documents

Foundation, installation, electrical and other drawings as well as operation and maintenance manuals as per Raute's Document Standard (Appendix 6A) will include:

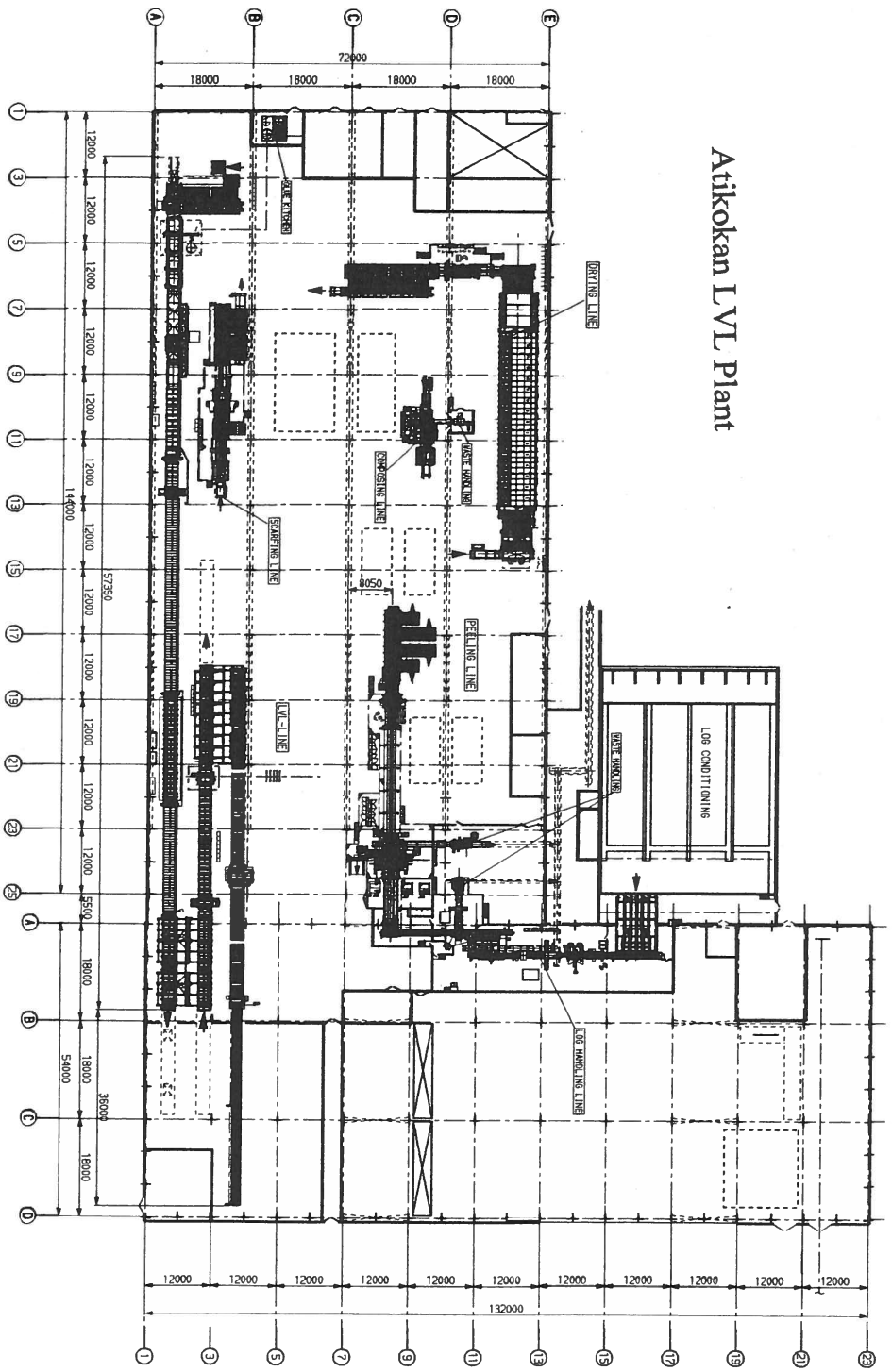
- Preliminary project documents
- Project documents
- Operation and maintenance manuals

All documents in English in three paper copies.

9 Software

PC and PLC (Programmable Logics Control) software necessary for the control of the equipment, ready programmed in the control system's memory;
PC and PLC program back-up copies (on CD Rom or as agreed).
The PL software comments are in English.

Atikokan LVL Plant



RAUTE

LAYOUT
LVL PLANT

1R262190

Projection	Scale	Printed
	1:400	02-03-20
		02-03-20

NISA
SINH

Human Resources

The human resources potential of this project would make a positive impact on northwestern Ontario at a time when all levels of government are searching for solutions to sustain their communities. The required employees for this LVL facility will impact 240 northwestern Ontario residents with direct potential employment opportunities, and create an additional 800 in-direct spin-off employment prospects. This section will outline where the employment opportunity is by position and where the author expects to see the employees originate.

Direct Employment

The LVL facility will require 180 employees for a 24/7 operation with an additional 60 employees required in the component manufacturing facility, again on a 24/7 schedule. This equates to a requirement of 240 positions on a 24/7 operation at the 2 facilities. This amount also includes administrative and supervisory employees.

The breakdown of positions required by type of employment is:

Production labourer positions	201
Trades	16
Supervisory/Mgmt/Clerical	23
Total	**240**

Production labour

Potential employees that will originate from the community will see the opportunity to gain employment with the LVL facility as a once in a lifetime chance. A chance at a permanent, full-time job at a new facility, that pays a higher wage that they are used to in a service position in the Town. The added opportunity to access a benefit package is extremely attractive to future employees.

The requirements of the potential employee will be:

1. Grade 12 education (depending on facility owner's direction)
2. Ability to work in a mill manufacturing setting
3. Good physical condition for production positions
4. Ability to work shift work
5. Ability to re-locate to Atikokan

A choice will be required as to whether a grade 12 diploma is necessary, and we are suggesting that to assist the Town of Atikokan, it is recommended that a grade 12 diploma or equivalent be required, with the plan to encourage potential employees to achieve their grade 12 status. There are opportunities to obtain a graduated grade 12 certificate, and it would be prudent to establish this requirement as long as there is a chance for potential employees to acquire the needed document.

An employee with his/her grade 12 will have the ability to comprehend work instructions as well as providing the background to develop operating procedures, as well as understand the minor mathematic systems encountered.

As the northwest is traditionally a raw material processing centre, there are mill-trained employees that would possess forest products job skill experiences throughout the region. Due to this fact, it is felt that the required employees would be found within the region.

Although there will be pressure to hire local, the expectation is that to fill these positions, there will be a requirement to reach outside of the Town of Atikokan. There are opportunities to expect that displaced Atikokan Power Generating Station (APGS) employees that do not participate in a retirement option will be interested in continuing to work and remain in the community. The closure of the APGS will impact approximately 90 employees; however there are a number of impacted employees that will transfer out to other power facilities, further reducing the potential employees available.

The downsizing of a pulping operation in Kenora, and other recent announcements of downsizing in the region will also provide another opportunity for potential forest products trained employees. The displacement of these employees should provide potentially 50 employees.

It is expected that advertising for employees will create an interest from the region including Thunder Bay, the closest larger population.

Local, provincial and federal government agencies provided some limited data regarding employee recruitment potential for the number of jobs required, and the result is that it is expected that the initial mill start-up employees can be recruited from the Town of Atikokan. It is expected that as the progress of the mill ramp-up continues, the need for additional employees over 3 years will climb, and will have to be found outside of the Town.

Trades

If there is one challenge facing this project will be attracting trades-people to maintain the facility equipment. However, again with the recent forest sector announcements concerning paper mills, the C.E.P. (Communication, Energy, and Papermakers) Union has confirmed that they have displaced members seeking employment and would welcome the opportunity to re-locate, especially to a new facility.

The LVL facility will require 16 trades-people, with an even split of mechanical and electronic millwrights.

A recommendation would be to start an apprentice program as soon as the vendor technicians begin to put the components equipment together. It would even be beneficial to send a select group of these potential trades-people along with one or two apprentices to the location of the factory that will fabricate, test, and dismantle prior to shipping. These trades-people would than further understand the equipment and will be knowledgeable and helpful when the equipment arrives and ready for installation and commissioning. Growing your own millwrights is the future for the maintenance departments in the north.

The Ministry of Colleges and Universities have recently announced a new Apprentice Program for trades, which utilizes on-line training, requiring less time to be spent away from work and home. This program is the result of a request from the manufacturing sector, and trades associations. This is seen as a win/win from both the employer and employee with:

The employee being more available lowers costs, and with less time spent away from home encourages potential apprentices to sign-up.

Another positive is the employee completes the study portion of the training on his/her own time, which shows a commitment to the completion.

8.1.3. Where will employees come from?

Area	*Potential employee base**
Atikokan	*70*
Kenora/Dryden	*10*
Thunder Bay	*80*
First Nation	*10*
Fort Frances	*20*
other	*50*
total	***240***

* data originates from government sources of number of adult residents available in the region.

Table 23 Employment requires by Ramp-up phase

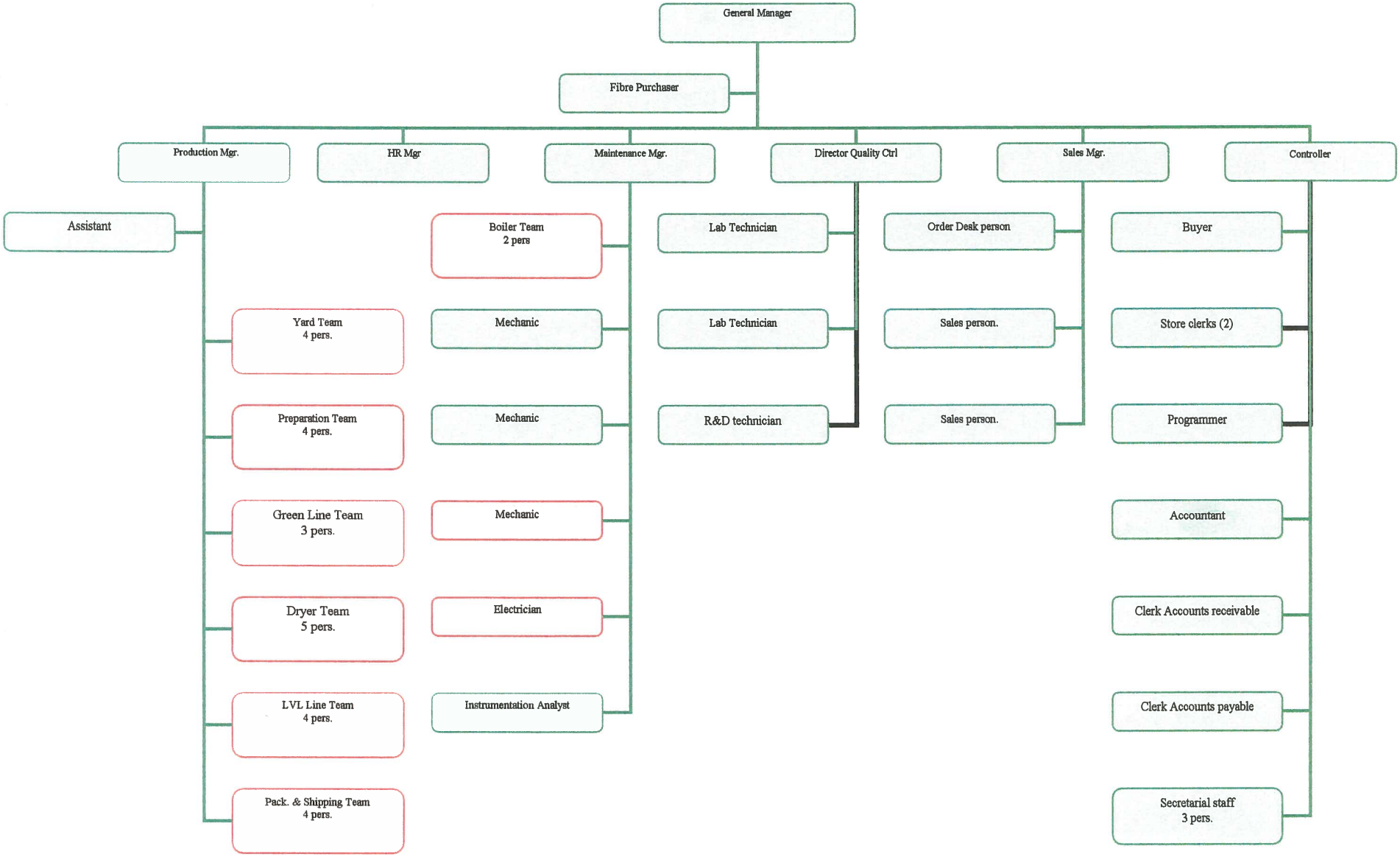
Table Employment levels by phase

LVL Employment Levels required by phase				
		LVL Plant	LVL Component Plant	total
Year 1	Phase 1 Commissioning	40		40
Year 2	Phase 2 Start- up	80	10	90
Year 3	Phase 3 Ramp-up - 2 shifts	100	30	130
Year 4	Phase 4 Ramp-up - 3 shifts	140	50	190
Year 5	Phase 5 Ramp-up to 24/7	180	60	240

The employment levels increase as the mill is ramped-up to full capacity (24/7). The ramping-up phases provide an excellent opportunity for the employer to recruit employees as needed, and permits better screening of employees. A mass hiring of employees can attract undesirable potential employees. When the facilities are at full capacity, a total of 240 employees are required. This total includes production labourers, trades, and management/supervisory staff.

ATIKOKAN LVL PLANT PROJECT

Organizational chart



Legend : subject to shift work
regular working hours

Training

Training is a crucial aspect to the early success of the facility. One dilemma that is created initially is the push to commission the equipment and ramp it up to create output to sell. At the same time, new employees need to become acquainted, skilled, and comfortable with the equipment to bring it up to budget production requirements. A great deal of attention is required by Supervision during this stage.

The initial training of the required employees-turned operators will be performed by the equipment vendors, that in our recommendation would be Raute Inc; and they are well-versed at supplying the training required to operate and start-up their quality equipment. Training will be crucial to the efficient start-up and commissioning phase, and must be budgeted accordingly.

One method recommended to achieve the required training at the same time as the plant is commissioned, is to designate workers into commissioning teams, to tackle the various job centres. These Commissioning Teams will become future Shift Team members. The Team Leader plays an important role during this phase.

Employees that receive their training during the start-up will be the next trainers once the mill reaches the next level requiring additional shifts. These employees will become future leaders, and potential supervisors.
Employees will also be required to receive legislated safety training and hazard recognition.

First Nations Opportunity

With assistance from various government levels there is an opportunity to employ First Nation residents that are also located with in the region. If the opportunity was made available to them, this would require transportation logistics to be arranged. This arrangement would be seen as a positive opportunity to the First Nations by the federal government. There are also fibre opportunities that could flow with such employment arrangements.

. Organized Labour

Currently within the region, the forest products facility's labourers are represented by the following labour organizations:

Communication, Energy and Paperworkers Union of Canada (C.E.P.)

United Steelworkers

It is expected that it would be difficult to establish this facility outside of the union, and our thoughts are that since a union appears to be inevitable, establishing a positive relationship from the beginning would permit items such as start-up wages while training vs. full-time wages, production incentives, probation extensions, and certain positions set-up outside of the bargaining unit can be negotiated at the start.

The C.E.P. has a system in place at Ear Falls, the High Performance Work System which is a partnership arrangement that involves all the employees, gaining accountability throughout the facility. The C.E.P. is supportive of this project and supplied a letter outlining their position is included on the next page. It is recommended that if a labour contract is negotiated that this system be utilized.

Figure 9 –Letter from Communication, Energy and Paperworkers of Canada Union

Communications, Energy and Paperworkers Union of Canada
Syndicat canadien des communications, de l'énergie et du papier

Ontario Region

December 21, 2005

Mr. Mike Shusterman
Business Development/Resources Manager
Fibratech Manufacturing Inc.
P.O. Box 1600
West End Industrial Site
Atikokan, ON P0T 1C0

Dear Mr. Shusterman:

Thank you for sharing details of your initiative with myself and National Representative Kim Ginter.

We share your enthusiasm for the LVL project in Atikokan; particularly since it utilizes an underused species. As a statement of principle, CEP supports such projects on the basis that existing manufacturing facilities are not in any way jeopardized by new players entering the market for fibre. In fact we see this, in concert with yourself, as a much needed opportunity for facilities such as Fibratech, Buchanan Northern Hardwoods and Bowater to secure their fibre needs.

We are also open and willing to work with you on the development of a high performance work system for this facility. The scenario at Ear Falls is indeed a good model, however, I'm sure you will agree that we should tailor that to the specific needs of an Atikokan facility.

Please call on us for any assistance or support you determine we can provide as you move forward.

Yours truly,

Cecil Makowski
Vice-President

CM:dk

cc: K. Ginter, National Representative, CEP

5915 Airport Road, Suite 510, Mississauga, ON L4V 1T1 Tel: (905) 678-0800 Fax: (905) 678-7868

Supervisory/Mgmt

The number of supervisory employees required to manage these facilities would be 23. It is expected that the majority of these employees can be recruited locally or in the region.

Quality Control

An important aspect of this facility is quality control especially since there is a regimented certification process that must be maintained as explained in the sales and marketing section. This is understandable as the product will be used in structural, load bearing applications.

Quality control technicians will be required to be recruited or trained by vendors as soon as certified production is available. These positions can be recruited locally.

Fibratech's quality control Director is well-versed in quality compliance and this presents another synergy opportunity.

Mill Management

The LVL facility will require personnel with plywood/veneer experience as well as knowledge of a Greenfield plant start-up. Previous veneer /plywood mill management and mill start-up experience currently exists at Fibratech. Other supervisory positions can be attained through Fibratech and from union members wishing to move to management positions.

Clerical

It is expected that the clerical staffing can be recruited from Atikokan. There is a strong educational background that exists amongst the residents, and there have been inquiries from the community regarding clerical opportunities with the Fibratech facility.

Rates of pay

This facility would be the third forest product facility within the immediate region. Wages are established, and the future wages would be similar, however there is an opportunity to structure pay to a reduced wage during start-up. As well, there is an opportunity to implement certain production incentive systems.

In-direct employment

The typical spin-off employment from a project such as this, is a 3:1 ratio.

Some of these positions are outlined below:

Construction employment will be required and will most likely be supplied from outside the region, although it would expected that there will be a push to hire as many local construction workers as possible. It is expected that there will be approximately 80 outside positions and a need for an additional 35 local construction helpers for a period of 10 months.

Harvesting

Local Logging firms have been contacted and they do not expect to see an increase in their employment levels, however they stated that they will be able to fully utilize their staffing and truck haul force with the additional volume. Job retention is the opportunity that they have predicted with such a project.

Support Services

Expected Support services from the resin supplier (2-3 additional trucking and logistics positions required as confirmed by Dynea),

Saw maintenance - the local saw maintenance vendor will add 2 saw filer positions, as confirmed by the Marcel's Saw Service.

CN Rail will see a doubling of their service requirements and this need may translate into an Atikokan-based crew, further increasing local employment.

Also in transportation, there will be offers from freight carriers to become exclusive transportation providers, and this can lead to another Atikokan-based service provider to the both the Fibratech and LVL facility.

Engineering Support – it is expected that Thunder Bay firms would supply the necessary engineering support services to see the facility develop from conception through to construction.

8.3. Summary

The human resources required to construct, commission, and ramp-up to full capacity, create employment opportunities that will impact the entire northwestern Ontario region. The direct employment will reach the **240** employee level, and the spin-off affect will provide another **800** in –direct employment opportunities. The direct employment potential is a major positive impact for northwestern Ontario alone. Coupled with the in-direct opportunity as well as the job retention potential, this project is a potential major employment strategy for all levels of government that should provide government offers of assistance to see this project come to fruition.

Synergies with Fibratech

The LVL facility creates a substantial amount of mutual financial synergy when combined with Fibratech Manufacturing Inc, which is the logical location to site the LVL facility. The resulting synergies lower costs for both facilities through a number of avenues:

- Service cost sharing, through volume discounts
- Sharing management staffing
- LVL mill residuals
- Out-bound truck and rail freight rates into similar geographies
- Mill consumables and maintenance parts
- Proposed plant site synergy

Service Cost Sharing

Fibratech is serviced by the following vendors or service providers that have indicated price reductions based on increased volume or traffic from the ability to service both facilities. The cost savings to Fibratech from service cost sharing would be $1.3 M annually, from the service providers listed below:

CN Rail
Dynea Resin
Union Gas
Hydro One/Atikokan Hydro
Propane
Saw Service (Marcel Saw Service)
Mill consumables (Acklands)
Parts suppliers (bearings, motors)

Sharing Management Staffing

Certain staff positions required by the LVL facility can also be found at the Fibratech facility. By merging the departmental responsibilities for both mills into one department, an annual savings of $592,500 can be realized by both facilities, not including the training savings using established department leaders.

Both facilities can share this available human resource, and this lowers costs for both, as well as providing the required experience and knowledge to the new facility. The LVL plant is a benefactor from this arrangement due to a reduction in training savings, as the people are already experienced in their positions, reducing or eliminating the training curve that would typically face a new venture.

The following staff positions and their mutual synergies are outlined below:

- **Fibre Manager** – the Fibre Manager can provide the Log Buyer function at the same time as performing the Fibratech sawdust/shavings residual supply duties for Fibratech. The residual synergies created by the LVL plant providing furnish directly to the oriented fibreboard plant frees-up Fibratech's current Fibre supply Coordinator to spend the time required to coordinate LVL log deliveries.

Sharing this position between the 2 mills provides a cost saving of $45,000 (loaded) annually to both mills. The Fibre Manager would remain a common contact between certain SFL holders that will supply LVL logs as well as the current sawdust/shavings supply to Fibratech. This arrangement would be a simple transition to providing fibre supply to both plants.

- **Resin management** – Fibratech's current resin management arrangement would be a simple transition to an additional volume of resin required on a weekly basis. This synergy would be a simple doubling of resin requirement through mutual scheduling. The 2 facilities would use similar resin formulas, making the supply a desirable opportunity for the existing resin supplier in Thunder Bay – Dynea.
  The increased volume of resin required will provide synergy cost savings in the resin price, as well as in freight discounting. This was confirmed by Dynea. The additional outlet for the resin supplier permits their plant to sustain their operation. Dynea's current customer base is under threat, especially with the recent rumours surrounding Nipigon's plywood plant's future.
  Sharing this staff position between both plants lowers this departmental cost by $30,000 for each plant.

- **Stores Management** – Stores management is another shared resource opportunity for both plants. Both facilities will require similar consumable items such as gloves, safety items, bearings, etc.
  There will be some differences between the plants, however the common required goods will create a cost saving. The Stores receiving and shipping functions will be a simple fit to merge the 2 plants Stores into 1. This is another example of experience and training that is already established, and no learning curve other than becoming familiar with the unique differences between the 2 plants. The savings on sharing staff-only reaches $60,000 for both mills. There are currently 2 positions supporting this department at Fibratech, and adding the extra parts required will not create a difficult transition.

- **Shipping/Scheduling** - The Shipping/Scheduling positions provide another easy opportunity to coordinate a shared department to service both plants. The set-up of the department is a natural synergy as both require out-bound freight coordination and load scheduling. This department would see this change as just an additional volume to contend with, and coordinate among the 2 plants special needs. There are currently 3 staff members supporting this department. The savings to both plants would amount to $187,500 annually. As noted, there are substantial savings opportunities available by contracting through 1 or 2 freight carriers, instead of Fibratech's current mix of freight providers. Fibratech has been approached by 2 major regional carriers interested in a long term arrangement.
- **Sales** – The Sales function is another department merging opportunity for both Fibratech and the LVL facility. The products are somewhat unique however after some immersion of Fibratech's current sales staff into the LVL product line , theses long term sales people will adjust to their current product offering. As we are promoting the Components direction for the LVL product, up to 20% initially, once the Component customers are established, the Sales personnel will only have to pay courtesy visits to maintain the relationship. The estimated savings for both facilities by merging the Sales requirement into 1 department, is $250,000 each plant.

- **Maintenance Management –** The Maintenance function is required by both facilities, and again, there is experience available from Fibratech. There are even certain millwrights available that are ready to make the jump into line management as maintenance coordinators. There will be a scheduling coordination requirement to merge the 2 facilities seamlessly; however this can be achieved through the start-up phase of the LVL faciltity. A lead-hand would be required at both facilities, in mechanical and electrical , reporting to the Maintenance Mgr.
- **Health and Safety, Human Resources, Environment –** This function is a perfect mill-sharing resource opportunity, as the Manager is contending with similar issues at both facilities –legislation compliance. The Manager of this department requires properly established relationships with government agencies that administer legislation in either safety, environmental, employee claims management, or human resource requirements. This is an obvious benefit that the site can deal effectively with the government agencies through one common contact. The savings by merging the requirements into 1 department is $60,000 annually per mill.

The table below outlines the extent of the synergies created by establishing the LVL facility in conjunction with the Fibratech operation. Fibre Supply creates the biggest benefit, with the LVL Plant providing the desired volume of green and dry residual fibre, all usable by Fibratech.
Table 22 Synergies with Fibratech

Synergies for Fibratech with an adjacent LVL mill

Function	Current Fibratech Cost	Shared Fibratech Cost with adjacent LVL plant	savings/ revenue
Fibre Procurement	90,000	45,000	45,000
Stores	120,000	60,000	60,000
Resin Mgmt	60,000	30,000	30,000
Shipping/Scheduling	375,000	187,500	187,500
Sales	300,000	150,000	150,000
Mtce Mgmt	120,000	60,000	60,000
Health/Safety/Env/HR	120,000	60,000	60,000
shared trades	1,200,000	600,000	600,000
hydro	1,800,000	800,000	1,000,000
rail rate reduction			200,000
cluster gas rate			100,000
Fibre Supply	6,567,640	3,047,740	3,519,900
sawdust backhaul	163,000	81,900	81,900
quality mgmt	120,000	60,000	60,000
administration, acct'g	170,000	85,000	85,000
		$3,119,650	$6239300

LVL Mill Residuals Synergy

The greatest impact that would be realized with the merging of the 2 facilities would be in the residual created by the mills. The LVL plant will generate a considerable amount of residual that can be utilized by the Fibratech Oriented Fibreboard facility, as well as residual from Fibratech that can be used for co-generation to offset the LVL mill energy costs. The ability to utilize each others residuals eliminates land-fill costs and environmental costs.

The savings to Fibratech would be huge at $3,047,746 annually! The output available to Fibratech would be 42,000 tonnes, and currently Fibratech uses 100,000 tonnes of furnish each year. This represents 42% of Fibratech's current furnish requirements.

With the LVL plant adjacent to the Fibratech plant, the residuals can be processed and transported directly to the Fibratech operation. Both mills would benefit in this arrangement. The impact is recognized through the elimination of handling either by mill personnel or through freight reductions to move the residual to another facility, which would be to Thunder Bay if it was not used by Fibratech.

By Fibratech accessing this residual, they can back-off using fibre it currently procures from far distance suppliers, **which lowers its fibre supply costs from $65.68 per tonne delivered to $35.20,** as seen in table 23.

The reduction in fibre costs would put Fibratech in the position of truly being a low-cost producer, which is a necessity to sustain business in their market segment. This synergy factor alone will solidify Fibratech's long term future, and the 140 direct jobs associated with the facility.

Table 23 Fibratech Fibre Supply Cost Synergy

Fibratech delivered fibre costs *current fibre supply*			
supplier	*volume (tonnes)*	*Oct 05 price/tonne*	*total $ per year*
AFP	26,000	$37.14	$965,640.00
Bowater	28,000	$60.00	$1,680,000.00
BNH	13,000	$71.00	$923,000.00
Hudson	13,000	$74.00	$962,000.00
Wy Ear Falls	10,000	$70.00	$700,000.00
TJ Kenora	10,000	$133.70	$1,337,000.00
	100,000		$6,567,640.00
			delivered fibre cost $65.68

Fibratech delivered fibre costs *with LVL as a supplier to Fibratech*			
supplier	*volume (tonnes)*	*Oct 05 price/tonne*	*total $ per year*
AFP*	35,000	$37.14	$1,299,900.00
LVL**	42,000	$20.00	$840,000.00
Bowater	23,000	$60.00	$1,380,000.00
	100,000		$3,519,900.00
			delivered fibre cost $35.20
			savings with LVL $3,047,740.00

* AFP will increase volume in 06
** LVL suggested residual cost with no freight
LVL residual would be 75% core material, which is needed in particleboard furnish

Outbound Freight Rate Savings

As projected in Table 22, there is an opportunity for at least $200,000 each mill, in truck freight savings through a potential for both mills to contract with only 1 or 2 freight carriers. Certain freight carriers have been approached and are definitely interested in acquiring the opportunity to be the "house" freight company.

As both mills will be accessing virtually the same geographical markets, there are freight discount opportunities available through dedicated freight carriers.

A different arrangement would be available through CN Rail due to increased rail traffic volume. CN has also been approached and they related that there would be rate discounts with the increased traffic. The actual amount of savings will be available once the breakdown of rail vs. truck is established. It is expected to be similar to the truck freight rate savings at $200,000.

Mill Maintenance and Consumables

Both mills use the same type of regular consumable products and cost sharing and discounts would be available with the increased volume. The savings will have to be negotiated with a vendor such as Acklands and would be estimated at 10% for each plant.

Proposed LVL Plant Location

Fibratech owns a desirable location on their property to site the LVL facility. It is our recommendation that the 150,000 sq.ft; building required to house the LVL facility, and the adjacent land available for the wood yard be the logical choice for a site. As seen in the upcoming photos, the plant would sit on the eastern section of the main block of Fibratech's property. As well, there are adjoining parcels that can be accessed to provide additional log storage during the spring break-up period.

The site is already zoned for industrial use and therefore would offset the extensive goverment permitting associated with Greenfield mill sites.

Services available to the site for the LVL facility are:

- Hydro
- Water
- Sewer
- Natural gas
- CN Rail
- Road access established
- Weigh scale established for in-bound logs trucks
- Log crane for off-loading LVL logs

The CN Rail siding will require an extension of approximately 1000 feet.

The savings associated with siting the facility on Fibratech;s property are not included, however there would be substantial costs to develop a Greenfield site.

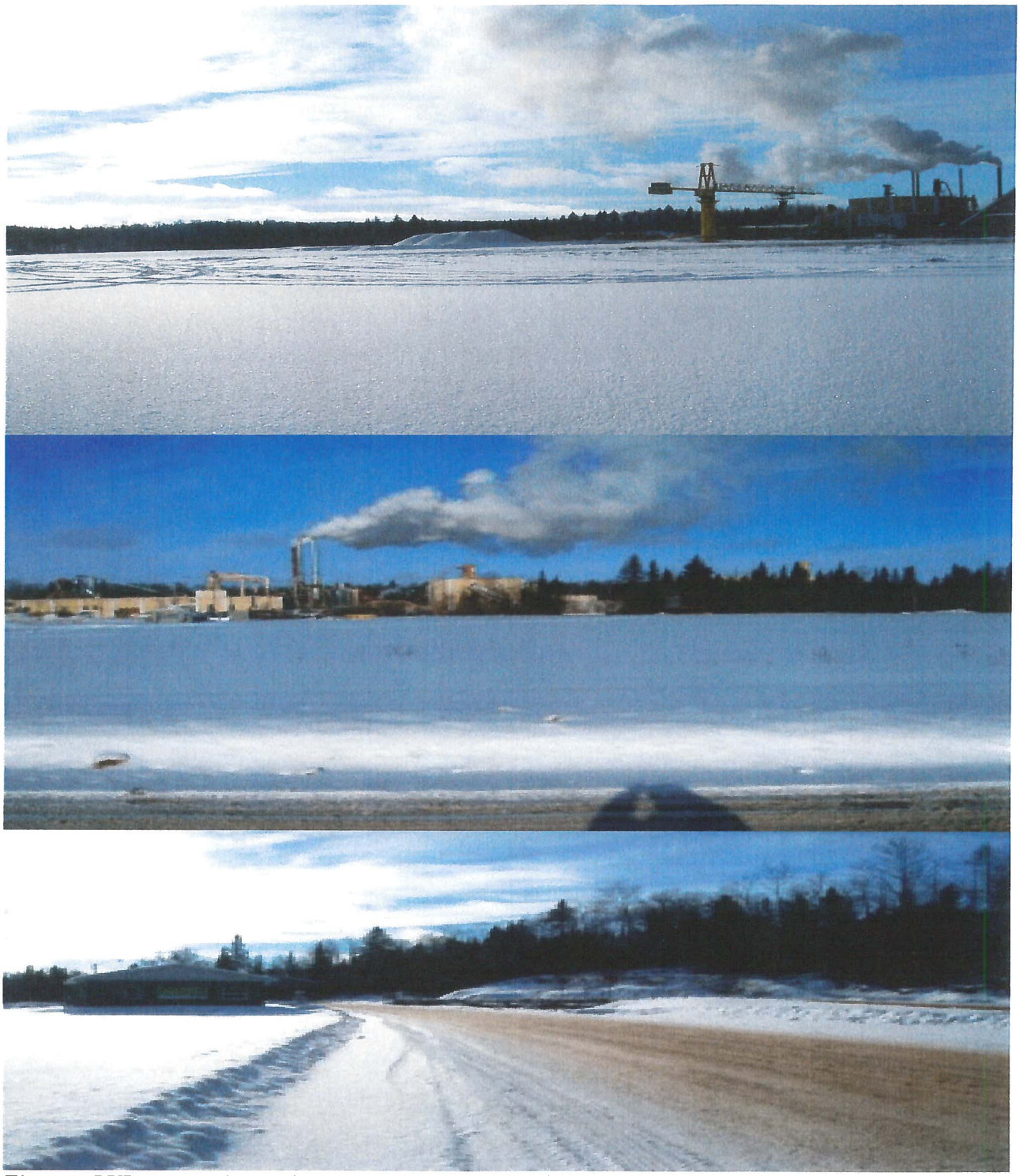
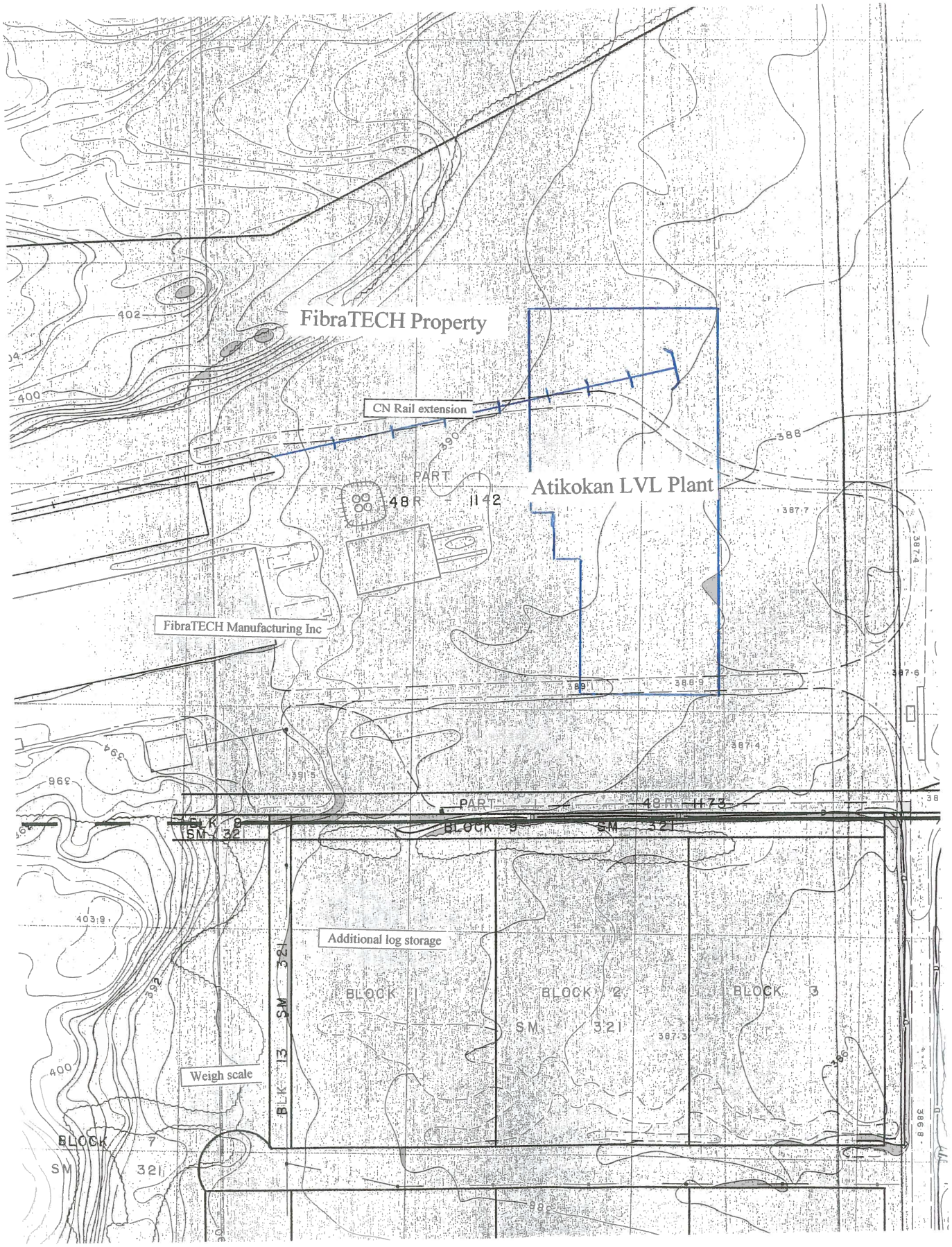


Figure LVL proposed site adjacent to Fibratech Manufacturing Inc

Top photo: proposed plant site west of Fibratech, with log crane in the distance
Middle photo: additional log storage behind weigh scale
Bottom photo: existing weigh scale to service both facilities

Map showing approximate location of proposed LVL plant with actual mill drawing, and rail siding extension.



Summary

The synergies that exist with Fibratech and its property are the logical choice for the location of the LVL facility.

As outlined in this section, the resulting savings are approximately $6M annually, with the biggest gain in savings to Fibratech from the LVL residuals.

Community Impact

The establishment of the LVL facility in Atikokan will have an enormous impact on the community, as well as the surrounding region, as well as provincial and federal agencies.

As already reported within this Study, the following impacts are:

- Direct Employment – a requirement for 240 direct jobs as the facility reaches full capacity

- Approximately 80-110 construction jobs will be created for a 10-12 month period, which creates a dramatic increase in food and lodging requirements

- Spin-off, in-direct employment opportunities ratio of 3:1 is estimated, which is equivalent to 720 positions, and some of these *confirmed* spin-off in-direct opportunities will be:
    - Marcel Saw Service will need to add positions to service lathe knives and saws for the 2 facilities (LVL, and Components)

    - Dynea Resins will add tanker drivers, as well as logistics positions in Thunder Bay to meet the requirement

    - CN Rail will consider an Atikokan crew to meet the increased traffic requirements

    - Local Harvesting firms will have to increase trucking power

    - Dedicated "house" out-bound freight carrier would be established and located in Atikokan

    - Local hardware/lumber yard will service construction needs and will require added employees

    - Influx of new employees will create employment opportunities at schools, hospitals, etc.

    - Co-generation trucking opportunities depending on the size of the co-gen. facility

    - A need will be created for a local firm to maintain the increased trucking required to service this facility in out-bound product freight, and in-bound log trucks

- An impact that may cause initial concern is the transition in the local service industry with some of their employees attaining full-time employment with the LVL facility, creating employment opportunities to fill the service positions, so a turn-over would be expected

- a potential housing shortage when employees are recruited from outside the community

- increased tax revenue for the town through property taxes from new employees, as well as added taxes from the new facility

- SFL Forest Managers will see an increase in their management fee revenues through the supply of birch logs, creating an additional $1.5M annually.

- When this facility is established, the Town will have an opportunity to promote itself as a "Value-Added Forest Products Centre", and this will attract visitors to the Community. If done properly, this can foster additional spin-off value-added entrepreneurs as well.

- A potential natural Value-Added next step, derived from the LVL Component facility would be the establishment of a Modular Housing business located in the community, or the region. The potential in this sector is enormous, and can lead to benefits outside the community. One potential off-shoot could be Modular housing for northern First Nations communities.

- A co-generation opportunity is created with this facility that can lead to a larger go-generation facility. This new energy system would not only service the local forest products manufacturing sector, it could also be beneficial to the municipality as the additional energy could be consumed by the community and any excess could be sold to the provincial energy grid. The wood waste available in the region should support an 8 MGW facility; however a study is required to confirm the availability.

Municipal Tax base increase

The creation of 240 direct jobs and the related in-direct employment will provide an increase in the municipal tax base. A firm number can not be established at this time, however estimates would point towards added municipal revenues approaching $2M annually, as the facility reaches full capacity.

Provincial, and Federal Tax Revenues

Provincial

Stumpage, and provincial sales tax revenues will generate approximately $5-8M annually for the province.

Federal

Increased Federal tax revenues are also created with this new facility. 240 direct jobs at a loaded rate of an averaged $60,000 annually, and an income tax rate of 30%, combined with estimated G.S.T. revenues will provide $20-25M annually. This number does not include the related spin-off employment tax revenues.

These numbers are estimates, however they are of this magnitude and are significant to all levels of government.

The impact potential to the Town of Atikokan, the surrounding region, and both provincial and federal agencies is enormous, and would come at a time when a boost for northwestern Ontario is badly needed. Investment in the future is required for a number of reasons.

An investment in this facility will reap benefits for quite some time. The construction of this facility will send a signal to the residents of northwestern Ontario that there is a future in the northwest, and that our youth can find meaningful opportunities at home.

The immediate benefits to the Town of Atikokan and the surrounding region are staggering. Opportunities like this do not come around very often, that provide real sustainable jobs. All levels of government should look carefully at this opportunity and support it to become a reality.

Funding Sources

As mentioned elsewhere in the Study, the province has committed to mitigating its' decision to close the Atikokan Coal-fired Power Station in 2007, displacing 90 employees, and the associated $3M tax base revenue for the Town.

BRS believes that to see this project, Ontario's first Laminated Veneer Lumber facility become a reality for the province and community of Atikokan, that funding will be required from 3 sources;

1. Private Investment
2. Banking Community
3. 3 levels of government

Private Investors will see this project as a reality if the governments become involved and support the development of the facility. This step will provide a comfort level to the private funding required.

A variety of funding arrangements will be required, due to the number of phases of the project such as equipment purchase, construction, commissioning, and ramp-up to full capacity.

The phases will attract different funding vehicles such as equity, debt equity, loans, grants, loan guarantees, debt retirement, construction loans, etc; are expected.

The conundrum created is similar to chicken or the egg scenario. Does the Investor seek out the governmental funding appetite before they declare their commitment, or does the government declare its funding potential to attract Investors?

The importance of the impact to the community would expect to see the government step out and declare their intentions; however, the Study may attract the Investor up-front, fully expecting that if they declare their intentions, the government will be in a negotiation mood.

What is fully understood at this time is the vast amount of funding available, announced recently by both federal and provincial agencies. The list below is just a sample of programs that can be tapped to assist with the development of the project:

Provincial and federal agencies have committed to:

- assisting the forest industry,
- northwestern Ontario communities
- finding ways to keep our youth in their respective communities by creating real, sustainable job opportunities
- assisting the development of Value-Added forest products opportunities through the Value to Wood Program
- assisting with the development of alternative energy sources
- providing new technology opportunities
- increasing the manufacturing sector's, and specifically the forest products sector's competitiveness in a global economy
- encouraging innovation in the forest products sector
- develop environmental incentives
- support bio-energy projects

- develop new wood products markets
- forest sector Human Resources skills training
- support economic diversification and capacity building
- provide assistance to forestry dependant communities through the National Forest Community Adjustment Fund

In fact, the federal government has developed the following programs this year with the associated funding levels

Forest Innovation and Value-Added Wood Products
- Creating a Forest Innovation Fund - $45 M
- Value to Wood Program - $20 M
- Restructuring the National Forest Innovation System - $15 M

Forest Industry Competitiveness Strategy
- Human Resources and Skill Development - $10 M
- FedNor - $150 M
- National Resources Canada (NRC), to develop new value-added wood products -$90 M
- NRC to develop new markets for CDN wood products - $60 M
- International Trade Canada to dev. Emerging wood products markets - $ 6.3M
- NRC to dev. Thermal co-generation incentive = $ 50 M

Advanced Forest Technologies Initiative – Industry Canada to increase competitiveness of forest industry - $ 215 M

The province has also announced funding to the ailing forest products sector, through *Northern Ontario Heritage*, it has announced over $ 300 M in funding, as well as other training and capital assistance programs.

All these program announcements can be directed towards the LVL project, as the LVL facility will provide:

- Value-Added forest products manufacturing opportunities
- Sustainable employment
- Provide biomass energy opportunities
- Be the province's first LVL facility
- Be an emerging forest product
- Global competitiveness
- Community sustainability, under threat from government imposed job losses and tax base erosion
- New technologies for the province and region
- Youth retention
- Innovation
- The opportunity to sustain an existing forest product manufacturer
- An opportunity to find a consumer for an under-utilized species, that is being accessed by harvesting but left behind as no markets exist

Funding Conclusion

The attention and focus that the Town of Atikokan, northwestern Ontario, and the forest products sector have at this time, leads one to suspect that there is an appetite to assist in making this project a reality. The 3 levels of governments will need to be supportive of the project to attract the investment. A combination of private investment is expected to be available, and will be attracted sooner than later when the government steps forward announcing it is behind this LVL opportunity.

Once this step is made the banking community will come on board and the project can be launched. Should the financing come together by the summer, the building can be closed-in by winter, and production can commence in 2007.

Environment

This section is located near the end of the report purposely, as the author feels that as this project will be required to meet the latest legislative requirements of both provincial and federal agencies, that environmental concerns will not become an issue to meet compliance requirements.

The proposed facility can be constructed in such a way to not impact the environment. The LVL facility can be constructed to be "close-looped", meaning that all the environmental concerns can be contained or re-cycled on the site, complying with all legislative regulations.

The recommendation of the authors would be to merge environmental control with energy conservation, thereby reducing costs by controlling environmental concerns.

The following environmental concerns;

- Air
- Water
- Noise, are addressed below:

Air

The proposed energy system to be installed in conjunction with the LVL facility will mirror the system currently in the commissioning phase at Fibratech Manufacturing Inc.

Fugitive chemical emissions created in the veneer drying and pressing processes at the LVL facility will be recycled through the burner section and reduced substantially below government regulations.

Recycling phenol gases is approved under the latest governmental legislation, so long as the proper monitoring systems are in place, and these are a requirement of the facility receiving its C of A (Certificate of Approval) from the province's Ministry of the Environment.

The process of making application to the MOE is a long process and must be undertaken immediately after the project is announced. An environmental consultant will be required to follow the process of supplying the necessary data required to submit for application for a c of A. The government must be satisfied that every process associated with the facility will fall under the legislative requirements. Besides the MOE, the Ministry of Labour (MOL) has also announced new formaldehyde resins legislation changes. The new Operating Exposure levels for formaldehyde in Ontario are expected to become effective December 31, 2007.

Dust control is another air–related legislative requirement, and recently the MOL in conjunction with the Composite Panel-board Association has started to develop new guidelines to minimize exposure to hazardous wood dust particles. Bag houses and other dust control equipment will be

subject to these new regulations and as such the new facility will be required to install equipment that complies with the new legislation.

This facility will be relatively dust-free, compared to other forest products facilities. Sawing of the panels into customer dimensions is the only area that will generate any appreciable volumes of dust, and installing the proper dust pick-up systems will see recycling the sawdust either into the energy system or send over to the Fibratech oriented fibre-board facility, again maintaining the closed-loop system in tact.

It is expected that the MOE will insist in the C of A that a perimeter monitoring system will be required to be established to provide POI (Point Of Impingement) data on a regular basis. POI systems collect dust particles at designated points on the facility property.

The location of the LVL facility building, which is recommended to be east of Fibraetch's oriented fibre-board facility will assist in the over-all dust control on the property as the new building will contain any fugitive dust created by Fibratech, although it is expected that their dust control will be substantially reduced through the installation of their new burner and dust recycling system. The engineering must consider the stack emissions that will be next to the residents to the east of the plant. Measures should be incorporated to minimize fugitive stack emissions.

Water

As reported in the Air data above, the systems that can have an affect on the environment will be close-looped. This feature is also available to the water requirement of the facility.

Water is required n the process and must therefore be contained within the process. Following the lead of combining energy conservation and therefore the resulting cost control, can be applied with water systems.

An example of this philosophy can be implemented in the log conditioning process in the wood yard. The log conditioning chambers that are used to condition the logs for the peeling process, will be steam heated, and will therefore will consume a great deal of water and generate process waste water at the same time. The supply of heated water is costly; however the costs can be substantially reduced with a closed-loop water recycling system. The water required will be supplied initially and then continually recycled back through the process. The conditioning chamber will be constructed in such a way as to contain the water supplied, and then channel it back through the water heating process back into the chamber.

The same process will be copied for the next stage of log processing, the log ponds. The ponds that are 6 feet deep by 8 feet wide will contain a great deal of heated water. The required water can be recycled through a water silo system that can be continually re-charged, and when pond maintenance is scheduled, the water can be placed in the water silo-tank and held until the ponds are repaired or cleaned out in the spring and the fall, to remove mud and dirt that accompanies log in these 2 seasons.

The only other process water generated will be found after peeling process, and this water will be collected and returned back to the ponds; and the drying process that reduces moisture down to 4%, where the water is evaporated through the energy system.

Backflow valves will be installed on the potable water system from the Town water supply to prevent any process water from reaching into the Town water supply.

Noise

Noise control has the potential to be a contentious issue if not engineered- into the facility's processing equipment. Noise can be generated by the wood yard equipment, the various fans, and dust control bag houses, residual grinders, and hammer-mills, and dryer stacks.

The majority of the above mentioned equipment will be contained within the plant; however dust control fans will be located outside the plant building. The engineering should be recommended to ensure that these fans are placed in areas that will not invite neighbourhood complaints.

Neighbourhood complaint have occurred in the past from the Fibratech facility, however, a recent noise survey provided results that showed that facility was within compliance levels.

The closest residents to the facility are situated to the east of the plant. To mitigate the potential for unwanted noise, the wood yard will be located east of the LVL facility, thereby muffling potential high noise levels from log loaders and haul trucks delivering logs. The situating of the building in this location will also reduce the noise created by Fibratech.

The loading of out-bound trucks and rail cars will be located within the enclosed warehouse, further reducing noise potential.

The wood yard tree length slashing process is one process that will create noise and this must be factored into the location of this equipment.

The residual fibre generated by the LVL process will be a valuable feedstock for the oriented fibre-board facility, and this must transported over to the Fibratech facility. This residual is typically transported by fans blowing the material over. Consideration for this process will be required to ensure that the process of transporting the residual does not increase noise levels. An opportunity to again place this equipment on the opposite side of the building from the residents will help to control the noise aspects of the proposed facility.

One suggestion that the authors would recommend, from pervious experience, is to establish a committee of residents to be an environmental awareness group. This committee can be proactive on the facility's behalf when they are regularly provided proper communication on mill activities that could impact the environment. Buy-in from this committee will help to diffuse future minor concerns, as they will usually stand-up for the facility when required, and the MOE appreciates having a concerned citizens group such as this watching out and also diffusing minor complaints. When the plant knows that they are tied-into the community they will act more responsibly.

Also in line with the above recommendation, as the public is ever-increasingly concerned about the environment, it has also been a positive experience to provide monthly updates to the local press to inform residents of recent activities. This is another buy-in approach that makes the resident as they will feel connected to the facility's future.

Environment Conclusion

The authors feel that there will not be any environmental issues that cannot be overcome through proper engineering that addresses potential environmental issues. The equipment exists to control potential environmental impacts, and as discussed there are systems available that combine environmental control with cost saving measures, such as energy conversion that reduces emissions, or creates usable residuals.

Environmental concerns can become a big issue for a plant to the point it can reduce operating levels if the legislated requirements are not surpassed when choosing equipment. As these concerns are typically less in smaller communities, still the management of the facility must seek to open and maintain communication with the residents on a regular basis to offset or diffuse future concerns.

Energy

The Energy conversion potential associated with the LVL facility has the prospective to create not only opportunities for the LVL facility, but for Fibratech's oriented fibre-board facility, the residents of Atikokan, and the province.

The LVL facility will be steered into energy conversion as it will generate some wood waste that cannot be consumed by its partnering forest products facility Fibratech, and will need to be consumed in some fashion environmentally.

The opportunity to convert this residual to energy that will consist of mostly bark, will provide immediate cost reductions to the LVL plant, through steam heating conversion systems for the wood yard log conditioning chamber and log ponds. The press and dryers will also require heat variations and this can be generated with the residual material available.

Combined with the wood waste that Fibratech cannot make use of in reject board, can be combined with the LVL facility bark waste to establish a 4-5 MW co-generation plant. The opportunity to convert this waste into hydro power will further reduce both plants operating costs and provide another method to maintain a lowest manufacturing cost producer rating in their respective product sectors to sustain their businesses.

The wood waste available from both facilities is expected to be sufficient to feed the 4-5 MW Plant, and an enticement to proceed down this path is from funding recently announced by both provincial and federal governments to promote the conversion of biomass into Energy.

Another opportunity exists to bring this concept to the next level, and in recent discussions with the Town's AEDC, the desire to create a community that is self-sufficient in its hydro needs is not out of the realm of reality.

To feed such a facility, which would be approximately an 8 MW-sized plant will take additional wood waste then will be generated by the Fibratech and LVL facilities. Additional supply can originate from the Atikokan Forest products sawmill in the form of bark, and a second source can be the wood waste that is left at the various forest harvesting operations in the region. There is sufficient fibre to transport to Atikokan, however the volumes require verification, and this should be recommended as a follow-up to this Report.

The development of such a facility would provide sufficient hydro to provide the residents of Atikokan with a supply as well as a predicted excess could be sold to the province's power grid, which is in a desperate search for additional power supply. The additional supply could also be made available to the other forest products companies that are being crippled by high energy costs, especially large hydro consumers such as the pulp and paper sector.

This another example of "out–of-the-box" thinking that is required for the northwest in these challenging times. By capitalizing on this LVL facility project, and acting on the related spin-off opportunities, an enormous amount of opportunity can be translated into prosperity.

As mentioned above, funding should be sought-after to verify the amount of wood waste that is truly going to waste in the forests after logging operations, that could provide extensive energy

conversion. Also announced funding should be accessed to construct a power conversion co-generation plant of the proper size to satisfy the opportunity that exists for all the stakeholders associated with the LVL plant, Fibratech, and the Town of Atikokan.

A co-generation plant will be required by the forest products manufacturing facilities so they can comply with environmental regulations. The Town should piggy-back onto this requirement and seek assistance to build one of a size to make a difference for everyone.

About the Authors

Boreal Resource Strategies, a consultant to the forest products industry, brought together an experienced Team consisting of the principle, Mike Shusterman and Richard Durocher of LIGNICO Inc; to prepare the Feasibility Report titled "A Feasibility Report for the Atikokan Economic Development Corporation, A Laminated Veneer Lumber (LVL) Plant & Associated Value- Added Component Facility for the Town of Atikokan".

Boreal Resource Strategies' Mike Shusterman is the lead for the Team. Mike established this firm in 2003, and has recently provided his experience to the Town of Dorion, and the Town of Atikokan, as well as regional Harvesting firms.

Mike is well-versed in the forest products sector, and has worked for MacMillan Bloedel, Weyerhaeuser, and Columbia Forest Products, and currently FibraTECH. His experience with these firms has provided him the opportunity to become very knowledgeable in the following forest products:

- Aspen and Birch veneer/plywood, Nipigon – Mill Manager
- Corrugated medium (cardboard), Sturgeon Falls - Woodlands Manager
- Hardboard Siding (as above)
- Medium Density Fibreboard (MDF), Pembroke - Fibre Supply Manager of Greenfield start-up
- Oriented Strand Board (OSB), Wawa –Woodlands Manager, Nipigon and Wawa
- Oriented Fibreboard (OFB), Atikokan – Business Development/Resources Manager (current employer)
- European trip (France, Finland and Latvia) in April 2005 to investigate LVL opportunities for the Town of Atikokan

The experience gained through these positions and locations encompasses all aspects of the forestry business from fibre resource confirmation, procurement and management, through to Mill Management. The responsibilities related to these positions involved Business Development, Human Resources, Labour Relations, Health/Safety and Wellness, Manufacturing Process Improvement, and Customer Relations and Marketing.

Experiences gained in the forest products sector that was drawn upon for this Report include a "Greenfield mill start-up", mill modification opportunities, and the previously mentioned European LVL tour in the spring of 2005.

Mike is well connected and knowledgeable about the needs of northwestern Ontario. He has elected into the position of President Elect of the Northwestern Ontario Associated Chambers of Commerce (NOACC), resurrected and became President of the Land of the Nipigon Chamber of Commerce, and was a Councilor for the Township of Nipigon.

Boreal Resource Strategies initiated this LVL concept for northwestern Ontario.

Richard Durocher is President of LIGNICO Inc, established in 1997, and located in Montreal, Quebec. LIGNICO is a Forest Products Consultation and Industrial Development Company.

Mr. Durocher has extensive experience in the panel board industry and exclusive knowledge of the LVL sector. From 1993-1997, Mr. Durocher was the VP of Business Development for Tembec for their TemLAM LVL facility in Ville Marie, Quebec. Richard actually was involved in the conversion of this former veneer/plywood facility into Tembec's first LVL plant, the first such plant for Canada. Richard managed all aspects of the LVL facility during this period.

Richard will play a dual role for the Study Team, through marketing opportunities and provides his insight into the manufacturing process. His knowledge of the LVL process will add confirmation of the proposed equipment projected for the Atikokan LVL plant.

Richard also provided the LVL Line Accounting Software Package for scrutiny. LIGNICO has also completed a Feasibility study for Tembec, and has also expressed an interest in joining Mike to become involved in the start-up of the Atikokan LVL opportunity.

Richard's firm is currently involved in supplying a 'state of the art" kiln drying system to a customer in Quebec that he researched and procured from Denmark.

This Team, led by Boreal Resource Strategies, is also available to complete the additional required related data to complete the LVL picture for Atikokan. As reported in the Study, further work is required to fully realize the opportunities available supplied by the LVL project:

1. Modular Housing Sector customer visits and pre-sales confirmation

2. Biomass opportunity confirmation to supply an 8 MW Co-generation plant for the benefit of the LVL facility, FibraTECH, and the Town of Atikokan.

Glossary of Terms

Adhesive	A substance capable of holding materials together by surface attachment. It is general term and includes cements, mucilage and paste, as well as glue.
Bark	The outermost, protective layer, of a tree composed of dead cork and other elements.
Beam	Any framing member placed to support a load, also referred as a girder.
Biomass	Total woody material in a forest. Refers to both merchantable material and material left following a conventional logging operation. In the broad sense, all of the organic material on a given area; in the narrow sense, burnable vegetation to be used for fuel in a combustion system
Board	1. A piece of sawn, hewn, or dressed timber of greater width than thickness. Usually 19 mm to 38 mm thick and 75 mm or more wide. 2. Manufactured products supplied as rigid or semi-rigid sheets, eg. Fibreboard and particle boards.
Butt Joint	A woodworking joint where the edges of two boards are placed against each other.
Core	The inner part of plywood between face and back, usually veneer. Sawn lumber, particleboard, MDF, hardboard or other material is also used as cores.
Cure	To change the properties of an adhesive by chemical reaction (which may be condensation, polymerisation, or vulcanisation) and thereby develop maximum strength.
Defect	An abnormality in a piece of lumber that lowers its strength and commercial value such as a check or knot.
Density	As applied to timber, density is the mass of wood substance and moisture enclosed within a piece expressed in kilograms per cubic meter. As the mass will vary dependant on the amount of moisture in the piece, density is often expressed at specified moisture content, usually 12%. Density of wood is influenced by rate of growth, percentage of late wood and in individual pieces, the proportion of the heartwood.
Dimensional Stability	A term that describes whether a section of wood will resist changes in volume with variation in moisture content (other term: movement in performance).

Engineered Wood Products	A composite wood product using glued fibere, lumber and/or veneer to meet specific design criteria. Such products include laminated veneer lumber (LVL), parallel strand lumber (PSL), and structural I-beams. Products under development include various molded, extruded, and other structural and non-structural composites. Although engineered wood products have a number of advantages over solid lumber (including the ability to make large-sized members from small diameter trees), engineered wood products are more costly to produce than lumber and require the use of more energy to manufacture.
Face	The better side of any plywood panel in which the outer plies are of different veneer grades. Also either side of a panel in which there is no difference in the veneer grade of the outer plies.
Face Veneer	High quality veneer that is used for the exposed surfaces on plywood.
Grain:	The direction, size, arrangement, appearance, or quality of the fibres in sawn wood. Straight grain is used to describe lumber where the fibres and other longitudinal elements run parallel to the axis of the piece.
Green Lumber	Freshly cut lumber that has not had time to dry.
Hardwood	A description applied to woods from deciduous broad-leafed trees (Angiosperms). The term has no reference to the actual hardness of the wood.
Joint	The common edge between two adjacent materials in the same plane.
Kiln	A chamber used for drying timber in which the temperature and humidity of the circulating air can be controlled.
Knot	A part of the tree where a branch has been overgrown by the tree and incorporated into its trunk.
Laminated Veneer Lumber (LVL)	A structural lumber manufactured from veneers laminated into a panel with the grain of all the veneers running parallel to each other.
Log	A long thick section of trimmed, un-hewn timber.
Linear Foot	A measurement of the length of a board.
Lumber	Logs which have been sawn, planed, and cut to length.
Mechanical Value	The resistance of wood fibre to stress mechanically applied.
Modular housing	A modular home is a factory-built house or building intended for residential occupancy that comprises "modules" with three walls and a roof or ceiling. It has to be equipped with complete plumbing, electrical, and heating facilities, and designed to be moved to a site

	for installation on a foundation and to be connected to service facilities, and used as a place of residence.
Modulus of Elasticity	An imaginary stress necessary to stretch a piece of material to twice its length or compress it to half its length. Values for the individual species are given in megapascals (MPa - equivalent to N/m2), and are based on testing small clear pieces of dry wood.
Moisture Content	A measure of the amount of water in a piece of lumber.
Peel	converting a log into veneer by rotary cutting.
Ply	A single sheet of veneer or several strips laid with adjoining edges, that may or may not be glued, which forms one veneer lamina in a glued panel (see layer). In some constructions, a ply is used to refer to other wood components such as particleboard or MDF.
Rotary-cut Veneer	Veneer which was cut from a log in one long sheet. Rotary cut veneer is cut from a log like a roll of paper towels.
Scarf Joint	A woodworking joint that is made by cutting or notching two boards at an angle and then strapping, gluing, or bolting them together.
Softwoods	Generally lumber from a conifer such as pine or cedar. The name softwood does not refer to the density of the wood. There are some hardwoods, such as Balsa, which are softer than some softwoods, like Southern Yellow Pine.
Sound	A term referring to a board which has no or very few defects which will affect its strength.
Species (trees)	an internationally established Latin botanical classification of trees.
Specific Gravity	The ratio of the weight of wood to an equal volume of water. The higher the specific gravity, the heavier the wood.
Strength	The ability of a structural member to sustain stress without failure.
Structural timber	Timber to be used in construction where its strength is the controlling element in its selection and use.
Veneer	A thin sheet of wood, rotary cut, sliced, or sawed from a log, bolt, or flitch.
Weight:	The weight of dry wood depends upon the cellular space, the proportion of wood substance to air space.
White Birch	Any of several birch trees having white bark, as *Betula pendula* of Europe or the paper birch *B. papyrifera* of North America.

Study Conclusion

The opportunity for the Town of Atikokan to attract a Laminated Veneer Lumber facility to its community is excellent, as the report shows a profitable result. The positives that should drive this study to become a reality are as follows:

- Excellent profitability prospective
- Raw material is under-utilized, available, and economical to procure
- The equipment and technology exists to manufacture superior LVL with the species available and its characteristics
- Value-Added opportunity increases profitability with niche market creation
- Government excitement at the +200 job potential, and related spin-off opportunity
- Value-added opportunity can withstand $US currency fluctuations
- Atikokan LVL Plant presents geographic advantage to mid-west US market
- LVL produced with White birch will be superior to current N. American LVL
- Synergies between the LVL Plant and FibraTECH will reduce each others' costs, and sustain FibraTECH into the future, enabling both facilities to be low-cost producers
- Co-generation, energy conversion opportunity can benefit the LVL Plant, FibraTECH, and the Town of Atikokan
- Ontario's first LVL facility
- Additional Value-Added opportunities are created such as the potential for a Modular Housing manufacturing facility
- LVL Plant provides new product opportunities for FibraTECH
- The LVL project is the answer to all the recently announced government programs directed towards the Forest products sector, Ontario manufacturing ,and northwestern Ontario initiatives = excellent funding potential

The timing is right for private investment, along with the 3 levels of government, and the commercial banking firms to make this opportunity a reality for Atikokan, the region, and northwestern Ontario. This is the right project to get Atikokan back on its feet, and move it into a prosperity situation.

This project will show the people of northwestern Ontario that there is a future in the forest products industry and in northwestern Ontario.